Remedial Action Work Plan

G. W. Lisk Company, Inc.
NYSDEC BCP Site No. C835026
Clifton Springs, New York

January 2026

Prepared for:

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Certification

I, Lori E. Riker, certify that I am currently a NYS registered professional engineer and that this January 2026 Remedial Action Work Plan (RAWP) for the G.W. Lisk – 2 South Street Facility site, located at 2 South Street, Clifton Springs, New York, was prepared in accordance with applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Lori E. Riker, P.E.		
NYS Professional Engineer #077625-01	Date	Stamp

It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

1. Introduction

Roux Environmental Engineering and Geology, D.P.C. (Roux), has prepared this Remedial Action Work Plan (RAWP) on behalf of G.W. Lisk Company, Inc. (G.W. Lisk) to present the proposed scope of work and implementation procedures for completion of remedial activities at the New York State Brownfield Cleanup Program (BCP) G.W. Lisk – 2 South Street Facility (Site, C835026), located at 2 South Street, Village of Clifton Springs, Ontario County, New York (see Figures 1 and 2).

The remedial activities will be completed by G.W. Lisk and their designated remedial contractors and subcontractors, with oversight provided by Roux. The work will be completed in accordance with 6NYCRR Part 375 and New York State Department of Environmental Conservation (NYSDEC) DER-10 guidelines.

1.1 Background and History

The BCP Site consists of the northern ±8.828 acres of a greater 26.654-acre parcel (SBL No. 46.06-1-87.000) located at 2 South Street, in the Village of Clifton Springs, Ontario County, New York. The Site is improved with two buildings with a total area of 225,000 square feet including the G.W. Lisk Main Building, used for manufacturing and office space, and the Hundreds Building, used for manufacturing and storage. The remaining area of the Site is covered with asphalt paved parking areas and driveways, concrete sidewalks, and vegetated areas including grass covered, wooded, and landscaped areas.

The Site was developed for agricultural use in the mid-1800s. In the early 1910s, the Site was developed by G.W. Lisk for manufacturing of tin cake pans, pails, and spraying devices. G.W. Lisk transitioned to manufacturing solenoids and valves for industrial and commercial markets in 1948 and the Site continues to be used in this capacity.

The Site is located in a mixed industrial, commercial, and residential use area in the Village of Clifton Springs, New York. The Site is bounded to the north by Clifton Springs Hospital and Clinic (CSHC). Sulfur Creek runs southeast to the northwest through the Site. Two non-potable water supply wells are located south (upgradient) of the Site and two man-made vaults constructed in the overburden soil with exposed bedrock at the bottom of the vault (identified as “springs” during previous investigations) were identified north of the CSHC. Water from H-Spring-01 was formerly used for a decorative water fountain and water from H-Spring-02 was formerly used in a nearby spa due to its sulfur content. A filtration system was previously installed at H-Spring-02 by G.W. Lisk. However, the water in H-Spring-01 and H-Spring-02 is no longer in use as the CSHC fully switched over to the public water system.

Public water to the Village of Clifton Springs is supplied by the Village of Newark, which sources its water from Canandaigua Lake. G.W. Lisk and the CSHC are connected to the public water system.

1.2 Summary of Environmental Conditions

The following sections include a summary of the investigation activities and remediation work completed at the Site to date. Figure 3 shows previous investigation locations. Appendix A includes analytical data and figures showing analytical results.

1.2.1 Initial Investigations at the CSHC Property

The Site was identified as a potential source of chlorinated volatile organic compounds (cVOCs) during initial investigations completed at the Clifton Springs Hospital and Clinic (CSHC) property, located north (downgradient) of the Site. Results of the Phase I and Phase II reports completed at the CSHC property are summarized below.

2014 – 2015: Off-Site Phase I & Phase II Investigations

Hayley & Aldrich of New York completed Phase I and Phase II investigations at the CSHC property between 2014 and 2015. The following recognized environmental conditions (RECs) were identified:

- The former Clifton Spring Manufactured Gas Plant (MGP) was previously located on the eastern portion of the CSHC property.
- The property to the south (i.e. the Site) used and allegedly released chlorinated solvents.

The purpose of the Phase II investigation was to investigate the RECs identified during the Phase I investigation. The Phase II investigation concluded that the source of chlorinated solvents identified in groundwater at the CSHC property was the G.W. Lisk property to the south (Site).

1.2.2 Previous Investigations Completed Under the State Superfund Program

G.W. Lisk entered into an Order on Consent and Administrative Settlement with NYSDEC on May 27, 2015 to complete Site Characterization (SC). The Site was initially entered into the State Superfund Program as a Class “P” Site, indicating it may be eligible to be listed in the “Registry of Inactive Hazardous Waste Disposal Sites.” The Site was reclassified as a Class “N” site (i.e., no further action at this time) when accepted into the BCP.

January 2016: Final Site Characterization Report

ERM Consulting & Engineering, Inc. (ERM) submitted a Final Site Characterization Report to NYSDEC in September 2018. SC activities were completed in accordance with the NYSDEC-approved January 2016 Final Site Characterization Work Plan (SCWP). Results of the Final Site Characterization Report are summarized below:

- Nine Areas of Potential Concern (AOPC) were identified in the SCWP to be further investigated during SC activities (see Figure 4). Many of the AOPCs are associated with former wastewater outfalls as G.W. Lisk was permitted through NYSDEC to discharge wastewater to Sulfur Creek, prior to termination of all industrial discharge permits in 1988. The AOPCs identified in the SCWP are summarized below:
    - AOPC-1: Former Outfall 001 – used for wastewater discharge to Sulfur Creek
    - AOPC-2: Former Outfall 006 – used for boiler blow down discharge to Sulfur Creek
    - AOPC-3: Former Outfall 009 – primarily used for storm water discharge from the roof and ground surface, suspected to have been used to discharge wastewater from salt spray corrosion tests.
    - AOPC-4: Former Outfall 011 – used for plating and solvent waste discharge to a former concrete septic tank with associated former leach field (location unknown); the septic tank was removed in 1982

- AOPC-5: Former Outfall 012 – used for plating and solvent waste discharge to a former concrete septic tank with associated former leach field (location unknown); the septic tank was removed in 1987
- AOPC-6: Southwestern Parking Lot – the former septic tanks associated with Outfall 011 and 012 were crushed and the crushed concrete was re-used on site as backfill material (sub-base) in the southwestern parking lot. Soil excavated during the removal of the septic tanks and other debris from the northern CSHC property may have also been used as backfill in this location
- AOPC-7: Former Tank Area – aboveground storage tanks (ASTs) were formerly stored in this area without secondary containment prior to implementation of NYDEC's Petroleum Bulk Storage (PBS) regulations. ASTs consisted primarily of cutting and lubricating oils. PBS tanks have been registered and either remain in service or were closed and removed by the NYSDEC (PBS No. 8-601396).
- AOPC-8: Former Trichloroethene (TCE) Degreaser with Sump – a degreaser with TCE was stored in an AST in this area. No spills or leaks are associated with this TCE degreaser; however, a sump penetrating the floor nearby was identified as a potential conduit for release of TCE liquids/vapors to the subsurface
- AOPC-9: Former Water Supply Wells – two non-potable water supply wells for the CSHC property were identified at the Site, suspected TCE "dumping" was noted at this location, in association with NYSDEC Spill No. 9103956, which was closed by the NYSDEC in 1994.

- Indoor air and sub-slab vapor sampling completed in May 2016 indicated TCE concentrations in the G.W. Lisk Main Building indoor air above New York State Department of Health (NYSDOH) guidelines as well as elevated levels of cVOCs in sub-slab vapor.
- Soil analysis included Target Compound List (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), Target Analyte List (TAL) metals, and polychlorinated biphenyls (PCBs). VOCs (including petroleum VOCs and cVOCs), SVOCs, and metals were identified in soil samples exceeding 6NYCRR Part 375 Unrestricted Soil Cleanup Objectives (USCOs) and Protection of Groundwater SCOs (PGWSCOs). Benzo(a)pyrene, arsenic, and mercury were detected exceeding their respective Industrial Soil Cleanup Objectives (ISCOs). PCBs were not detected at any location.
- Groundwater analysis included TCL VOCs, TCL SVOCs, TAL metals, PCBs, and per- and polyfluoroalkyl substances (PFAS). cVOCs, dichlorodifluoromethane (Freon 12), and 1,1,2-trichloro-1,1,2-trifluoroethane (Freon 113) were detected in groundwater samples exceeding TOGS 1.1.1 Groundwater Quality Standards/Guidance Values (GWQS/GV). Minimal SVOC and PFAS detections were observed and PCBs were not detected at any location.
- On- and off-site surface water analysis from Sulfur Creek included TCL VOCs, TCL SVOCs, TAL metals, PCBs, and PFAS. PCBs were detected in surface water above TOGS 1.1.1 Class D Surface Water Quality Standards (SWQS); however, VOCs, SVOCs, metals, and PFAS were not detected above SWQS.
- After completion of SC activities, AOPC-3 and AOPC-9 were closed. The remaining AOPCs were re-organized and additional AOPCs were added, as discussed in Section 1.2.3.

1.2.3 Previous Investigation Completed under the BCP

G.W. Lisk entered into a Brownfield Cleanup Agreement (BCA) with the NYSDEC on January 23, 2019. The following reports were completed pursuant to the BCP.

August 2020: Final Soil Vapor Intrusion Interim Remedial Measure Construction Completion Report

ERM submitted the Final Soil Vapor Intrusion (SVI) Interim Remedial Measure (IRM) Construction Completion Report (CCR) to the NYSDEC in August 2020. The IRM activities were completed in 2019 to address SVI concerns identified in the G.W. Lisk Main Building during the SC. IRM activities were completed in accordance with the NYSDEC-approved Final Soil Vapor Intrusion Interim Remedial Measure Work Plan (May 2018) and Final Revised Soil Vapor Intrusion Interim Remedial Measure Work Plan (February 2019). IRM activities completed in the Main Building are summarized below:

- ERM assessed the heating ventilation and air conditioning (HVAC) system and reinforced vapor controls in chemical storage areas.
- G.W. Lisk modified the air flow rate through the facility. G.W. Lisk continues to maintain adequate air exchange throughout the building, complete frequent monitoring, and maintain the system as needed.
- G.W. Lisk removed products containing VOCs of potential concern where practicable and, where necessary, replaced them with low-VOC products. G.W. Lisk updated their Standard Operating Procedures (SOPs) to restrict products containing VOCs of potential concern.
- Cracks and saw cuts observed in the floor, floor penetrations, and perimeter gaps were sealed using RadonAway® Pro Hybrid Sealant. The sump to an elevator shaft was also sealed using UGL DRYLOK™ sealant.
- Post-mitigation sampling was completed on March 20, 2019. This sampling consisted of co-located indoor air and sub-slab vapor samples. Air monitoring results indicated elevated concentrations of TCE remaining in indoor air. Additional efforts were made to remove potential sources of cVOCs and a second and third round of indoor air sampling were completed in August 2019 and February 2020, yielding similar results. Aerosol flux cleaners used in areas where elevated TCE was observed in indoor air were sampled in January 2020. Sample results indicated that these cleaners were likely causing the elevated concentrations of TCE in indoor air. The presence of TCE in the product used by the facility permits OSHA permissible exposure levels (PELs) to be used for comparison; the TCE concentrations identified in the facility were determined to meet the PELs.

Monitoring and maintenance requirements are included in the NYSDEC-approved Interim Site Management Plan (ISMP, amended May 2024) submitted by ERM. The ISMP details institutional and engineering controls (IC/ECs) as well as routine inspections, sampling, maintenance, and reporting requirements.

April 2022: G.W. Lisk Hundreds Building Soil Vapor Intrusion Interim Remedial Measure Construction Completion Report

ERM submitted the G.W. Lisk Hundreds Building SVI Interim Remedial Measure (IRM) Construction Completion Report (CCR) to the NYSDEC in April 2022. The IRM activities were completed in 2021 to address SVI concerns identified in the Hundreds Building during the SC and RI. IRM activities were completed in accordance with the NYSDEC-approved Hundreds Building Soil Vapor Intrusion Interim Remedial Measure Work Plan (May 2021). IRM activities completed in the Hundreds Building are summarized below:

- G.W. Lisk removed products containing VOCs of potential concern where practicable and, where necessary, replaced them with low-VOC products. G.W. Lisk updated their SOPs to restrict products containing VOCs of potential concern.

- Cracks and saw cuts observed in the floor, floor penetrations, and perimeter gaps were sealed using RadonAway® Pro Hybrid Sealant.
- Post-mitigation sampling was completed on in November 2021. This sampling consisted of co-located indoor air and sub-slab vapor samples. Air monitoring results indicated acceptable results.

Monitoring and maintenance requirements are included in the NYSDEC-approved ISMP. The ISMP details IC/ECs as well as routine inspections, sampling, maintenance, and reporting requirements.

August 2023: Remedial Investigation Report

ERM submitted a Remedial Investigation Report to NYSDEC in August 2023. Remedial Investigation (RI) and Supplemental RI (SRI) activities were completed in accordance with the NYSDEC-approved Final Remedial Investigation Work Plan (January 2020) and Supplemental Remedial Investigation Work Plan (July 2022). RI work commenced in Fall 2020 and SRI work commenced in Summer 2022. All RI and SRI activities were completed between November 2020 and March 2023. The RI and SRI were completed to further investigate AOPCs, which were re-organized as discussed in the Final Remedial Investigation Work Plan as summarized below. After completion of the RI activities, ERM transitioned the AOPCs into Areas of Concern (AOCs). The AOC nomenclature will be used to represent these areas moving forward.

- AOPC/AOC-4: Arsenic in Soil at Former Outfall 011 – arsenic was detected in soil exceeding its ISCO at well MW-03D
- AOPC/AOC-6: Southwestern Parking Lot – SVOCs were detected above ISCOs at soil boring B-01, arsenic and mercury were detected above their respective ISCOs at soil boring B-03, and several petroleum VOCs (i.e., benzene, ethylbenzene, and naphthalene) were detected above PGWSCOs at soil boring B-01
- AOPC/AOC-10: Potential SVI in the G.W. Lisk Main Building (addressed previously)
- AOPC/AOC-11: Potential SVI in the Hundreds Building
- AOPC/AOC-12: cVOCs in groundwater
- AOPC/AOC-13: Phenol in groundwater at MW-04D during the SC
- AOPC/AOC-14: PCBs in surface water at SW-02 during the SC

Field activities pursuant to the RI and SRI consisted of the following:

- Collection of SVI samples in the Hundreds Building (results used to develop the May 2021 Hundreds Building Soil Vapor Intrusion Interim Remedial Measure Work Plan).
- Collection of soil vapor samples around the Site perimeter to assess the potential for off-site migration of impacted soil vapor.
- Advancement of 60 soil borings and installation of 35 monitoring wells (completed as 2-inch permanent wells or 1-inch temporary wells). Monitoring wells were completed on-site and on the downgradient CSHC property in shallow overburden (“S”, 7-15 feet below ground surface (fbgs)), deep overburden (“S2”, 25-30 fbgs), shallow bedrock (“D”, 2-20 feet below top of bedrock), and deep bedrock (“D2”, 25-45 feet below top of bedrock).
- Collection of on-site surface, near surface, and subsurface soil samples.
- Development of monitoring wells, groundwater level gauging, collection of groundwater samples, and aquifer testing to evaluate hydraulic conductivity in overburden and bedrock.

- Completion of a geophysical investigation following development of bedrock monitoring wells to assess the depth and orientation of potentially transmissive structures.
- Collection of on- and off-site surface water and sediment samples and completion of surface water gauging at several locations along Sulfur Creek.

Results of the RI and SRI are summarized below:

- SVI sampling in the Hundreds Building indicated a potential threat due to SVI in the building. The NYSDEC and NYSDOH requested an IRM Work Plan to address potential SVI. Results of the SVI IRM in the Hundreds building are documented in the April 2022 G.W. Lisk Hundreds Building Soil Vapor Intrusion Interim Remedial Measure Construction Completion Report.
- Perimeter soil vapor sampling indicated elevated concentrations of acetone, 2-butanone, and 2-hexanone and low-level concentrations of several cVOCs.
- Soil analysis included TCL VOCs, TCL SVOCs, TAL metals, and PCBs. The following soil exceedances were noted in AOC-6 (Southwestern Parking Lot):
    - TCE was detected exceeding its PGWSCO at several locations during the RI and SRI at depths between 10 and 30 fbgs including borings G-B-12 (15-16 fbgs), G-B-14 (28-30 fbgs), G-B-20 (10-11 fbgs), G-B-21 (15-16 fbgs), G-B-22 (24 fbgs). The highest concentration (10,000 micrograms per kilogram; ug/kg) was detected at boring G-B-21 (15-16 fbgs).
    - Petroleum VOCs (i.e., benzene, toluene, ethylbenzene, and xylene) and acetone were detected above PGWSCOs but below ISCOs.
    - SVOCs (specifically polycyclic aromatic hydrocarbons (PAHs)) were detected above PGWSCOs and ISCOs. Phenol and m,p-cresol were detected above PGWSCOs.
    - Mercury was detected above its PGWSCO.
- Sediment analysis from samples collected from Sulfur Creek included TCL VOCs, 1,4-dioxane, TAL metals, 1,4-dioxane, and PCBs. High concentrations of calcium and magnesium were detected in sediment samples due to the presence of limestone bedrock. PCBs and 1,4-dioxane were not detected at any location. VOCs were not detected above Screening and Assessment of Contaminated Sediment Freshwater Sediment Guidance Values for Class B sediments. Cadmium and zinc exceeded their respective Class B sediment guidance values at one location (SED-04).
- Sulfur Creek surface water analysis included TCL VOCs, TCL SVOCs, 1,4-dioxane, TAL metals, PCBs, and PFAS. High concentrations of calcium and magnesium were detected in surface water samples due to the presence of limestone bedrock. PCBs, 1,4-dioxane, VOCs, and PFAS were not detected at any location and minimal low-level SVOCs were detected.
- Groundwater analysis included TCL VOCs, TCL SVOCs, 1,4-dioxane, TAL metals, dissolved gasses, compound specific isotope analysis (CSIA), anions, cations, and microbial census. Groundwater impacted by VOCs including primarily tetrachloroethene (PCE), TCE, cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), and Freon 113 were identified at the Site and at the downgradient CSHC property.
    - The highest concentrations of cVOCs, and Freon 113 in groundwater were identified at two locations: under the G.W. Lisk Main Building at wells G-MW-02S/D and G-MW-03S/D and in the Southwestern Parking Lot area at wells G-MW-01S/D and G-TW-20. Total VOC concentrations under the Main Building were observed up to 4,597 micrograms per liter (ug/L) in overburden groundwater and up to 807.2 ug/L in bedrock groundwater during RI sampling events. Total VOC concentrations in the Southwestern Parking Lot area were observed up to 3,567.4 ug/L in overburden groundwater and up to 330.54 ug/L in bedrock groundwater during RI sampling events.

- Elevated concentrations of cVOCs, Freon 12, and Freon 113 were also observed at on-site downgradient locations, including wells G-MW-09S/D/D2 and G-MW-04S/D and at off-site downgradient locations, including wells H-MW-3SR, H-MW-4SR, H-MW-7SR, H-MW-9D, H-MW-11D, H-MW-12S/D and at the two man-made vaults constructed in the overburden soil with exposed bedrock at the bottom of the vault identified as H-Spring-01 and H-Spring-02 (see Section 1.1). Speciation fingerprint analysis indicated that the downgradient cVOC, Freon 12, and Freon 113 contamination in groundwater is likely sourced from the Site.
- Elevated concentrations of acetone and 2-butanone were detected at off-site downgradient locations, including wells G-MW-12S, H-MW-3, H-MW-5, and H-MW-6SR.
- Elevated concentrations of petroleum VOCs (i.e., benzene, alkylbenzenes, and naphthalene) were detected at off-site downgradient locations, including wells H-MW-2 and H-MW-6SR. Petroleum VOCs were not detected on-site and are suspected to be sourced from the off-site former Clifton Springs MGP.

- Summary of AOCs:
  - AOC-4: Former Outfall 011 – TCE was detected in bedrock groundwater at well G-MW-08 (32 ug/L) and in soil at boring G-B-12 (15-16 fbgs, 780 ug/kg).
  - AOC-6: Southwestern Parking Lot – elevated concentrations of TCE were detected in soil and groundwater samples. Elevated SVOCs were also detected in soil samples. VOCs detected at wells G-MW-01, G-TW-21, and G-TW-20 areas are similar in composition to those detected at wells G-MW-02 and G-MW-03.
  - AOC-11: Potential SVI in the Hundreds Building – addressed by the Hundreds Building SVI IRM.
  - AOC-12: cVOCs in Groundwater – the RI characterized the vertical and lateral extent of cVOCs in groundwater, as well as groundwater flow and contaminant transport.
  - AOC-13: Phenol in Groundwater at G-MW-04D – phenol was not detected in groundwater at well G-MW-04D or soil at boring G-B-13.
  - AOC-14: PCBs in Surface Water at SW-02 – PCBs were not detected in any surface water sample collected up or downgradient from SW-02 during the RI.

After completion of the RI and SRI, ERM concluded that there were no adverse impacts to surface water or sediment due to operations at the GW Lisk Site. Therefore, no further action was recommended for surface water or sediment. ERM submitted a Pilot Study Work Plan (PSWP) to address remaining contamination due to cVOCs in groundwater in April 2023. Activities completed by ERM pursuant to the PSWP are discussed in Section 1.2.4.

1.2.4 ERM Pilot Study

A pilot study was completed by ERM May through September 2023 in accordance with the April 2023 PSWP. The pilot study was completed to assess the efficacy of using groundwater amendment injections in overburden groundwater to address cVOC, Freon 12, and Freon 113 contamination in groundwater and, if positive results were obtained, use the data produced from the pilot study to develop a full-scale design as a part of the final remedy.

A total of 13 soil borings were installed in May 2023 including four injection wells (G-IW-01 through G-IW-04) and seven monitoring wells (G-MW-13 through G-MW-19). The injection and monitoring wells were developed prior to use. Groundwater injections were completed in two separate events. EOS Pro, an enriched emulsified vegetable oil (EVO) product developed by EOS Remediation, was injected August 2,

2023 followed by injection of BAC-9, a bioaugmentation culture developed by EOS Remediation, on September 27, 2023. These amendments were injected into overburden groundwater at two locations: well G-IW-04, which was installed upgradient of the G.W. Lisk Main Building and the G-MW-02 and G-MW-03 well pairs and at wells G-IW-01 through G-IW-03, which were installed in the Southwestern Parking Lot upgradient of the G-MW-01 well pair and G-TW-20. Figure 3 shows the injection and monitoring well locations. Appendix A includes the analytical results from the pilot study.

According to EOS Remediation, EOS Pro stimulates microbial activity by creating anaerobic conditions and providing nutrients and rapid and long-release biodegradable substrates. EOS Pro was mixed with potable water to create 10:1, 7:1, and 5:1 dilutions and injected via gravity flow. Immediately after injections, 55-gallons of potable water was flushed through each well to remove any residual material from the well and promote amendment distribution in the aquifer. After completion of EOS Pro injections, potable water was added to the empty EOS Pro 275-gallon shipment tote. The tote was sealed and stored on-site, allowing residual EOS Pro to deoxygenate the water. This deoxygenated water was used to flush the wells after injection of the BAC-9, as discussed below.

According to EOS Remediation, BAC-9 is a naturally occurring, non-toxic microbial consortium including *Dehlococcoides mccartyi*, a species capable of degrading cVOCs. Dissolved oxygen (DO) was measured 57 days after completion of EOS Pro injections in the wells and in the 275-gallon tote. DO results indicated that the groundwater and the stored flush-water was sufficiently anaerobic (DO below 1 milligrams per liter (mg/L), per EOS Pro and BAC-9 manufacturer requirements). Oxidation-reduction potential (ORP) measurements at each well indicated groundwater conditions were ideal for biological reductive dichlorination (target of -200 millivolts (mV)). Two liters of BAC-9 were injected into each injection well using tubing and compressed nitrogen. Immediately after injections, 55-gallons of potable water was flushed through each well to remove any residual material from the well and promote amendment distribution in the aquifer. A summary of the total quantities of EOS Pro, BAC-9, and water used during the pilot study is included in the table below.

Injection Well	Area	EOS Pro Injection			BAC-9 Injection	
		Total EOS Injected (gallons)	Total Water Injected (gallons)	Total Flush Water (gallons)	Total BAC-9 Injected (Liters)	Total Flush Water (gallons)
G-IW-01	Southwestern Parking Lot	99	679	55	2	55
G-IW-02	Southwestern Parking Lot	99	679	55	2	55
G-IW-03	Southwestern Parking Lot	99	675	55	2	55
G-IW-04	Upgradient Main Building	100	900	55	2	55

Baseline groundwater sampling was completed at existing monitoring wells in March 2023 (see Appendix A). The Pilot Study Report indicated a July 2023 sampling event was completed at select injection and monitoring wells; however, the results of this sampling event were not provided in the Pilot Study Report tables. Post-injection groundwater sampling was completed 30 days (September 2023), 90 days (November 2023), 180 days (January 2024), 270 days (April/May 2024), and 365 (August 2024) days post

injection of EOS-Pro at select all four injection wells and select groundwater monitoring wells. Groundwater samples were analyzed for TCL VOCs via USEPA Method 8260 and total organic carbon (TOC) by USEPA Method 9060 (EOS contains 74% organic carbon, therefore TOC acts as a tracer to determine whether the injected material is present). Additionally, microbial census samples were collected during the initial, 270-day, and 365-day sampling events. Field parameters including temperature, pH, specific conductivity, ORP, turbidity, and DO were measured during all sampling events.

ORP and DO results indicated the presence of reducing conditions in the injection wells and at some monitoring wells located downgradient of the injection wells (i.e., G-MW-01S, G-MW-02S/D, G-MW-3D, and G-TW-21). Additionally, concentrations of *Dehlococcoides spp.* and TOC increased in injection and monitoring wells after completion of groundwater injections. These results indicate that the introduction of amendments into the groundwater appears to have created amenable conditions for biological dechlorination.

Elevated concentrations of cVOCs, Freon 12, and Freon 113 remain in the groundwater. Post-injection groundwater monitoring indicates that concentrations of PCE and TCE have generally decreased and daughter products including cis-1,2-DCE and vinyl chloride (VC) have generally increased, suggesting that biological dechlorination may be occurring. However, the following limitations were observed:

- The highest concentrations of cVOCs in groundwater were previously identified at two source areas including wells G-MW-02S/D and G-MW-03S/D, located under the G.W. Lisk Main Building and well G-MW-01S/D, located in the Southwestern Parking Lot. However, pilot study injections were completed upgradient of these source areas where cVOC concentrations are lower, instead of within these source areas. Therefore, the efficacy of the amendment on high cVOC concentrations identified in the source areas remains unknown.
- No injections were completed into bedrock, despite high concentrations of cVOCs observed in bedrock wells that need to be addressed.
- The amendment used during the pilot study does not have a mechanism for direct downgradient treatment and limited downgradient, off-site wells were sampled during the pilot study. Therefore, a conclusion cannot be made whether this is an effective method to address downgradient, off-site contamination.
- Baseline analytical results were not provided for key wells in the injection area so there is no way to calculate a percent reduction in groundwater concentration resulting from the Pilot Study injections.

Therefore, due to the use of upgradient injection wells, the inconclusive efficacy on bedrock and downgradient groundwater, and the lack of pre-injection analytical data for key wells, the Pilot Study was inconclusive regarding amendment effectiveness and radius of influence, making this approach an uncertain option for the final remedy.

1.2.5 Off-Site SVI Testing

The NYSDEC/NYSDOH requested completion of SVI testing in nearby residences in a letter dated February 8, 2024. ERM completed SVI sampling on behalf of G.W. Lisk in March 2024 in accordance with the NYSDEC/NYSDOH-approved March 7, 2024 Residential Sub-Slab and Indoor Air Sampling Work Plan. Results of the SVI sampling are provided in the NYSDEC/NYSDOH-approved 2024 SVI Letter Report, prepared by ERM on behalf of G.W. Lisk on May 16, 2024.

One indoor air and one sub-slab soil vapor sample were collected from each of the three residences [redacted] An outdoor ambient air sample was collected from an upwind location, as determined the day of sampling. Air samples were collected using 6-liter SUMMA canisters over a 24-hour period and analyzed for VOCs via USEPA Method TO-15. Sample results indicated there were no SVI concerns at the residences and that no further action was required.

1.3 Primary Constituents of Concern (COC)

Based on the historic use of the Site as well as results of the previous and RI activities, the contaminants of concern (COCs) are presented below:

- ***Soil/Fill:*** VOCs (petroleum VOCs and cVOCs), and PAHs
- ***Groundwater:*** cVOCs (specifically PCE, TCE, cis-1,2-DCE, 1,1,1-TCA, 1,1-DCA, and 1,1-DCE) and Freon 113
- ***Soil Vapor:*** cVOCs

1.4 Remedial Action Objectives

The remedial actions for the Site must satisfy RAOs. RAOs are site-specific statements that convey the goals for minimizing substantial risks to public health and the environment. Appropriate RAOs for the Site have been defined as:

Soil/Fill

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation exposure to contaminants volatilizing from soil.

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater, surface water, and/or sediment contamination.

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of groundwater contamination.
- Prevent the discharge of contaminants to surface water.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the Site.

1.6 Project Organization and Responsibilities

The remedial actions will be completed by remedial construction specialty contractors under contract to G.W. Lisk and/or Roux. The NYSDEC Division of Environmental Remediation will monitor the activities, in consultation with the NYSDOH, to verify that the work is performed in accordance with the BCA, the approved RAWP, 6NYCRR Part 375, and NYSDEC DER-10 guidance.

2. Preparation Tasks

The following tasks will be completed in preparation for remedial action activities.

2.1 Public Information and Outreach

A fact sheet containing information about the planned remedial work will be prepared by the NYSDEC and distributed electronically through their listserv system to those individuals signed up to receive the information. Upon approval, a copy of this RAWP will be made available for public review at the NYSDEC Region 8 office and the Clifton Springs Public Library, the designated document repository.

2.2 Utility Clearance

Prior to intrusive activities, Dig Safely New York (Call 811) will be contacted by the site contractor a minimum of three business days in advance of the work and informed of the intent to perform excavation and injection work at the Site. Additionally, a geophysical survey will be completed by a private company to mark out existing private utilities in accordance with the ISMP. If public or private underground utilities are present and anticipated to interfere with intrusive activities, G.W. Lisk and the NYSDEC will be contacted to discuss mitigating measures.

2.4 Health and Safety Plan Development

Appendix B includes the site-specific Health and Safety Plan (HASP) prepared by Roux. The HASP will be enforced by Roux in accordance with the requirements of 29 CFR 1910.120. G.W. Lisk or their designee will be responsible for Site control and Roux will be responsible for the health and safety of its authorized workers. Contractors must have a HASP either as or more stringent as the Roux HASP.

2.5 Pre-Construction Meeting

A project coordination meeting will be held with G.W. Lisk (or their designee), selected contractor(s), and Roux's Project Manager and field staff. The designated NYSDEC Project Manager and NYSDOH representative will also be notified and invited to attend. Agenda items will include:

- Designation of responsibilities, project personnel, and mobile phone numbers
- Project documentation requirements
- Staging of equipment
- Transportation routes/Site egress
- Health and Safety requirements
- Temporary controls (dust suppression, stormwater management)
- Construction schedule
- Work hours
- Site security

Progress meetings will be conducted throughout the remedial action period as needed. Progress meetings will be attended by the Roux Project Manager and field staff. NYSDEC and NYSDOH will have access to all progress meetings.

2.6 Mobilization and Site Preparation

The contractor's field operations will commence with mobilizing equipment and materials to the Site and other temporary controls as described below in Section 2.7.

2.7 Temporary Facilities and Controls

Temporary facilities for use during the remedial work may include a construction field trailer and portable toilet(s). Temporary controls, as necessary, will be employed for protection against off-site migration of soil/fill and safety hazards during remedial action and redevelopment, including excavation safety fencing, dust suppression, and erosion control as further described below.

2.7.1 Access Controls

Excavations will be closed at the end of each day when possible. If an excavation is left open overnight, it will be surrounded with temporary safety fencing or marked out in a similar manner. Daily work areas will be identified with construction cones and/or snow fencing, if necessary, to distinguish the work zone and restrict access to G.W. Lisk employees and visitors (with the exception of authorized G.W. Lisk personnel). Work areas will be determined daily based on the planned remedial activities and may be changed throughout the workday to ensure safe operations. Access control will consider Site workers and general public safety.

2.7.2 Material Storage

Temporary on-site storage will be needed for remedial activities, which will include excavation equipment, in-situ groundwater treatment reagents, etc. The reagents will be properly stored on-site at an interior location designated by G.W. Lisk.

2.7.2 Dust Monitoring and Controls

A Community Air Monitoring Plan (CAMP), as more fully described in Section 4.2 and provided in Appendix C, will be implemented during Site work that will disturb subsurface soil/fill materials. If community air monitoring indicates the need for dust suppression or if dust is visually observed leaving the Site, the contractor will apply a water spray across the impacted area as necessary to mitigate airborne dust formation and migration. Potable water will either be obtained from a public hydrant or provided by the on-Site water service, if available.

If CAMP data indicates exceedance of VOC thresholds, the contractor will be required to adjust work practices to minimize the area of soil disturbance.

2.7.3 Sediment and Erosion Control

Appendix D includes the Master Erosion Control Plan (MECP) for the Site. A Stormwater Pollution Prevention Plan (SWPPP) is required by the ISMP to address sediment and erosion control during excavation activities that will disturb more than one acre of soil. As the work presented in this RAWP will disturb less than one acre of soil, an MECP was developed in lieu of a SWPPP. Sediment and erosion

control measures (e.g., stabilized construction entrance, silt sock/silt fence) will be put in place to ensure no potentially contaminated stormwater is discharged from the Site during excavation activities.

3. Remedial Action Activities

The Alternatives Analysis Report (AAR) identified the cleanup approach for the Site. The selected remedy is identified as *in-situ* groundwater treatment using enhanced biological dechlorination and *in-situ* chemical reduction (ISCR) and benzene, toluene, ethylbenzene, and xylene (BTEX) area treatment using *in-situ* chemical oxidation (ISCO). The NYSDEC will be notified at least 5 business days in advance of any planned remedial activities. Remedial work will be documented by an experienced Roux professional. Remedial activities will include:

- Injection of groundwater amendments into the overburden and shallow bedrock groundwater at each of the source areas identified at the site.
- Completion of pre- and post-remediation groundwater sampling.
- Excavation and addition of a chemical oxidation amendment into the unsaturated zone in the BTEX area.
- Cover system inspection and, if any portion of the cover system is removed, reevaluation and replacement.
- Preparation and implementation of a final SMP that will incorporate the existing ISMP and include site management activities for the groundwater remedy.

Figure 5 illustrates the remedial activities to be performed in accordance with this RAWP.

3.1 In-Situ Groundwater Treatment

COCs in groundwater have been identified as cVOCs (specifically PCE, TCE, cis-1,2-DCE, 1,1,1-TCA, 1,1-DCA, and 1,1-DCE) and Freon 113. cVOCs remain at concentrations exceeding GWQS in groundwater throughout the Site and downgradient of the Site. The G.W. Lisk Main Building and Southwestern Parking Lot Area were identified as cVOC source areas. COCs have been identified in overburden and shallow bedrock groundwater and in saturated soil within each of the source areas. The plumes from the two identified source areas appear to mix and combine into a single plume as they move downgradient (northerly). cVOCs and Freon 113 were detected above GWQS in off-site downgradient groundwater.

A Site-specific remedial program was developed with design support provided by Regenesis® to address remaining contamination due to cVOCs and Freon in overburden and bedrock groundwater and saturated soil. This remedial program, proposed by Roux/Regenesis and approved by the NYSDEC, will include injection of amendment products into overburden and bedrock source areas to promote remediation via enhanced reductive biological dechlorination and ISCR.

3.1.1 USEPA Approvals

Prior to injection activities, Roux will submit an application to USEPA for an underground injection control (UIC) permit for Class V wells to complete beneficial use injections. Roux will provide NYSDEC with proof of approval by the USEPA Region 2 Drinking Water & Groundwater Protection Section.

3.1.2 Technology Description

Enhanced biological dechlorination and ISCR will be implemented using a combination three amendments developed by Regenesis. Appendix D includes the technical data sheets and safety data sheets (SDSs) for the following products:

- 3-D Microemulsion® (3DME): 3DMe is a slightly viscous lactic acid-based liquid. 3DME facilitates anaerobic bioremediation by slow hydrolysis of the lactic acid that releases hydrogen when metabolized by naturally occurring microbes, enhancing reductive dechlorination. 3DME produces a sequential, staged release of its electron donor components; this staged fermentation provides an immediate, mid-range and long-term controlled-release supply of hydrogen (electron donor) to fuel the reductive dechlorination process for up to five years.
- S-MicroZVI™: S-MicroZVI is an ISCR reagent composed of colloidal, sulfidated zero-valent iron (ZVI) particles suspended in glycerol. S-MicroZVI can destroy chlorinated contaminants through direct chemical reactions and will also stimulate anaerobic biological degradation by rapidly creating a reducing environment that is favourable for reductive dechlorination.
- Bio-Dechlor INOCULUM®PLUS (BDI Plus): BDI Plus is a microbial consortium containing the species Dehalococcoides sp. (DHC) that biodegrade cVOCs.

3.1.3 Injection Activities

Injections will be completed in each of the two source areas: the G.W. Lisk Main Building and the Southwest Parking Lot. Overburden injections will be completed via direct-push technology (DPT) at four discrete injection depths. Bedrock injections will be completed using permanent injection wells (IWs). The overall goal of the remediation project is to reduce COCs concentrations in groundwater to reach asymptotic conditions approaching GWQS. Water level measurements will be collected prior to, during, and after groundwater injections to assess the radius of influence at each injection point.

Overburden Source Area – G.W. Lisk Main Building

Approximately 6,400 lbs of 3DME, 6,500 lbs of S-MicroZVI, and 85 liters of BDI Plus will be injected into the overburden under the G.W. Lisk Main Building in a grid surrounding G-MW-02S and G-MW-03S. Injections will be completed at 18 temporary injection points (IPs) using DPT (see Figure 6). Injections will be applied from the bottom up over an 8-foot interval starting at the top of bedrock (ranging between 13 and 21 fbgs).

A mixture of approximately 43 gallons of 3DME, 24 gallons of S-MicroZVI, 5 liters of BDI Plus, and 1,733 gallons of potable water will be injected at each IP. The amendments will be mixed with water on-site prior to injection. Dilutions may be modified in the field based on achieved application rates.

Overburden Source Area – Southwest Parking Lot

Approximately 10,000 lbs of 3DME, 10,000 lbs of S-MicroZVI, and 136 liters of BDI Plus will be injected into the overburden under the Southwest Parking Lot in a grid surrounding G-MW-01S, G-TW-20, and G-TW-21. Injections will be completed at 28 temporary IPs using DPT (see Figure 6). Injections will be applied from the bottom up over an 8-foot interval starting at the top of bedrock (ranging between 16 and 24 fbgs).

A mixture of approximately 43 gallons of 3DME, 24 gallons of S-MicroZVI, 5 liters of BDI Plus, and 1,741 gallons of potable water will be injected at each IP. The amendments will be mixed with water on-site prior to injection. Dilutions may be modified in the field based on achieved application rates.

Bedrock Source Areas

Approximately 8,000 lbs of 3DME, 8,000 lbs of S-MicroZVI, and 108 liters of BDI Plus will be injected into the bedrock upgradient of G-MW-01D, G-MW-02D, M-MW-03D, G-MW-04D, and G-MW-09D. Injections will be completed at 12 permanent IWs to be installed on-site (see Figure 7). The bedrock IWs will be installed 15 to 20 feet into the shallow bedrock. Soil borings will be advanced to the top of competent bedrock using traditional hollow stem augers (HSAs). Upon bedrock refusal at each location, an approximate 3-inch diameter core barrel will be used to core a minimum of 3-feet into competent bedrock. The core hole will be reamed to create a socket into the top of rock. Steel casing will be installed a minimum of three feet into bedrock and sealed on the outside with ground/bentonite to approximately 1 foot below ground surface to ensure no contaminant migration from above. Once the grout/bentonite is set, the 3-inch diameter core barrel will be advanced into shallow bedrock to create an open borehole injection well. The newly installed bedrock injection wells will be completed with a lockable J-plug and keyed alike locks and a steel protective casing. Injection well construction details are shown on Figure 7. The newly installed injection wells will be developed prior to use.

Drill cuttings and cores will be placed in sealed New York State Department of Transportation (NYSDOT) approved drums and labelled for disposal during remedial activities. Non-dedicated drilling tools and equipment will be decontaminated between boring locations using potable tap water and a phosphate-free detergent (e.g., Alconox). Water generated from the bedrock coring will be containerized and staged on Site for disposal.

A mixture of approximately 80 gallons of 3DME, 44 gallons of S-MicroZVI, 9 liters of BDI Plus, and 5,380 gallons of potable water will be injected at each IW. The amendments will be mixed with water on-site prior to injection. Dilutions may be modified in the field based on achieved application rates.

3.1.4 Groundwater Monitoring

A groundwater monitoring program will be implemented to evaluate the effectiveness of the in-situ groundwater treatment. Pre-injection sampling will be conducted prior to completion of injections. Post-injection sampling will be conducted 3-, 6-, 9-, and 12-months post-injection. Pre- and post-injection sampling will be conducted at nine overburden wells (G-MW-01S, G-MW-02S, G-MW-03S, G-MW-04S, G-MW-09S, G-MW-17, G-MW-18, G-TW-20, and G-TW-21) and five bedrock wells (G-MW-01D, G-MW-02D, G-MW-03D, G-MW-04D, and G-MW-09D) (see Figure 5). Samples from the nine overburden wells and five bedrock wells will be analyzed for TCL VOCs. Additional parameters including TOC, chloride, sulfate, nitrate/nitrite, alkalinity, TAL metals, and dissolved gasses (methane, ethane, and ethene) will be analyzed during the pre-injection sampling event and the 3- and 9-month post injection sampling events. Water level and field parameter measurements at all on-site and off-site monitoring wells will be collected during each sampling event.

Post-remedial monitoring will continue after the 12-month post injection sampling event in accordance with the SMP.

3.2 BTEX Area Treatment

Petroleum VOCs including benzene, toluene, ethylbenzene, and xylene (i.e., BTEX) were detected in unsaturated soil above PGWSCOs at soil borings G-B-01 (5-6 ft) and G-MW-05 (7-8 ft). This has been designated as the BTEX Area. A Site-specific remedial program was developed with design support

provided by Regenesis® to address remaining contamination in the BTEX Area. This remedial program, proposed by Roux/Regenesis and approved by the NYSDEC, will include excavation followed by mixing impacted soil in the BTEX Area with amendment products provided by Regenesis to promote remediation via ISCO.

3.2.1 Technology Description

ISCO will be implemented using an amendment developed by Regenesis. Appendix D includes the technical data sheet and SDS for the following product:

- RegenOx®: RegenOx rapidly destroys petroleum contaminants through direct chemical reactions. RegenOx is a two-part product consisting of a sodium percarbonate oxidizer (RegenOx® Part A) and a surface catalyst system consisting of sodium silicates, silica gel, and ferrous sulfate to activate oxidation (RegenOx® Part B).

3.2.3 Excavation and Mixing

An approximate 50-foot by 50-foot area will be excavated to 5 feet in the BTEX Area. Soil removed from the excavation will be stockpiled next to the excavation. The horizontal extents of the excavation will continue if visual, olfactory, or PID impacts are identified at the anticipated excavation limits. Once the excavation has been completed to 5 fbgs, RegenOx will be mixed with soil at the bottom of the excavation between 5 and 8 fbgs. A total of 6,000 lbs of RegenOx (consisting of 3,600 lbs of RegenOx Part A and 2,400 lbs of RegenOx Part B) will be mechanically mixed with the soil at the bottom of the excavation using an excavator. Once mixing is completed, the excavation will be backfilled using stockpiled soil.

The excavation will be completed incrementally over the course of multiple days; the completed portion of the excavation will be backfilled by the end of each workday to ensure that no open trenches exist unmonitored on the property. In such a case where this is not possible, measures will be taken to fence and/or cordon off the open excavation area.

3.3 Cover System

The existing hardscape (i.e., asphalt, roads/parking areas, concrete sidewalks, concrete foundations, and minimal green space) serves as a partial cover system for the Site. The cover system will be inspected annually in accordance with the SMP. If any portion of the cover system is removed, the area will be reevaluated, and the cover system will be replaced with hardscape or at least one foot of approved vegetated soil meeting commercial import requirements in accordance with DER-10.

4. Remedial Activities Support Documents

4.1 Health and Safety Protocols

Roux has prepared a HASP for use by our employees in accordance with 40 CFR 300.150 of the NCP and 29 CFR 1910.120. The HASP, provided in Appendix B, includes the following site-specific information:

- A hazard assessment
- Training requirements
- Definition of exclusion, contaminant reduction, and other work zones
- Monitoring procedures for Site operations
- Safety procedures
- Personal protective clothing and equipment requirements for various field operations
- Disposal and decontamination procedures
- A contingency plan that addresses potential site-specific emergencies

Health and safety activities will be monitored throughout the remedial field activities. A member of the field team will be designated to serve as the Site Safety and Health Officer (SSHO). The SSHO will report directly to the Project Manager and the Corporate Health and Safety Coordinator. The HASP will be subject to revision as necessary, based on new information that is discovered during field investigation and/or remedial activities.

4.2 Community Air Monitoring

Real-time community air monitoring will be performed during the remedial action activities at the Site. Appendix C includes a generic NYSDOH CAMP. Particulate and VOC monitoring will be performed along the upwind and downwind perimeters of the work area during intrusive remedial action activities in accordance with this plan. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the NYSDOH and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDEC's DER-10 (May 2010) Appendix 1A (NYSDOH's Generic Community Air Monitoring Plan) and Appendix 1B (Fugitive Dust and Particulate Monitoring).

NYSDEC and NYSDOH will be notified within 24 hours of any CAMP action level exceedances observed during remedial action activities. CAMP exceedances and corrective measures will be also reported in daily field logs.

4.3 Citizen Participation Activities and Fact Sheets

NYSDEC will coordinate and lead community relations throughout the course of the project with support from Roux as requested. A Citizen Participation (CP) Plan has previously been prepared as a separate document and submitted to the NYSDEC. A copy of the approved CP Plan[1] was placed at the designated

[1] ERM references the CP Plan in the Pilot Study Work Plan, noting it was approved by NYSDEC on May 17, 2019.

document repository. The NYSDEC, with input from Roux and G.W. Lisk, will issue project-related fact sheets to keep the public informed of BCP activities.

5. Remedial Activities Reporting

5.1 Construction Monitoring

A Roux scientist or engineer will be on-site on a full-time basis to document remedial activities. Such documentation will include, at minimum, daily reports detailing remedial activities, community air monitoring results, photographs, and sketches. Appendix F contains sample project documentation forms. The completed reports will be available on-site and submitted to the NYSDEC and NYSDOH as part of the FER. The NYSDEC will be promptly notified of problems requiring modifications to this RAWP prior to proceeding or completion of the construction item.

Photo documentation of the remedial activities will be prepared by a field representative throughout the duration of the project as necessary to convey typical work activities, changed conditions, and/or special circumstances. If determined to be necessary, periodic on-site construction progress meetings will be held to which NYSDEC will receive an invitation.

5.2 Site Management Plan

An SMP that describes site-specific ICs/ECs is a required component of the final remedy. Therefore, as part of the final remedy, an SMP will be prepared. The SMP will incorporate the control measures in the ISMP and be updated to include site management activities for the groundwater remedy.

Consistent with NYSDEC BCP requirements, the ISMP includes the following control measures:

- Engineering and Institutional Controls Plan. Section 3.0 of the ISMP describes the procedures for implementation and management of all existing ECs and ICs. Site engineering controls include the existing cover system. Institutional controls at the Site include:
    - The property may be used for Industrial use;
    - All ECs must be operated and maintained as specified in the ISMP;
    - All ECs must be inspected at a frequency and in a manner defined in the ISMP;
    - Notification of slab penetration in buildings with slab EC's with workers following operator safety procedures;
    - Soil vapor and indoor air monitoring must be performed as defined in the ISMP;
    - Groundwater monitoring must be performed as defined in the ISMP;
    - Data and information pertinent to Site management must be reported at the frequency and in a manner as defined in the ISMP;
    - All future activities that will disturb remaining contaminated material must be conducted in accordance with the ISMP;
    - Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the ISMP;
    - Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the ISMP;
    - Access to the Site must be provided to agents, employees, or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this ISMP; and

    - The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries and any potential impacts that are identified must be monitored or mitigated.

- Monitoring and Sampling Plan: Section 4.0 of the ISMP includes the Monitoring and Sampling Plan, which includes provisions for groundwater monitoring, indoor air/subslab vapor sampling, and a cover system inspection program to assure that the ICs/ECs have not been altered and remain effective.
- Excavation Work Plan: Appendix B includes the Excavation Work Plan, which assures that future intrusive activities and soil/fill handling at the Site are completed in a safe and environmentally responsible manner.
- Environmental Easement filed with Ontario County.

5.2 Final Engineering Report

An FER will be prepared at the conclusion of remedial activities. The FER will include the following information and documentation, consistent with the NYSDEC's DER-10 Technical Guidance for Site Remediation:

- Introduction and background.
- Planimetric map showing the areas remediated, including significant site features.
- Map showing the lateral limits of any excavations and/or treatment areas.
- Tabular summaries of unit quantities including volume of soil excavated/removed and/or treated and disposition of excavated/removed/treated soil, and origin and volume of imported soil.
- Planimetric map showing location of all verification and other sampling locations with sample identification labels/codes.
- Tabular comparison of verification and other sample analytical results to GWQS. An explanation shall be provided for any results exceeding acceptance criteria.
- Documentation on the disposition of impacted soil/groundwater removed.
- Copies of daily inspection reports and, if applicable, problem identification and corrective measure reports.
- Photo documentation of remedial activities.
- Text describing the remedial activities performed, a description of any deviations from the Work Plan and associated corrective measures taken, and other pertinent information necessary to document that the Site activities were carried out in accordance with this Work Plan.

In addition, G.W. Lisk will subcontract for third-party data review of groundwater data by a qualified, independent data validation expert. Specifically, a Data Usability Summary Report (DUSR) will be prepared, with appropriate data qualifiers added to the results. The DUSR format will follow the NYSDEC's September 1997 DUSR guidelines and DER-10 guidance. The DUSR and any necessary qualifications to the data will be appended to the FER.

6. Project Schedule

The anticipated project schedule for the major tasks to be performed during implementation of the RAWP is shown on Figure 8 and summarized below:

- Decision Document Released: March 2026
- RAWP Public Comment Period: March 15, 2026 – April 30, 2026
- RAWP Approval: May 2026
- Remedial Injection Activities (utility location, sediment and erosion control, IW installation, pre-remedial groundwater sampling, groundwater injections,): June 2026 through July 2026
- Remedial Excavation Activities (BTEX Area treatment): August 2026
- Post-Remedial Groundwater Sampling
    - 1st Event (3 months post-injection): October 2026
    - 2nd Event (6 months post-injection): January 2027
    - 3rd Event (9 months post-injection): April 2027
    - 4th Event (12 months post injection): July 2027
- Submit Environmental Easement: October_2027
- Submit Final SMP: October 2027
- Submit Final FER: November 2027
- Certificate of Completion: December 2027

7. References

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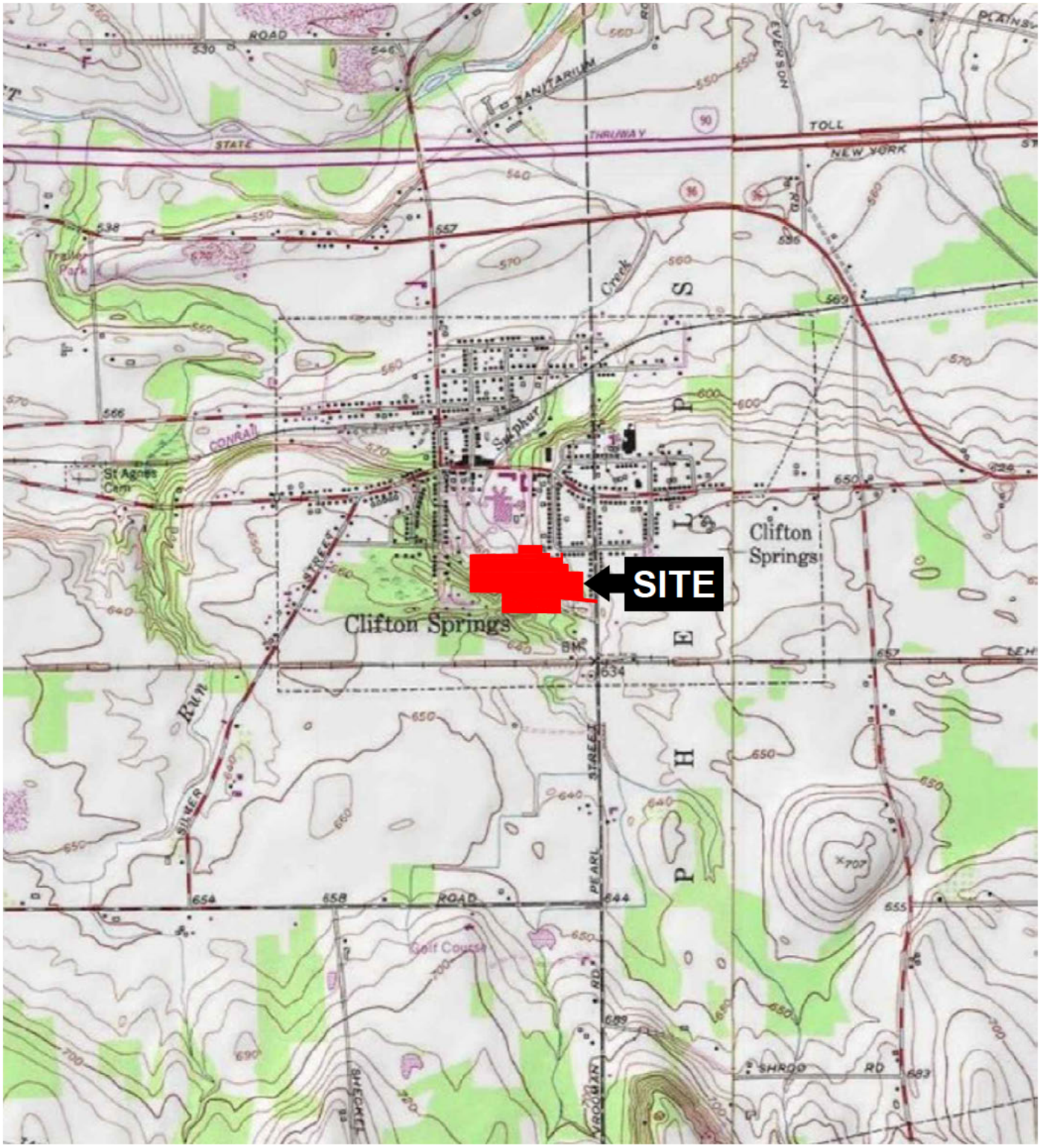
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FIGURES

1. Site Location and Vicinity Map
2. Site Plan (Aerial)
3. Previous Investigation Locations
4. Previous AOPCs and AOCs
5. Proposed Remedial Action and Post-Remedial Groundwater Monitoring
6. Proposed Overburden Injection Locations
7. Proposed Bedrock Injection Well Locations and Detail
8. Anticipated Project Schedule





QUADRANGLE LOCATION

2000' 0 2000'

N

BASE MAP: USGS QUADRANGLE CLIFTON SPRINGS, NY 2023

Title:

SITE LOCATION AND VICINITY MAP

REMEDIAL ACTION WORK PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

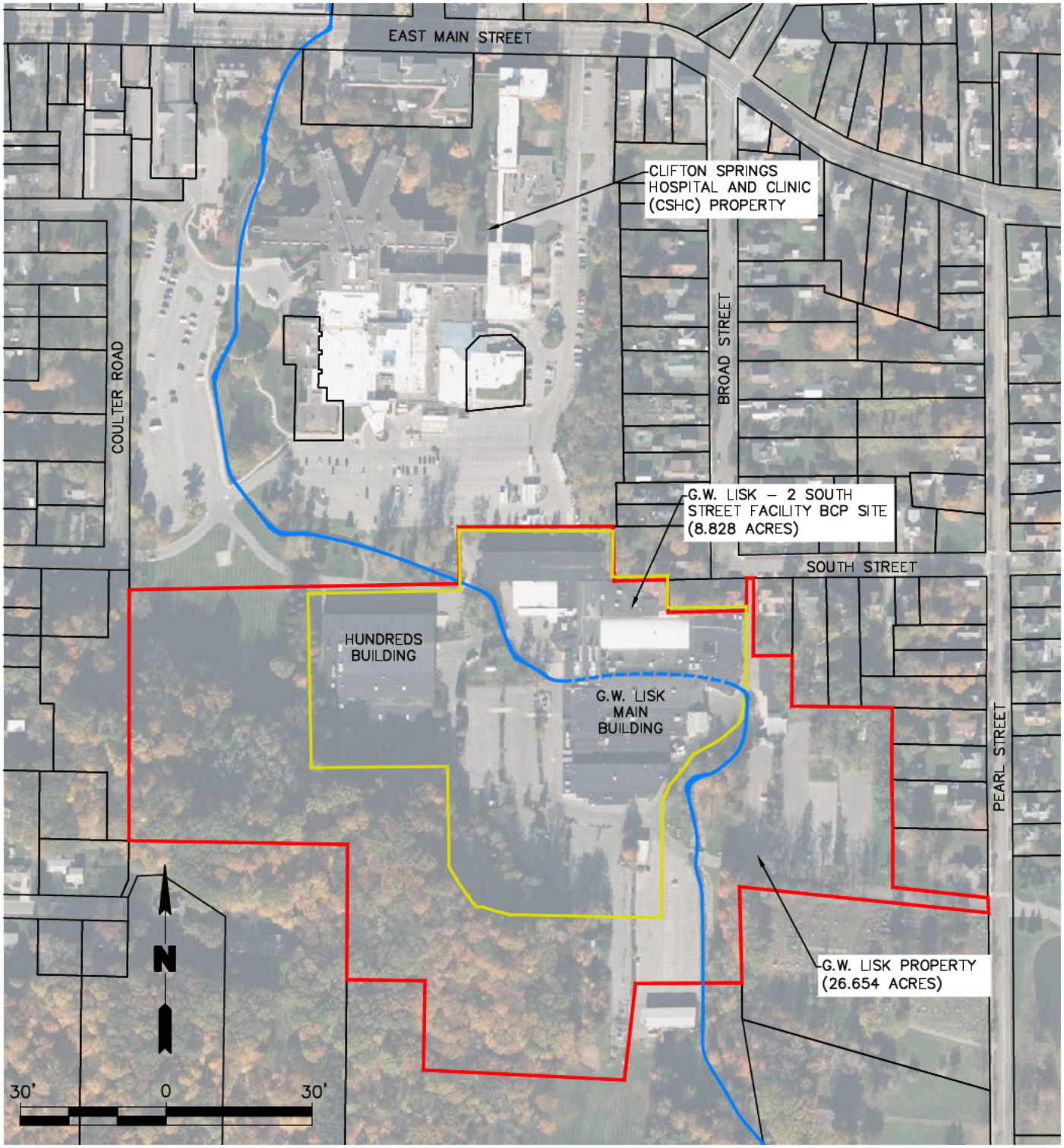
Prepared for:

G.W. LISK COMPANY, INC.

ROUX

Compiled by:	Date: JANUARY 2026	FIGURE 1
Prepared by: JJY	Scale: AS SHOWN	
Project Mgr: LER	Project: 4981.0001B002	
File: FIGURE 1; SITE LOCATION AND VICINITY MAP.DWG		

F:\CAD\0-ROUX\GW LISK\RAWP\FIGURE 1; SITE LOCATION AND VICINITY MAP.DWG CKANALEY



LEGEND

- BCP BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- PARCEL BOUNDARIES
- SULFUR CREEK (UNDERGROUND SECTION DASHED)

NOTES

1. IMAGE SOURCE MICROSOFT CORPORATION SATELLITE IMAGERY 2025.
2. BCP BOUNDARY AND PATH OF SULFUR CREEK TAKEN FROM ERM REMEDIAL INVESTIGATION REPORT FIGURE 2: SITE TOPOGRAPHY AND FACILITY LAYOUT.

Title:

SITE PLAN (AERIAL)

REMEDIAL ACTION WORK PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:

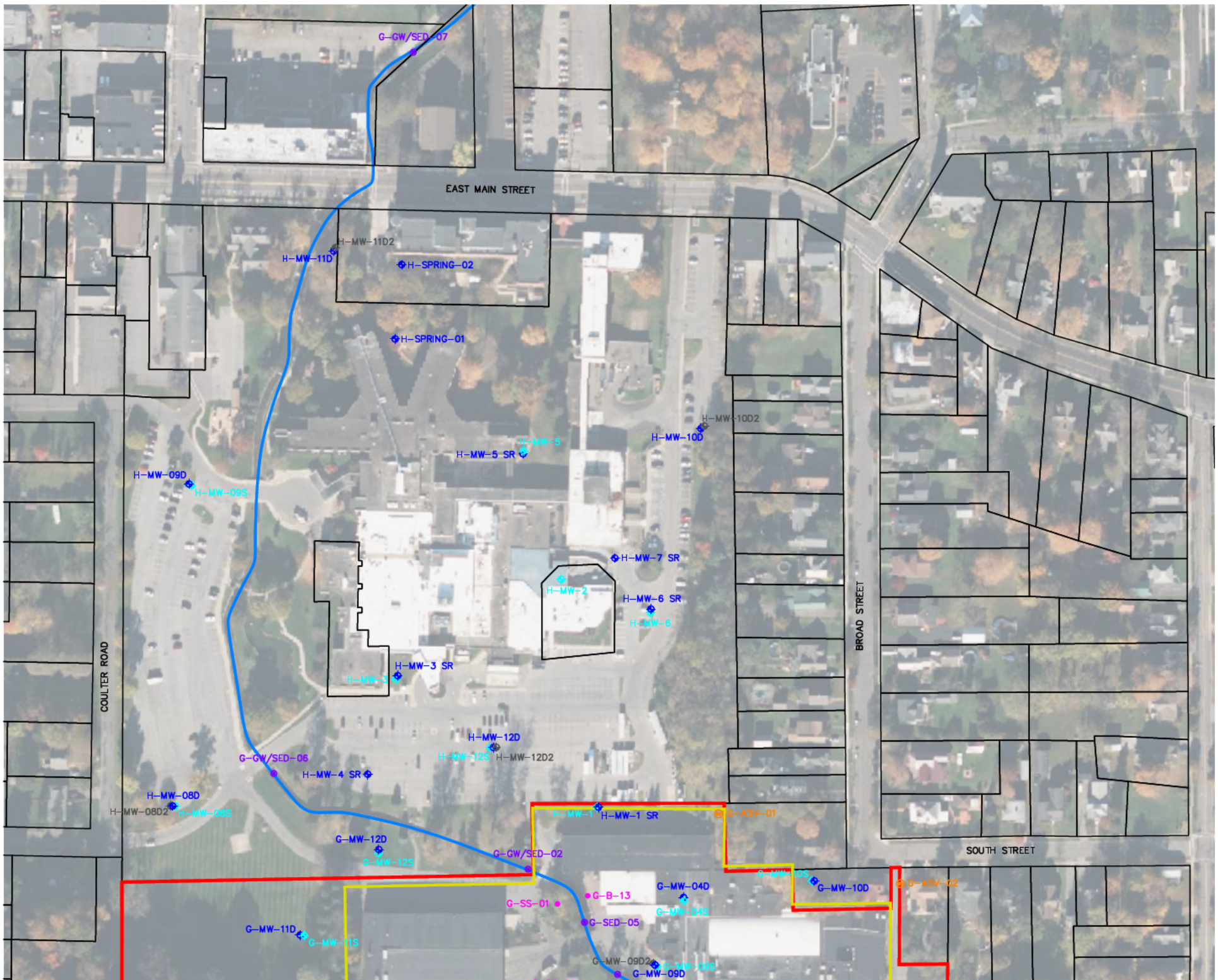
G.W. LISK COMPANY, INC.

ROUX

Compiled by: CNK	Date: JANUARY 2026	FIGURE
Prepared by: CNK	Scale: AS SHOWN	2
Project Mgr: CMC	Project: 4981.0001B002	
File: FIGURE 2; SITE PLAN.DWG		

F:\CAD\ROUX\GW LISK\RAWP\FIGURE 2; SITE PLAN.DWG

F:\CAD\0-ROUX\GW LISK\RAWP\FIGURE 3; PREVIOUS INVESTIGATION LOCATIONS.DWG CKANALEY



LEGEND

- BCP SITE BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- SULFUR CREEK (UNDERGROUND SECTION DASHED)
- PARCEL BOUNDARIES
- G-MW-01S — OVERBURDEN MONITORING WELL
- G-IW-01 — PILOT STUDY INJECTION WELL
- G-MW-01D — BEDROCK MONITORING WELL
- G-MW-07D2 — DECOMMISSIONED BEDROCK MONITORING WELL
- B-01 — SITE CHARACTERIZATION SOIL BORING
- G-B-05 — RI SOIL BORING
- G-GW/SED-01 — SURFACE WATER/SEDIMENT SAMPLING LOCATION
- G-ASV-01 (SV) — SOIL VAPOR SAMPLE LOCATION

NOTES

1. PREVIOUS INVESTIGATION LOCATIONS TAKEN FROM ERM SITE CHARACTERIZATION REPORT FIGURE 3 AND ERM REMEDIAL INVESTIGATION REPORT FIGURE 6.

20' 0 20'

Title:

PREVIOUS INVESTIGATION LOCATIONS

REMEDIAL ACTION WORK PLAN

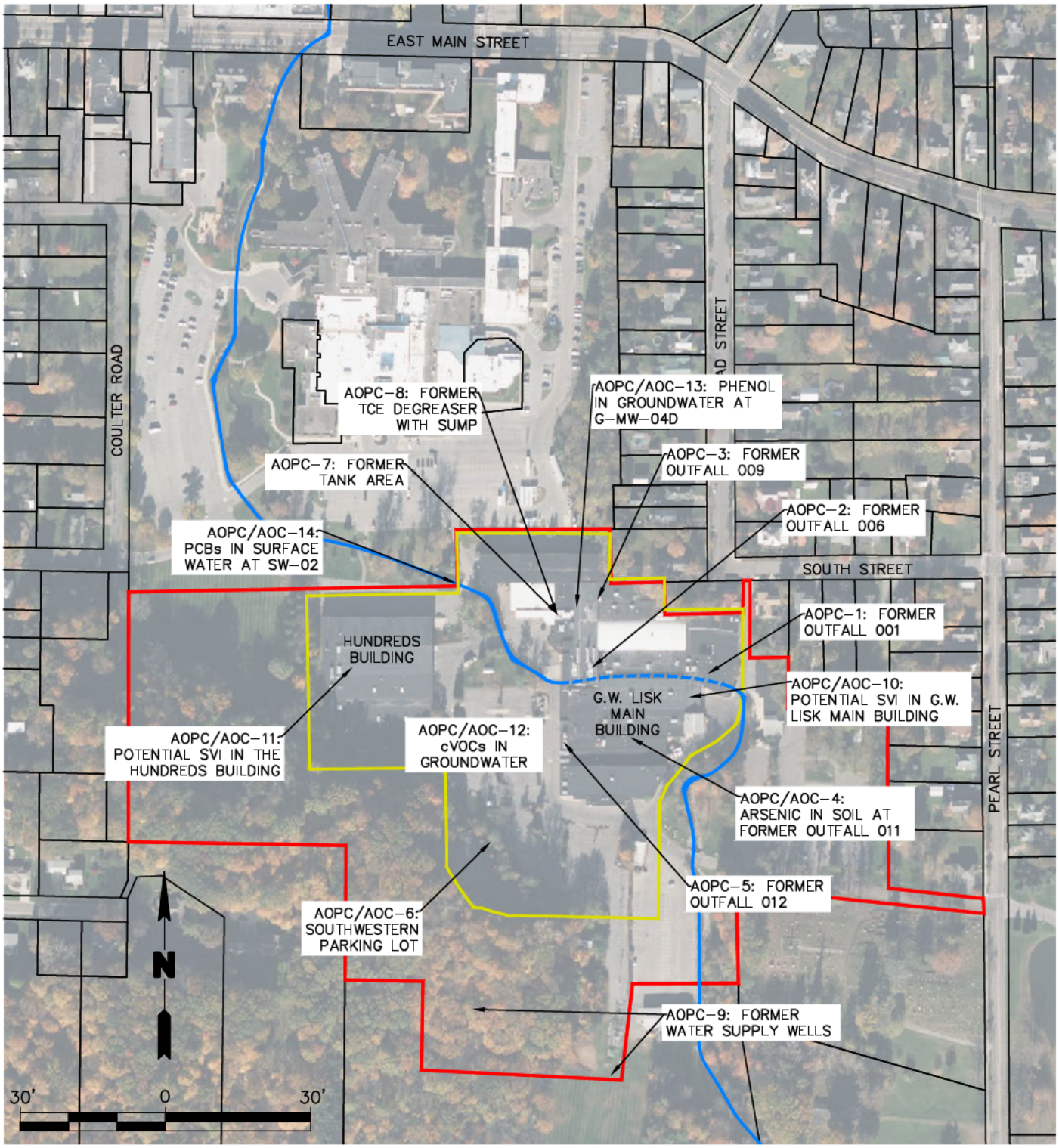
G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for

G.W. LISK COMPANY, INC.

ROUX

Compiled by: CNK	Date: JANUARY 2026	FIGURE	
Prepared by: CNK	Scale: AS SHOWN	3	
Project Mgr: CMC	Project: 4981.0001B002		
File: FIGURE 3; PREVIOUS INVESTIGATION LOCATIONS.DWG			



LEGEND

- BCP BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- PARCEL BOUNDARIES
- SULFUR CREEK (UNDERGROUND SECTION DASHED)

NOTE

1. AOPC AND AOC LOCATIONS TAKEN FROM ERM SITE CHARACTERIZATION WORK PLAN FIGURE 3 AND ERM REMEDIAL INVESTIGATION REPORT FIGURE 3.

Title:

PREVIOUS AOPCs AND AOCs

REMEDIAL ACTION WORK PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

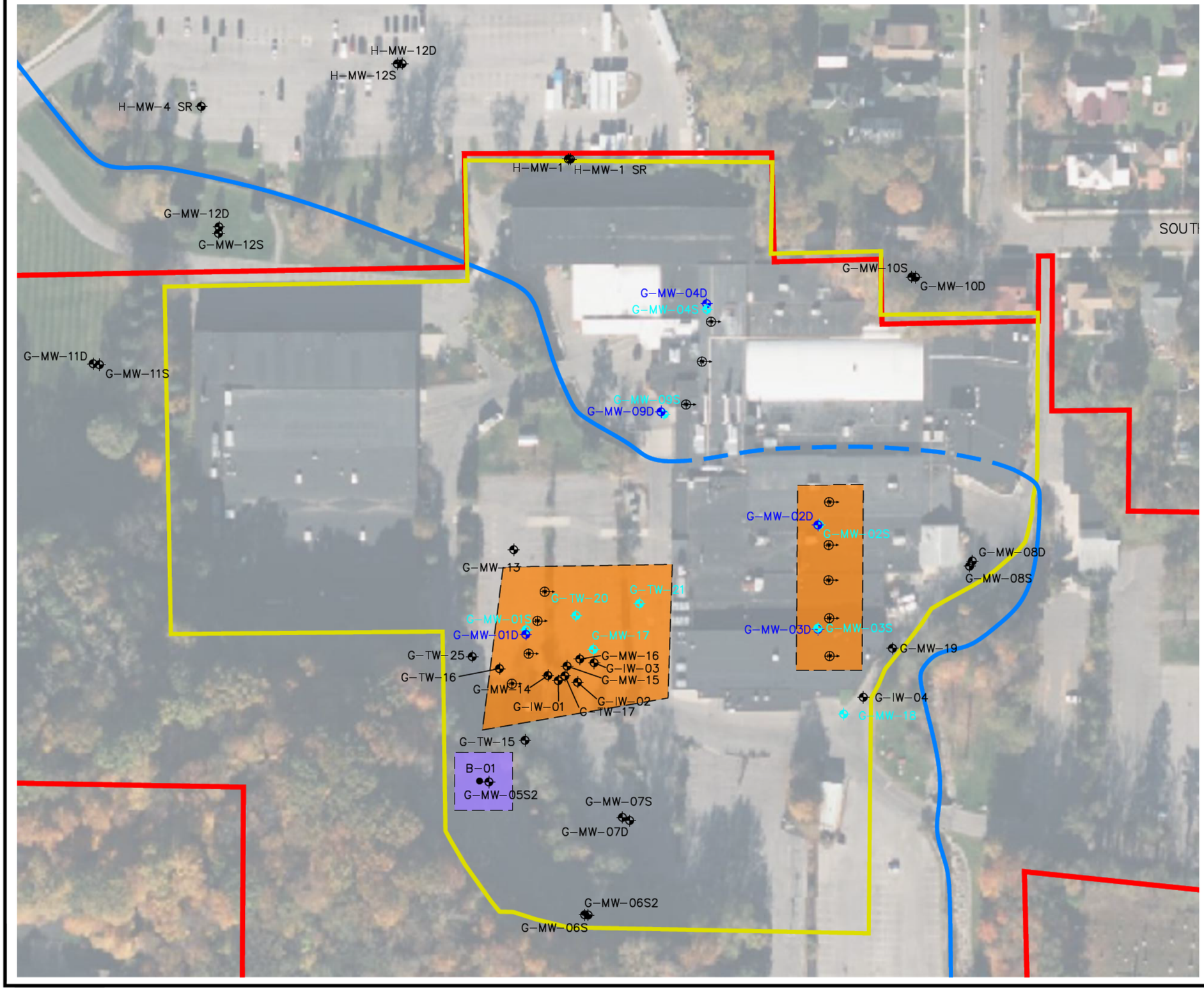
Prepared for:

G.W. LISK COMPANY, INC.

ROUX

Compiled by: CNK	Date: JANUARY 2026	FIGURE
Prepared by: CNK	Scale: AS SHOWN	4
Project Mgr: CMC	Project: 4981.0001B002	
File: FIGURE 4; PREVIOUS AOPCS AND AOCS.DWG		

F:\CAD\GROUX\GW LISK\RAWP\FIGURE 4; PREVIOUS AOPCS AND AOCS.DWG



LEGEND

- BCP SITE BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- SULFUR CREEK (UNDERGROUND SECTION DASHED)
- G-MW-05 EXISTING MONITORING WELLS
- G-MW-01S PROPOSED POST-INJECTION OVERBURDEN MONITORING LOCATION
- G-MW-01D PROPOSED POST-INJECTION BEDROCK MONITORING LOCATION
- PROPOSED OVERBURDEN DIRECT-PUSH INJECTION AREAS
- PROPOSED BEDROCK PERMANENT INJECTION WELL
- PROPOSED BTEX EXCAVATION AREA
- B-01 HISTORIC SOIL BORING IN BTEX AREA

N

100' 0 100'

Title:

PROPOSED REMEDIAL ACTION AND POST-REMEDIAL GROUNDWATER MONITORING

REMEDIAL ACTION WORK PLAN

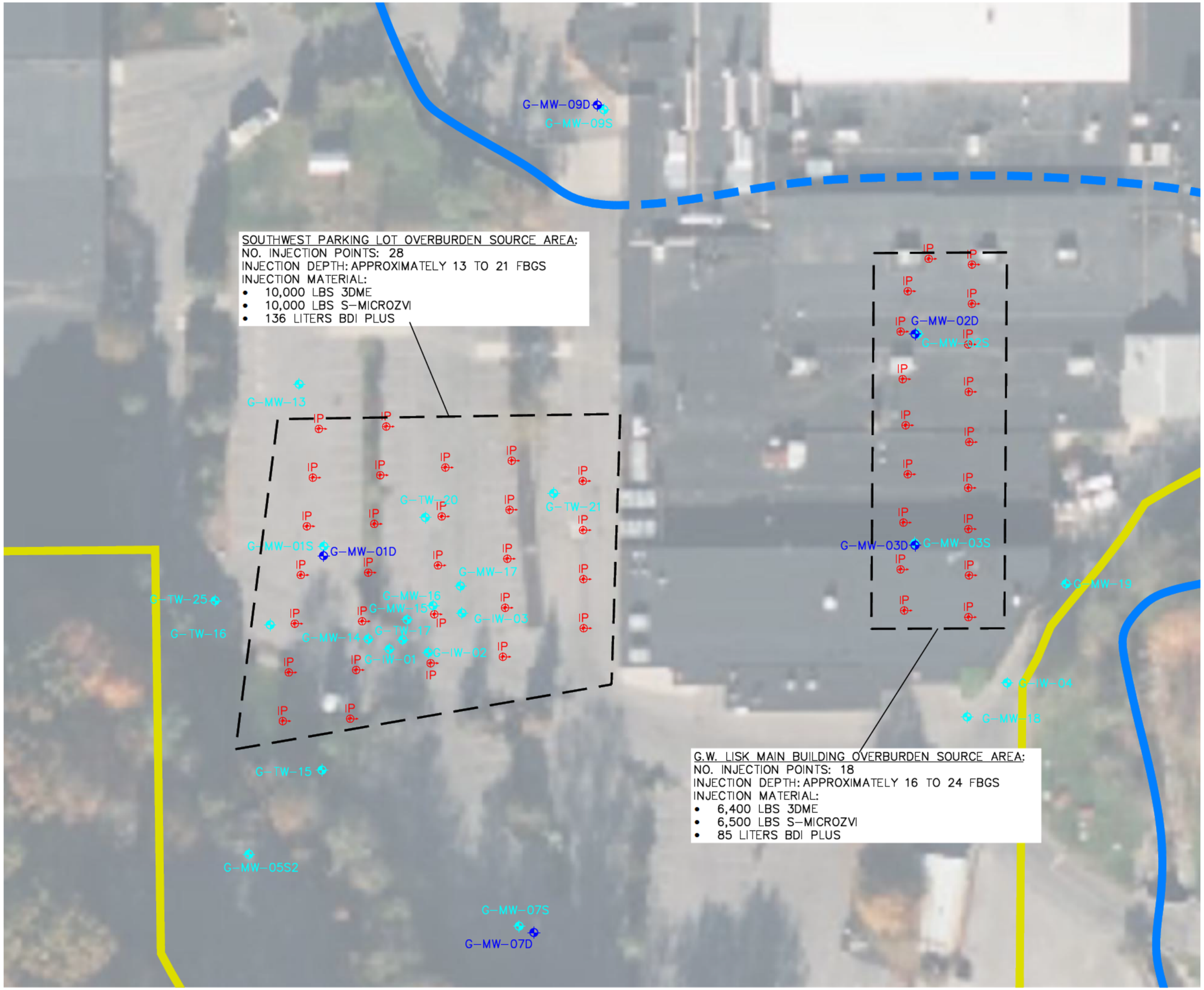
G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:
G.W. LISK COMPANY, INC.

ROUX

Compiled by: CNK	Date: JANUARY 2026	FIGURE
Prepared by: CNK	Scale: AS SHOWN	5
Project Mgr: LER	Project: 4981.0001B002	
File: FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG		

F:\CAD\0-ROUX\GW LISK\RAWP\FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG CKANALEY



LEGEND

- BCP SITE BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- SULFUR CREEK (UNDERGROUND SECTION DASHED)
- G-MW-05 — EXISTING OVERBURDEN MONITORING WELLS
- G-MW-01D — EXISTING BEDROCK MONITORING WELLS
- PROPOSED OVERBURDEN DIRECT-PUSH INJECTION AREAS
- IP — PROPOSED OVERBURDEN INJECTION POINT

N

50' 0 50'

Title:
PROPOSED OVERBURDEN INJECTION POINT LOCATIONS

REMEDIAL ACTION WORK PLAN

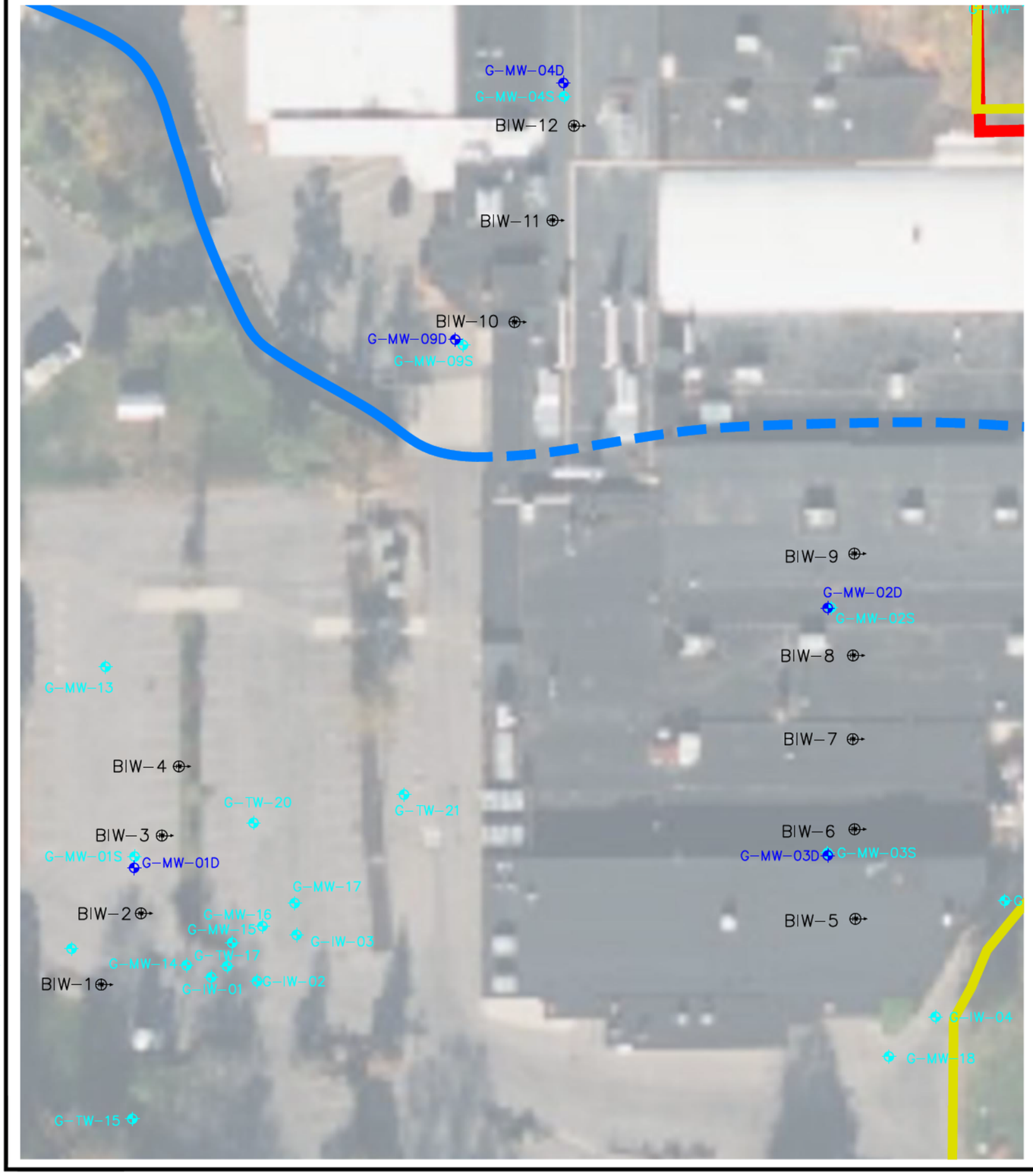
G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:
G.W. LISK COMPANY, INC.

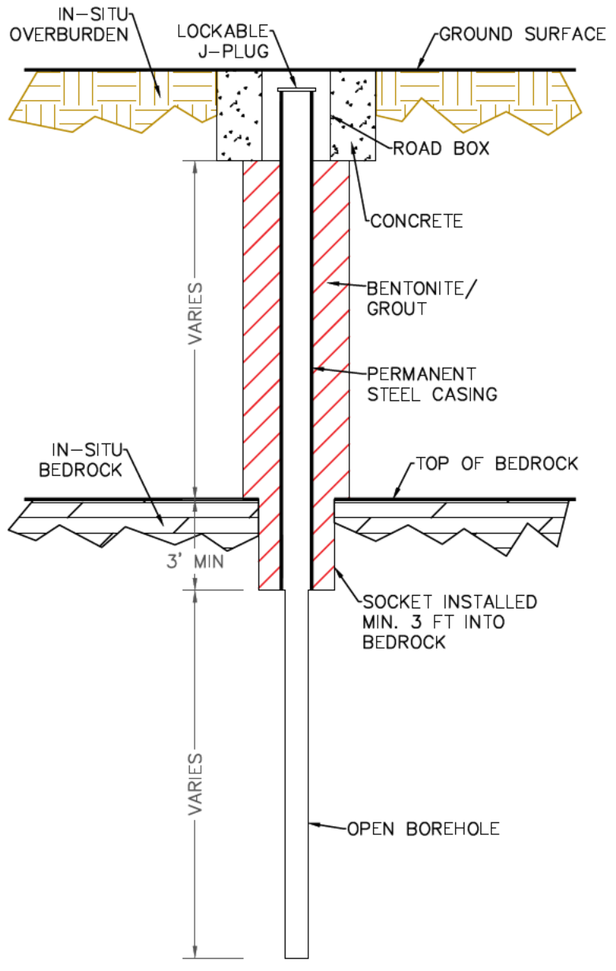
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Prepared by: CNK	Scale: AS SHOWN	6
Project Mgr: LER	Project: 4981.0001B002	
File: FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG		

F:\CAD\0-ROUX\GW LISK\RAWP\FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG CKANALEY



OPEN BOREHOLE
INJECTION WELL DETAIL
NOT TO SCALE

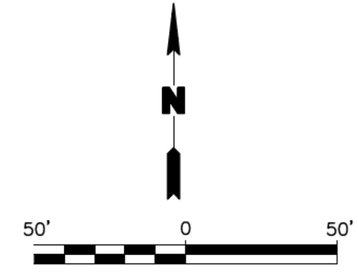


LEGEND

- BCP SITE BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- SULFUR CREEK (UNDERGROUND SECTION DASHED)
- G-MW-05 — EXISTING OVERBURDEN MONITORING WELLS
- G-MW-01D — EXISTING BEDROCK MONITORING WELLS
- BIW-1 — PROPOSED BEDROCK INJECTION WELL

BEDROCK SOURCE AREAS:
NO. OF INJECTION WELLS: 18
INJECTION DEPTH: BEDROCK WELLS WILL BE CONSTRUCTED WITH A 10-FOOT SCREEN INSTALLED ANYWHERE BETWEEN 15 FBGS AND 45 FBGS, DEPENDING ON DEPTH TO BEDROCK, DEPTH TO THE WATER TABLE, AND PRESENCE OF FRACTURES
INJECTION MATERIAL:

- 8,000 LBS 3DME
- 8,000 LBS S-MICRO ZVI
- 108 LITERS BDI PLUS



Title:
PROPOSED BEDROCK INJECTION WELL LOCATIONS AND DETAIL

REMEDIAL ACTION WORK PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:
G.W. LISK COMPANY, INC.

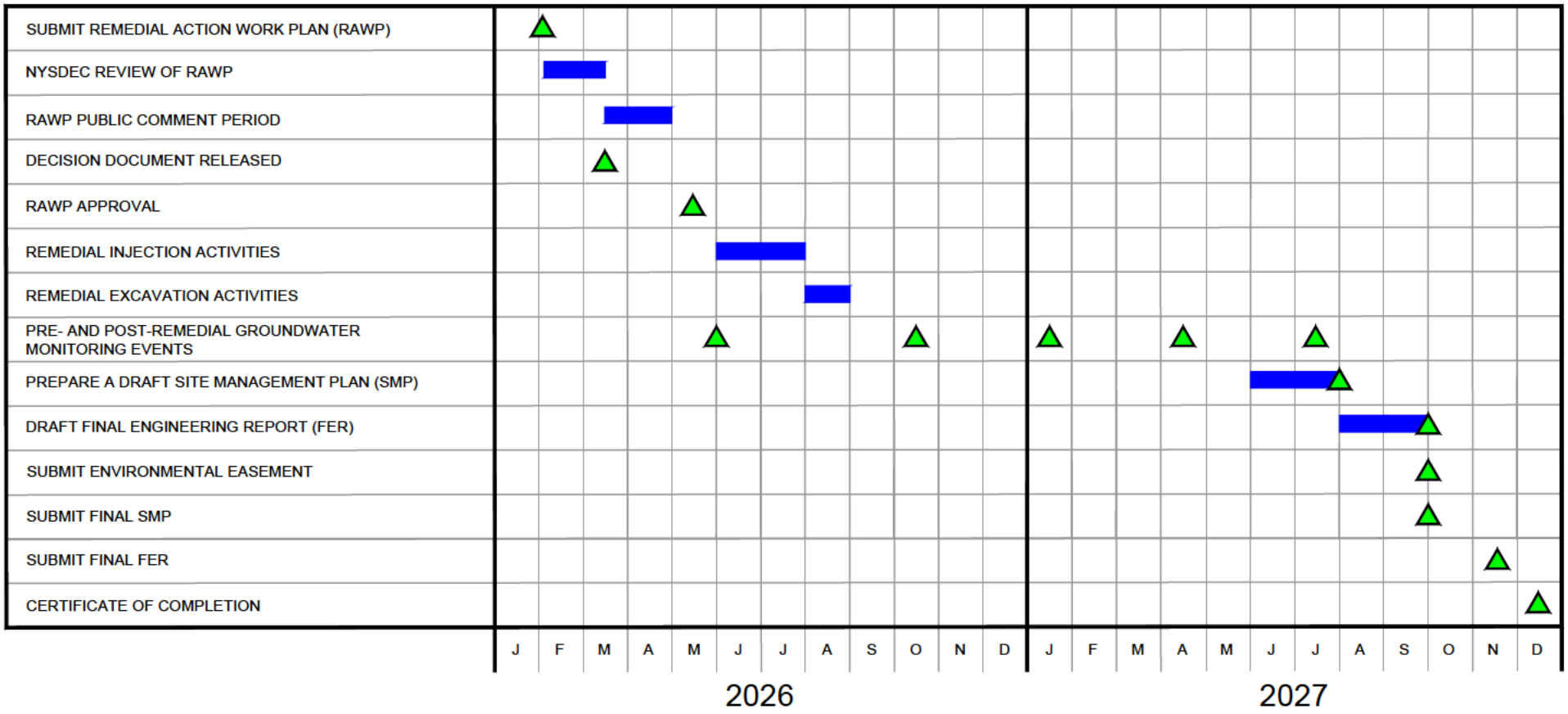
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Compiled by: CNK	Date: JANUARY 2026	FIGURE
Prepared by: CNK	Scale: AS SHOWN	7
Project Mgr: LER	Project: 4981.0001B002	
File: FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG		

F:\CAD\0-ROUX\GW LISK\RAWP\FIGURE X; REMEDIAL INJECTION LOCATIONS.DWG CKANALEY

F:\CAD\0-ROUX\GW LISK\RAWP\FIGURE 8; PRELIMINARY PROJECT SCHEDULE.DWG

PROJECT TASKS:



Title:

PRELIMINARY PROJECT SCHEDULE

REMEDIAL ACTION WORK PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:

G.W. LISK COMPANY, INC.

ROUX

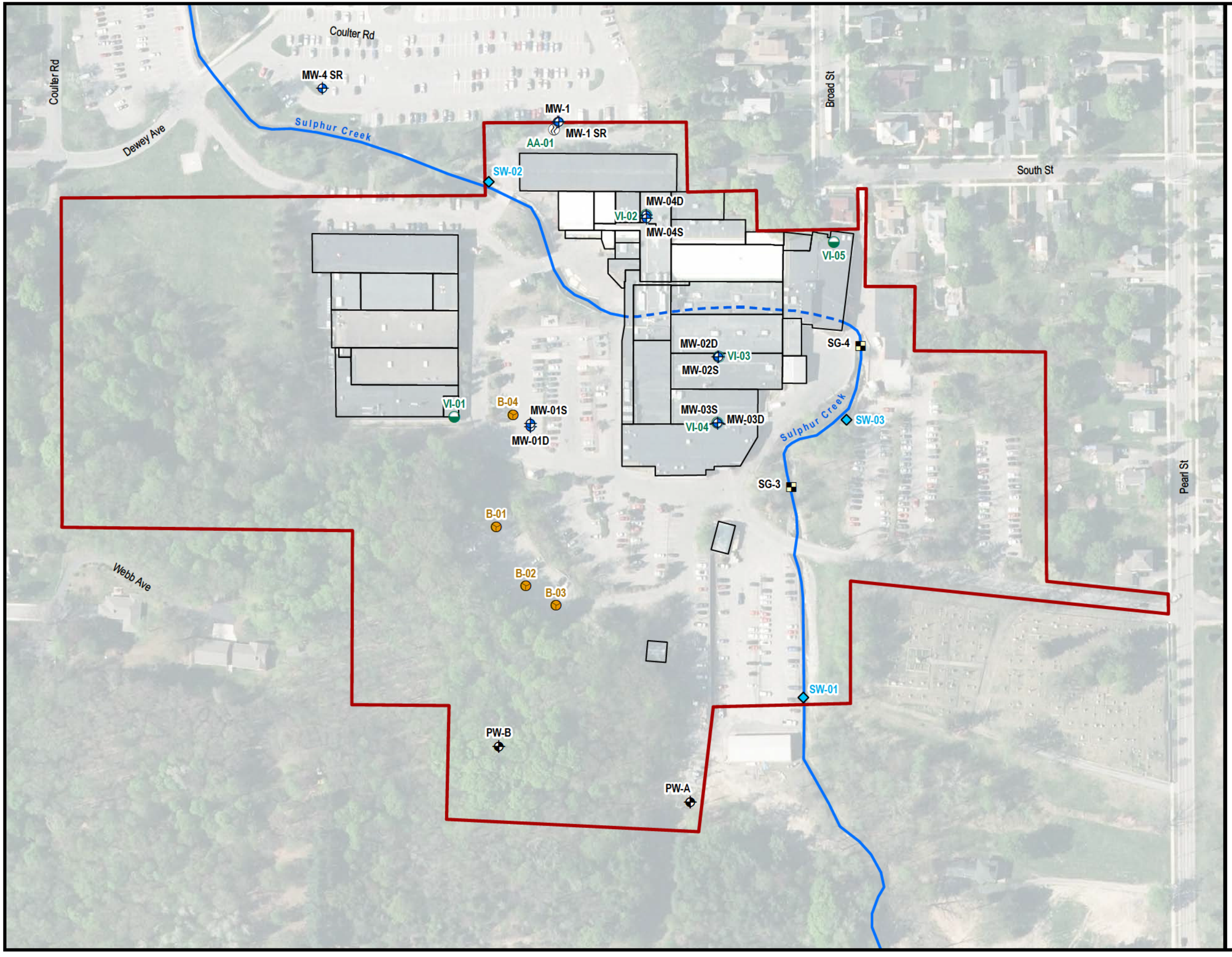
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File: FIGURE 8; PRELIMINARY PROJECT SCHEDULE.DWG		

APPENDICES

A. SC, RI, SRI, and Pilot Study Analytical Results
B. Health and Safety Plan (HASP)
C. Community Air Monitoring Plan (CAMP)
D. Master Erosion Control Plan (MECP)
E. Groundwater Amendment Documentation
F. Project Documentation Forms

APPENDIX A

SC, RI, SRI, and Pilot Study Analytical Results





Legend

Site Characterization Sample Location

- Monitoring Well
- Production Well
- Soil Boring
- Surface Water
- Indoor Air/Sub-Slab Soil Vapor
- Ambient
- Stream Gauge Location
- Tax Parcel Boundary
- Facility Outline
- Surface Stream
- Inferred Stream Path

NOTES:

- Off-property location data (MW-1, MW-1SR, and MW-4SR) was obtained from Haley and Aldrich, 2015.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery was captured in 2015 by New York State.

N

0 25 50 100 150 200
Feet

Figure 3: SC Sample Locations
G.W. Lisk
2 South Street, Clifton Springs, NY

ERM

C:\Users\DANA\Clients_F_Kos\Cliftonsprings_NY\MXD\SC report 2018\Figure3_SC_SampleLocations_20180824.mxd - Dana Hasselwood - 9/18/2018

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:	GWL-AA	VI-01 - IA	VI-01 - SS	VI-02 - IA	VI-02 - SS	VI-03 - IA	VI-03 - SS	VI-04 - IA	VI-04 - SS	VI-04 - IA	VI-05 - IA	VI-05 - SS
		Sample Date:	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17	10-May-17
		Sample Type:	N	N	N	N	N	N	N	N	N	FD	N	N
		Air Guideline Value												
Ambient Air														
Volatile Organic Compounds (VOCs)														
Acetone	µg/m3	NS	**0.88**	**155**	**618**	**90.4**	**4,920**	**23.5**	**725**	**85**	**5,580**	**90.7**	**11.4**	**550**
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*	*157 U*	*0.626 U*	*0.626 U*	*3.13 U*
Benzene	µg/m3	NS	*0.639 U*	*0.639 U*	**8.59**	**0.766**	**25.9**	*0.639 U*	*149 U*	**2.24**	*130 U*	**2.56**	*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 U*	*2.07 U*	*2.07 U*	*10.3 U*
Bromomethane	µg/m3	NS	*0.777 U*	*0.777 U*	*3.88 U*	*0.777 U*	*7.77 U*	*0.777 U*	*181 U*	*0.777 U*	*158 U*	*0.777 U*	*0.777 U*	*3.88 U*
2-Butanone	µg/m3	NS	*1.47 U*	**1.75**	*7.37 U*	**2.28**	**74**	**2.13**	*345 U*	**9.88**	*301 U*	**5.47**	*1.47 U*	**28.4**
1,3-Butadiene	µg/m3	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*	**0.95**
Carbon disulfide	µg/m3	NS	*0.623 U*	*0.623 U*	*3.11 U*	**23.1**	**71.3**	**1.1**	*145 U*	**1.88**	*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**	*294 U*	**0.447**	*255 U*	**0.454**	**0.384**	*6.29 U*
Chlorobenzene	µg/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**	**804**	**0.119**	**1,190**	**0.111**	*0.079 U*	*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*	**155**	*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*	*12.0 U*	*1.20 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*	*12.0 U*	*1.20 U*	*281 U*	*1.20 U*	*244 U*	*1.20 U*	*1.20 U*	*6.01 U*
1,2-Dichloroethane	µg/m3	NS	*0.809 U*	*0.809 U*	*4.05 U*	*0.809 U*	*8.09 U*	*0.809 U*	*189 U*	*0.809 U*	*164 U*	*0.809 U*	*0.809 U*	*4.05 U*
1,1-Dichloroethane	µg/m3	NS	*0.809 U*	*0.809 U*	*4.05 U*	*0.809 U*	*8.09 U*	*0.809 U*	**882**	*0.809 U*	**934**	*0.809 U*	*0.809 U*	*4.05 U*
1,1-Dichloroethene	µg/m3	NS	*0.079 U*	*0.079 U*	*3.96 U*	*0.079 U*	*7.93 U*	*0.079 U*	**5,470**	**0.119**	**3,010**	**0.123**	*0.079 U*	*3.96 U*
1,2-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**	**28.8**	**745**	**45**	*2,200 U*	**108**	*1,920 U*	**194**	**54.1**	**754**
Ethyl acetate	µg/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*	**0.52**
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*	**1.08**	*230 U*	**1.56**	*200 U*	**1.09**	*0.983 U*	*4.92 U*
Freon 11	µg/m3	NS	**1.35**	**11.4**	**0.97**	**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**	**1.56**	*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**	**2.82**	**53,500**	**3.56**	**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*	**374**	*1.40 U*	**744**	*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 U*	*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 U*	*0.705 U*	**259**
2-Hexanone	µg/m3	NS	*0.820 U*	*0.820 U*	*4.10 U*	*0.820 U*	*8.20 U*	*0.820 U*	*191 U*	*0.820 U*	*166 U*	*0.820 U*	*0.820 U*	*4.10 U*
Isopropyl alcohol	µg/m3	NS	*1.23 U*	**349**	**62.7**	**102**	**390**	**300**	*288 U*	**370**	**410**	**125**	**58.7**	
4-Methyl-2-pentanone	µg/m3	NS	*2.05 U*	*2.05 U*	*10.2 U*	*2.05 U*	*20.5 U*	*2.05 U*	*479 U*	**16.5**	*418 U*	**17.6**	*2.05 U*	*10.2 U*
Methyl tert-butyl ether	µg/m3	NS	*0.721 U*	*0.721 U*	*3.61 U*	*0.721 U*	*7.21 U*	*0.721 U*	*168 U*	*0.721 U*	*146 U*	*0.721 U*	*0.721 U*	*3.61 U*
Methylene chloride	µg/m3	60	*1.74 U*	**20**	**11.9**	**2.39**	**30.4**	**11.9**	*406 U*	**19**	*354 U*	**20.2**	**0.74**	*8.69 U*
o-Xylene	µg/m3	NS	*0.869 U*	**11.5**	**8.12**	**1.01**	*8.69 U*	**2.1**	*203 U*	**9.09**	*176 U*	**8.9**	*0.869 U*	**9.56**
Styrene	µg/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	µg/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*	**0.445**	*6.78 U*	*0.136 U*	**315**	**0.549**	**4,040**	**1.81**	**3,850**	**1.76**	*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**	**90.7**	**1.81**	*176 U*	**7.59**	*153 U*	**7.44**	**1.87**	**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	µg/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*	*0.934 U*	*4.67 U*	**1.15**	*9.34 U*	**1.85**	*218 U*	**1.08**	*190 U*	**1.06**	*0.934 U*	*4.67 U*
1,2,4-Trichlorobenzene	µg/m3	NS	*1.48 U*	*1.48 U*	*7.42 U*	*1.48 U*	*14.8 U*	*1.48 U*	*347 U*	*1.48 U*	*301 U*	*1.48 U*	*1.48 U*	*7.42 U*
1,2,4-Trimethylbenzene	µg/m3	NS	*0.983 U*	*0.983 U*	*4.92 U*	**11.3**	*9.83 U*	**9.66**	*230 U*	**11.1**	*200 U*	**10.5**	**3.32**	**7.57**
Trichloroethene	µg/m3	2	*0.107 U*	**0.305**	*5.37 U*	**0.101**	**499**	**2.56**	**50,300**	**7.2**	**51,100**	**7.42**	**0.118**	**39.8**
Vinyl bromide	µg/m3	NS	*0.874 U*	*0.874 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*
Xylenes, m/p	µg/m3	NS	*1.74 U*	**74.7**	**50.4**	**3.08**	**21.7**	**6.0**	*406 U*	**26.5**	*353 U*	**24.7**	*1.74 U*	**37.4**

Notes
-- = Not analyzed
NS = No Standard
µg/m3 = micrograms per cubic meter
Results shown in bold font indicate a compound was detectedabove the laboratory reporting detection limit
U = Compound not detected at concentrations above the laboratory reporting detection limit, the laboratory reporting detection limit is shown
No standards for sub-slab sample concentrations
All analyses performed by Alpha Woods Hole Laboratories
Exceedance of Air Guideline Value contained in NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion or as updated on NYSDOH website

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	NY-375-CP51-RESTRICTED INDUSTRIAL	Location ID: Sample Date: Sample Type: Sample Depth: 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetone	µg/kg	50	50	1,000,000	*5,600 UJ*	*9,400 UJ*	-	-	95	340 J	*16 UJ*	*8.2 UJ*	*580 UJ*	*660 UJ*	*560 UJ*	*980 UJ*	*510 UJ*	*490 UJ*	3.4 J	3.9 J
Benzene	µg/kg	60	60	89,000	490 J	390 J	-	-	5.5	0.54 J	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
Bromodichloromethane	µg/kg	NS	NS	NS	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
Bromoform	µg/kg	NS	NS	NS	*2,200 UJ*	*3,800 UJ*	-	-	*3.2 UJ*	*3.8 UJ*	*6.4 UJ*	*3.3 UJ*	*230 UJ*	*260 UJ*	*220 UJ*	*390 UJ*	*200 UJ*	*200 UJ*	*3.4 UJ*	*4.2 UJ*
Bromomethane	µg/kg	NS	NS	NS	*1,100 UJ*	*1,900 UJ*	-	-	*1.6 UJ*	*1.9 UJ*	*3.2 UJ*	*1.6 UJ*	*120 UJ*	*130 UJ*	*110 UJ*	*200 UJ*	*100 UJ*	*98 UJ*	*1.7 UJ*	*2.1 UJ*
2-Butanone	µg/kg	NS	300	1,000,000	*5,600 UJ*	*9,400 UJ*	-	-	18	78 J	*16 UJ*	*8.2 UJ*	*580 UJ*	*660 UJ*	*560 UJ*	*980 UJ*	*510 UJ*	*490 UJ*	*8.6 UJ*	*11 UJ*
Carbon disulfide	µg/kg	NS	2,700	NS	*5,600 UJ*	*9,400 UJ*	-	-	*8.0 UJ*	3.6 J	*16 UJ*	*8.2 UJ*	*580 UJ*	*660 UJ*	*560 UJ*	*980 UJ*	*510 UJ*	*490 UJ*	*8.6 UJ*	*11 UJ*
Carbon tetrachloride	µg/kg	760	760	44,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
Chlorobenzene	µg/kg	1,100	1,100	1,000,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
Chlorobromomethane	µg/kg	NS	NS	NS	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
Chloroethane	µg/kg	NS	NS	NS	*1,100 UJ*	*1,900 UJ*	-	-	*1.6 UJ*	*1.9 UJ*	*3.2 UJ*	*1.6 UJ*	*120 UJ*	*130 UJ*	*110 UJ*	*200 UJ*	*100 UJ*	*98 UJ*	*1.7 UJ*	*2.1 UJ*
Chloromethane	µg/kg	NS	NS	NS	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
Chloroform	µg/kg	370	370	700,000	*840 UJ*	*1,400 UJ*	-	-	*1.2 UJ*	*1.4 UJ*	*2.4 UJ*	*1.2 UJ*	*87 UJ*	*98 UJ*	*85 UJ*	*150 UJ*	*76 UJ*	*73 UJ*	*1.3 UJ*	*1.6 UJ*
cis-1,2-Dichloroethene	µg/kg	250	250	1,000,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	76	76	*56 UJ*	52 J	*51 UJ*	*49 UJ*	2.6	*1.1 UJ*
cis-1,3-Dichloropropene	µg/kg	NS	300	NS	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
Cyclohexane	µg/kg	NS	NS	NS	*11,000 UJ*	*19,000 UJ*	-	-	*16 UJ*	1.2 J	*32 UJ*	*16 UJ*	*1,200 UJ*	*1,300 UJ*	*1,100 UJ*	*2,000 UJ*	*1,000 UJ*	150 J	*17 UJ*	*21 UJ*
Dibromochloromethane	µg/kg	NS	NS	NS	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
1,2-Dibromo-3-chloropropane	µg/kg	NS	NS	NS	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
1,2-Dichlorobenzene	µg/kg	1,100	1,100	1,000,000	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
1,3-Dichlorobenzene	µg/kg	2,400	2,400	560,000	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
1,4-Dichlorobenzene	µg/kg	1,800	1,800	250,000	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
1,2-Dichloroethane	µg/kg	20	20	60,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
1,1-Dichloroethane	µg/kg	270	270	480,000	*840 UJ*	*1,400 UJ*	-	-	*1.2 UJ*	*1.4 UJ*	*2.4 UJ*	*1.2 UJ*	55 J	42 J	*85 UJ*	46 J	*76 UJ*	*73 UJ*	*1.3 UJ*	*1.6 UJ*
1,1-Dichloroethene	µg/kg	330	330	1,000,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	50 J	43 J	*56 UJ*	68 J	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
1,2-Dichloropropane	µg/kg	NS	NS	NS	*1,900 UJ*	*3,300 UJ*	-	-	*2.8 UJ*	*3.3 UJ*	*5.6 UJ*	*2.8 UJ*	*200 UJ*	*230 UJ*	*200 UJ*	*340 UJ*	*180 UJ*	*170 UJ*	*3.0 UJ*	*3.7 UJ*
1,4-Dioxane	µg/kg	100	100	250,000	*22,000 UJ*	*38,000 UJ*	-	-	*32 UJ*	*38 UJ*	*64 UJ*	*33 UJ*	*2,300 UJ*	*2,600 UJ*	*2,200 UJ*	*3,900 UJ*	*2,000 UJ*	*2,000 UJ*	*34 UJ*	*42 UJ*
Ethylbenzene	µg/kg	1,000	1,000	780,000	1,100	1,300	-	-	0.97	0.18 J	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
Ethylene dibromide	µg/kg	NS	NS	NS	*2,200 UJ*	*3,800 UJ*	-	-	*3.2 UJ*	*3.8 UJ*	*6.4 UJ*	*3.3 UJ*	*230 UJ*	*260 UJ*	*220 UJ*	*390 UJ*	*200 UJ*	*200 UJ*	*3.4 UJ*	*4.2 UJ*
Freon 11	µg/kg	NS	NS	NS	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
Freon 12	µg/kg	NS	NS	NS	*5,600 UJ*	*9,400 UJ*	-	-	*8.0 UJ*	*9.4 UJ*	*16 UJ*	*8.2 UJ*	*580 UJ*	*660 UJ*	*560 UJ*	*980 UJ*	*510 UJ*	*490 UJ*	*8.6 UJ*	*11 UJ*
Freon 113	µg/kg	NS	6,000	NS	*11,000 UJ*	*19,000 UJ*	-	-	*16 UJ*	*19 UJ*	1.3 J	0.65 J	120 J	*1,300 UJ*	*1,100 UJ*	250 J	*1,000 UJ*	*980 UJ*	*17 UJ*	*21 UJ*
2-Hexanone	µg/kg	NS	NS	NS	*5,600 UJ*	*9,400 UJ*	-	-	*8.0 UJ*	*9.4 UJ*	*16 UJ*	*8.2 UJ*	*580 UJ*	*660 UJ*	*560 UJ*	*980 UJ*	*510 UJ*	*490 UJ*	*8.6 UJ*	*11 UJ*
Isopropylbenzene (Cumene)	µg/kg	NS	2,300	NS	200 J	260 J	-	-	0.20 J	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
4-Isopropyltoluene	µg/kg	NS	10,000	NS	160 J	210 J	-	-	*0.80 UJ*	*0.94 UJ*	-	-	-	-	*56 UJ*	*98 UJ*	-	-	-	-
Methyl acetate	µg/kg	NS	NS	NS	*11,000 UJ*	*19,000 UJ*	-	-	*16 UJ*	*19 UJ*	*32 UJ*	*16 UJ*	*1,200 UJ*	*1,300 UJ*	*1,100 UJ*	*2,000 UJ*	*1,000 UJ*	*980 UJ*	*17 UJ*	*21 UJ*
4-Methyl-2-pentanone	µg/kg	NS	NS	NS	*5,600 UJ*	*9,400 UJ*	-	-	*8.0 UJ*	*9.4 UJ*	*16 UJ*	*8.2 UJ*	*580 UJ*	*660 UJ*	*560 UJ*	*980 UJ*	*510 UJ*	*490 UJ*	*8.6 UJ*	*11 UJ*
Methyl tert-butyl ether	µg/kg	930	930	1,000,000	*1,100 UJ*	*1,900 UJ*	-	-	*1.6 UJ*	*1.9 UJ*	*3.2 UJ*	*1.6 UJ*	*120 UJ*	*130 UJ*	*110 UJ*	*200 UJ*	*100 UJ*	*98 UJ*	*1.7 UJ*	*2.1 UJ*
Methylcyclohexane	µg/kg	NS	NS	NS	180 J	*3,800 UJ*	-	-	0.57 J	1.9 J	0.48 J	*3.3 UJ*	35 J	*260 UJ*	*220 UJ*	*390 UJ*	*200 UJ*	320	*3.4 UJ*	0.36 J
Methylene chloride	µg/kg	50	50	1,000,000	*5,600 UJ*	*9,400 UJ*	-	-	*8.0 UJ*	*9.4 UJ*	*16 UJ*	*8.2 UJ*	*580 UJ*	*660 UJ*	*560 UJ*	*980 UJ*	*510 UJ*	*490 UJ*	*8.6 UJ*	*11 UJ*
Naphthalene	µg/kg	12,000	12,000	1,000,000	97,000	120,000	-	-	52	1.5 J	-	-	-	-	*280 UJ*	*490 UJ*	-	-	-	-
n-Butylbenzene	µg/kg	12,000	12,000	1,000,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	-	-	-	-	*56 UJ*	*98 UJ*	-	-	-	-
n-Propylbenzene	µg/kg	3,900	3,900	1,000,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	-	-	-	-	*56 UJ*	*98 UJ*	-	-	-	-
sec-Butylbenzene	µg/kg	11,000	11,000	1,000,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	-	-	-	-	*56 UJ*	*98 UJ*	-	-	-	-
o-Xylene	µg/kg	260	1,600	1,000,000	620 J	770 J	-	-	3.0	0.36 J	*3.2 UJ*	*1.6 UJ*	*120 UJ*	*130 UJ*	*110 UJ*	*200 UJ*	*100 UJ*	*98 UJ*	*1.7 UJ*	*2.1 UJ*
Styrene	µg/kg	NS	NS	NS	*1,100 UJ*	*1,900 UJ*	-	-	*1.6 UJ*	*1.9 UJ*	*3.2 UJ*	*1.6 UJ*	*120 UJ*	*130 UJ*	*110 UJ*	*200 UJ*	*100 UJ*	*98 UJ*	*1.7 UJ*	*2.1 UJ*
tert-Butylbenzene	µg/kg	5,900	5,900	1,000,000	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	-	-	-	-	*280 UJ*	*490 UJ*	-	-	-	-
Tetrachloroethene	µg/kg	1,300	1,300	300,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	3.1	5.6	130	320	270	980	690	20 J	0.77 J	1.2
Toluene	µg/kg	700	700	1,000,000	410 J	350 J	-	-	0.28 J	1.4	*2.4 UJ*	*1.2 UJ*	*87 UJ*	*98 UJ*	*85 UJ*	*150 UJ*	*76 UJ*	*73 UJ*	*1.3 UJ*	0.28 J
trans-1,2-Dichloroethene	µg/kg	190	190	1,000,000	*840 UJ*	*1,400 UJ*	-	-	*1.2 UJ*	*1.4 UJ*	*2.4 UJ*	*1.2 UJ*	*87 UJ*	*98 UJ*	*85 UJ*	*150 UJ*	*76 UJ*	*73 UJ*	*1.3 UJ*	*1.6 UJ*
trans-1,3-Dichloropropene	µg/kg	NS	NS	NS	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
1,1,1-Trichloroethane	µg/kg	680	680	1,000,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	5.1	2.2	20 J	82	42 J	220	65	*49 UJ*	*0.86 UJ*	*1.1 UJ*
1,1,2,2-Tetrachloroethane	µg/kg	NS	600	NS	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	*1.6 UJ*	*0.82 UJ*	*58 UJ*	*66 UJ*	*56 UJ*	*98 UJ*	*51 UJ*	*49 UJ*	*0.86 UJ*	*1.1 UJ*
1,1,2-Trichloroethane	µg/kg	NS	NS	NS	*840 UJ*	*1,400 UJ*	-	-	*1.2 UJ*	*1.4 UJ*	*2.4 UJ*	*1.2 UJ*	*87 UJ*	*98 UJ*	*85 UJ*	*150 UJ*	*76 UJ*	*73 UJ*	*1.3 UJ*	*1.6 UJ*
1,3,5-Trimethylbenzene	µg/kg	8,400	8,400	380,000	690 J	920 J	-	-	0.99 J	0.32 J	-	-	-	-	*280 UJ*	*490 UJ*	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	NS	NS	NS	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
1,2,4-Trichlorobenzene	µg/kg	NS	3,400	NS	*2,800 UJ*	*4,700 UJ*	-	-	*4.0 UJ*	*4.7 UJ*	*8.0 UJ*	*4.1 UJ*	*290 UJ*	*330 UJ*	*280 UJ*	*490 UJ*	*250 UJ*	*240 UJ*	*4.3 UJ*	*5.3 UJ*
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 UJ*	*490 UJ*	-	-	-	-
Trichloroethene	µg/kg	470	470	400,000	*560 UJ*	*940 UJ*	-	-	*0.80 UJ*	*0.94 UJ*	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 UJ*	*1,900 UJ*	-	-	*1.6 UJ*	*1.9 UJ*	*3.2 UJ*	*1.6 UJ*	*120 UJ*	*130 UJ*	*110 UJ*	*200 UJ*	*100 UJ*	*98 UJ*	*1.7 UJ*	*2.1 UJ*
Xylenes, m/p	µg/kg	NS	NS	NS	740 J	890 J	-	-	2.4	0.90 J	*3.2 UJ*	*1.6 UJ*	*120 UJ*	*130 UJ*	*110 UJ*	*200 UJ*	*100 UJ*	*98 UJ*	*1.7 UJ*	*2.1 UJ*
Total TICs (Calculated)	µg/kg	NS	NS	NS	107,000	133,000	-	-	40.3	42.4	-	-	-	-	-	312	-	5,260	11.0	14.0

Notes and Abbreviations:
-- = Not analyzed
NS = No Standard
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ft = feet
Results shown in bold font indicate a compound was detectedabove 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-375-CP51-UNRESTRICTED USE
Exceedance of NY-375-CP51-PROTECTION OF GROUNDWATER
Exceedance of NY-375-CP51-RESTRICTED INDUSTRIAL

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

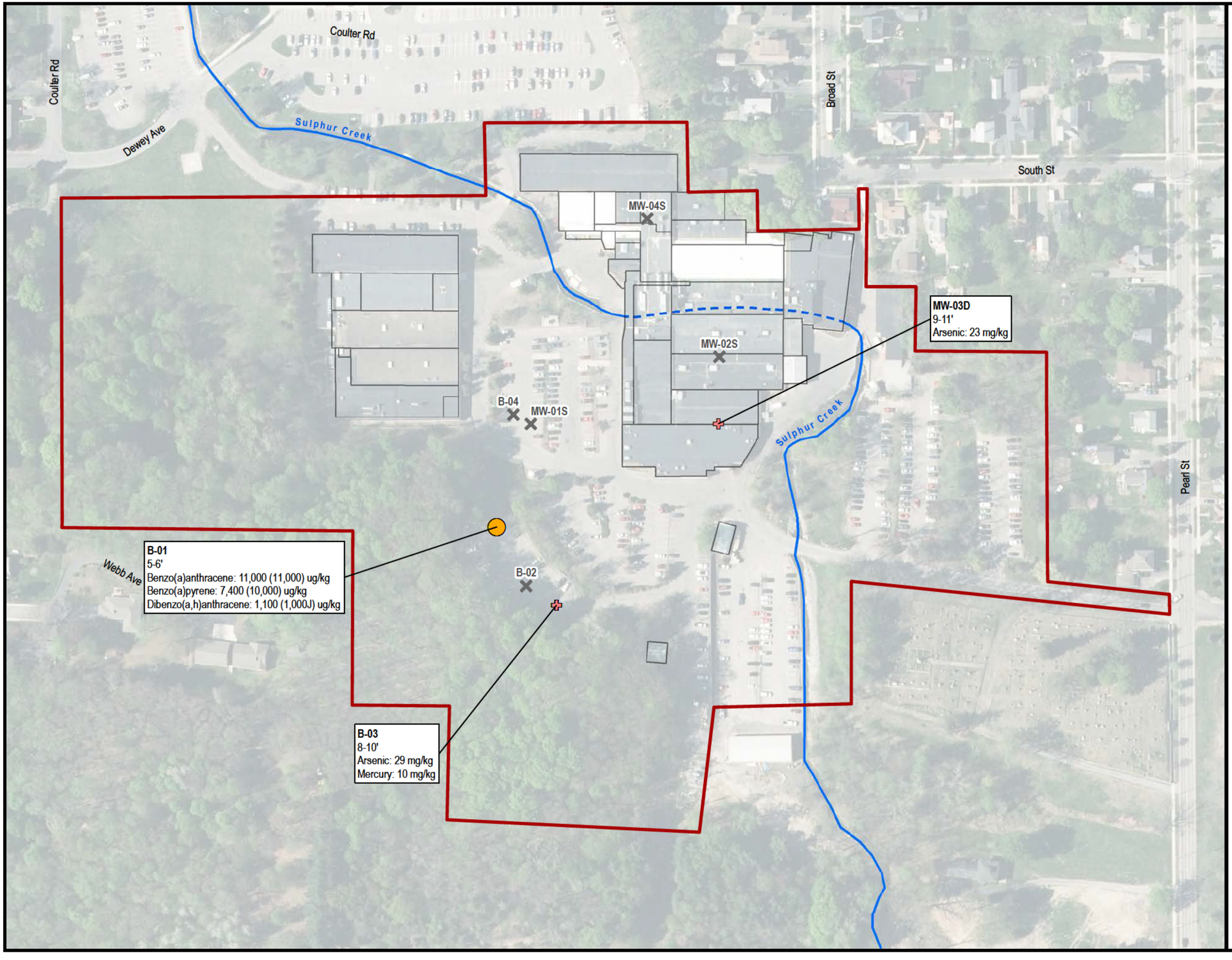
Analyte	Unit	NY-375-CP51-UNRESTRICTED USE	NY-375-CP51-PROTECT GROUND WATER	NY-375-CP51-RESTRICTED INDUSTRIAL	B-01 11-May-17 N 5 - 6 ft	B-01 11-May-17 FD 5 - 6 ft	B-01 12-May-17 N 5 - 6 ft	B-01 12-May-17 FD 5 - 6 ft	B-02 12-May-17 N 9 - 11 ft	B-03 12-May-17 N 8 - 10 ft	B-04 17-Jul-17 N 19 - 20.5 ft	MW-01S 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)																				
Acenaphthene	µg/kg	20,000	98,000	1,000,000	-	-	18,000	19,000	190	-	-	-	-	-	-	-	-	-	*140 U*	*160 U*
Acenaphthylene	µg/kg	100,000	107,000	1,000,000	-	-	4,800	6,000	290	-	-	-	-	-	-	-	-	-	*140 U*	*160 U*
Acetophenone	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	µg/kg	**1,000**	22,000	**1,100**	-	-	**7,400**	**10,000**	930	-	-	-	-	-	-	-	-	-	**130 J**	*160 U*
Benzo(b)fluoranthene	µg/kg	**1,000**	**1,700**	**11,000**	-	-	**9,400**	**9,200**	**1,000**	-	-	-	-	-	-	-	-	-	**180**	*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	-	-	2,000	2,000 **J**	**44 J**	-	-	-	-	-	-	-	-	-	*400 U*	*460 U*
Bis(2-chloroethoxy)methane	µg/kg	NS	NS	NS	-	-	*210 U*	*2,100 U*	*200 U*	-	-	-	-	-	-	-	-	-	*190 U*	*220 U*
Bis(2-ethylhexyl)phthalate	µg/kg	NS	435,000	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	**150 J**	*200 U*
4-Bromophenyl phenyl ether	µg/kg	NS	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*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
2-Chlorophenol	µg/kg	NS	NS	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
4-Chlorophenyl phenyl ether	µg/kg	NS	NS	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 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	µg/kg	NS	8,100	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
2,4-Dichlorophenol	µg/kg	NS	400	NS	-	-	*170 U*	*1,700 U*	*170 U*	-	-	-	-	-	-	-	-	-	*160 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	µg/kg	NS	27,000	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
Dinitro-o-cresol	µg/kg	NS	NS	NS	-	-	*500 U*	*5,000 U*	*490 U*	-	-	-	-	-	-	-	-	-	*460 U*	*530 U*
2,4-Dinitrophenol	µg/kg	NS	200	NS	-	-	*920 U*	*9,300 U*	*910 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	µg/kg	100,000	1,000,000	1,000,000	-	-	22,000	22,000	2,000	-	-	-	-	-	-	-	-	-	**190**	**76 J**
Fluorene	µg/kg	30,000	386,000	1,000,000	-	-	13,000	14,000	410	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
Hexachlorobenzene	µg/kg	NS	1,400	12,000	-	-	*120 U*	*1,200 U*	*110 U*	-	-	-	-	-	-	-	-	-	*100 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	µg/kg	**500**	8,200	11,000	-	-	**4,700**	**4,100**	**550**	-	-	-	-	-	-	-	-	-	**91 J**	*160 U*
Isophorone	µg/kg	NS	4,400	NS	-	-	*170 U*	*1,700 U*	*170 U*	-	-	-	-	-	-	-	-	-	*160 U*	*180 U*
m-Cresol	µg/kg	NS	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	µg/kg	NS	500	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
Nitrobenzene	µg/kg	NS	170	140,000	-	-	*170 U*	*1,700 U*	*170 U*	-	-	-	-	-	-	-	-	-	*160 U*	*180 U*
2-Nitrophenol	µg/kg	NS	300	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	µg/kg	NS	NS	1,000,000	-	-	**86 J**	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
p-Chloroaniline	µg/kg	NS	220	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
Pentachlorophenol	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	NS	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*200 U*
Pyrene	µg/kg	100,000	1,000,000	1,000,000	-	-	22,000	24,000	2,000	-	-	-	-	-	-	-	-	-	**170**	**61 J**
1,2,4,5-Tetrachlorobenzene	µg/kg	NS	NS	NS	-	-	*190 U*	*1,900 U*	*190 U*	-	-	-	-	-	-	-	-	-	*180 U*	*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)	µg/kg	NS	NS	NS	-	-	61,200	112,000	6,280	-	-	-	-	-	-	-	-	-	357	-

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Exceedance of NY-375-CP51-RESTRICTED INDUSTRIAL

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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 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1221	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1232	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1242	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1248	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1254	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1260	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1262	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Aroclor 1268	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Total PCBs	µg/kg	NS	NS	NS	*37.3 UJ*	*37.2 UJ*	-	-	*37.5 UJ*	*37.3 UJ*	-	-	-	-	*35.5 UJ*	*35.3 UJ*	*33.8 UJ*	*35.9 UJ*	*34.6 UJ*	*40.3 UJ*
Metals, Total																				
Aluminum	mg/kg	NS	NS	NS	2,800	3,300	-	-	4,700	3,200	-	-	-	-	4,350	1,600	2,600	2,150	4,000	2,520
Antimony	mg/kg	NS	NS	NS	*4.3 UJ*	*4.5 UJ*	-	-	0.64 J	1.2 J	-	-	-	-	*4.17 UJ*	*4.15 UJ*	*4.14 UJ*	*4.43 UJ*	*4.17 UJ*	*4.91 UJ*
Arsenic	mg/kg	**13**	**16**	**16**	6.0	6.0	-	-	5.0	**29 J**	-	-	-	-	2.06	1.20	**23.0**	2.08	5.90	4.11
Barium	mg/kg	NS	NS	10,000	30	35	-	-	41	29	-	-	-	-	39.7	8.36	32.1	7.96	28.0	11.0
Beryllium	mg/kg	7.2	47	2,700	0.19 J	0.21 J	-	-	0.23 J	0.15 J	-	-	-	-	0.133 J	*0.415 UJ*	0.108 J	0.071 J	0.183 J	0.137 J
Cadmium	mg/kg	2.5	7.5	60	1.5	1.8	-	-	0.73 J	1.1	-	-	-	-	0.450 J	0.316 J	0.489 J	0.505 J	0.450 J	0.285 J
Calcium	mg/kg	NS	NS	NS	34,000	40,000	-	-	27,000	24,000	-	-	-	-	50,100	146,000	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 UJ*	*2.2 UJ*	-	-	-	-	*1.1 UJ*	*1.0 UJ*	*0.96 UJ*	*1.0 UJ*	0.41 J	*1.2 UJ*
Iron	mg/kg	NS	NS	NS	6,200	7,100	-	-	11,000	8,300 J	-	-	-	-	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 J	-	-	-	-	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 UJ*	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 UJ*	0.26 J	-	-	-	-	*1.67 UJ*	*1.66 UJ*	*1.66 UJ*	*1.77 UJ*	*1.67 UJ*	*1.96 UJ*
Silver	mg/kg	2	8.3	6,800	*0.86 UJ*	0.25 J	-	-	*0.88 UJ*	*0.89 UJ*	-	-	-	-	*0.834 UJ*	*0.831 UJ*	*0.829 UJ*	*0.887 UJ*	*0.834 UJ*	*0.982 UJ*
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 UJ*	*1.8 UJ*	-	-	*1.8 UJ*	*1.8 UJ*	-	-	-	-	*1.67 UJ*	*1.66 UJ*	*1.66 UJ*	*1.77 UJ*	*1.67 UJ*	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	mg/kg	**109**	2,480	10,000	76	66	-	-	65	**130**	-	-	-	-	37.7	51.9	25.1	73.1	44.7	47.9

Notes and Abbreviations:
-- = Not analyzed
NS = No Standard
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
Results shown in bold font indicate a compound was detectedabove the laboratory reporting detection limit.
ft = feet
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-375-CP51-PROTECTION OF GROUNDWATER
Exceedance of NY-375-CP51-UNRESTRICTED USE
Exceedance of NY-375-CP51-RESTRICTED INDUSTRIAL





Legend

Restricted Industrial SCO Exceedance

Exceedance Compound

- VOC
- SVOC
- PCB
- Metals
- No Exceedance
- Property Parcel Boundary
- Facility Outline
- Surface Stream
- Inferred Stream Path

NOTES:

- Values in parantheses represent field duplicate results.
- J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery was captured in 2015 by New York State.

0 25 50 100 150 200
Feet

N

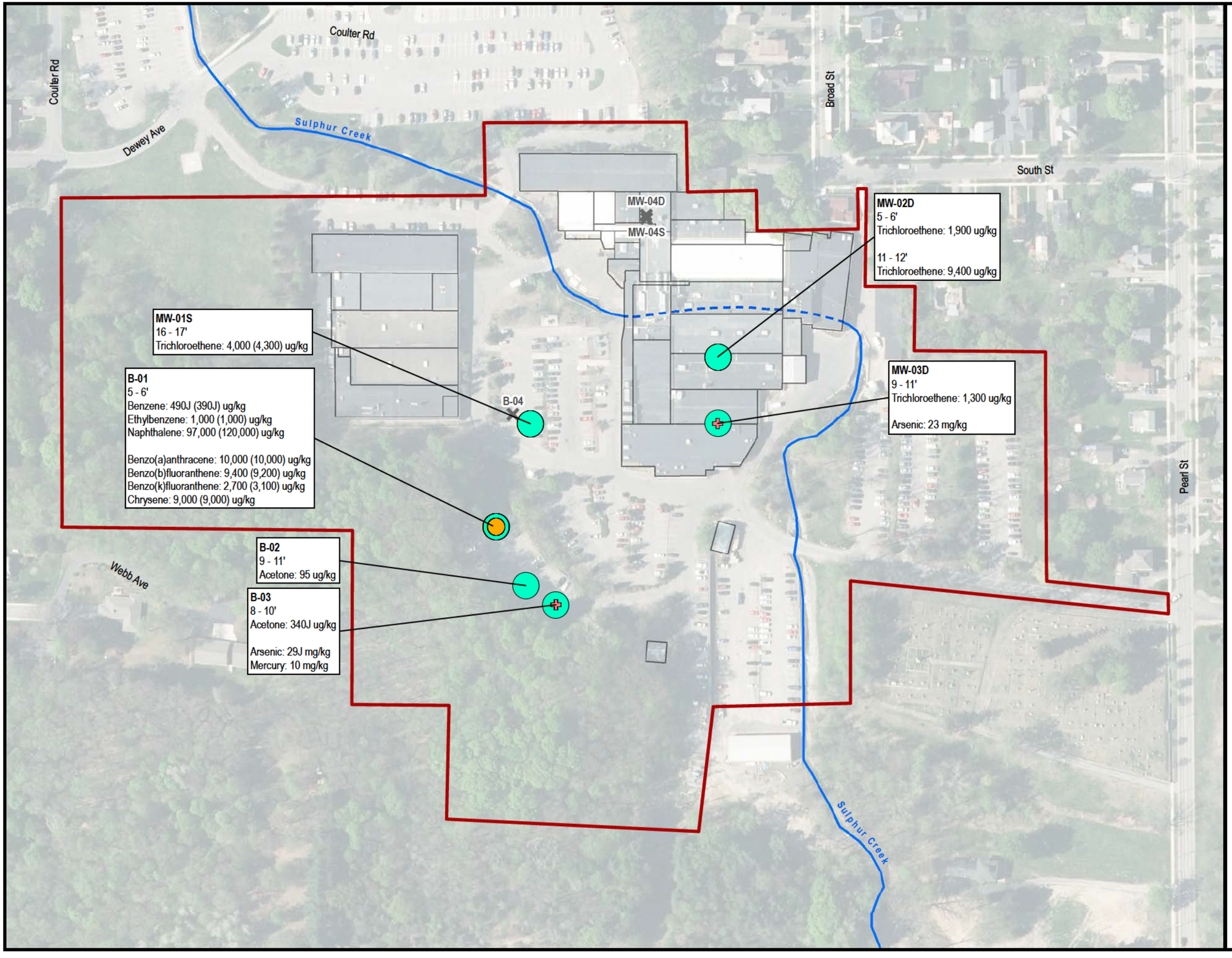
Figure 12: Soil Sample Exceedances - Restricted Industrial SCOs

G.W. Lisk

2 South Street, Clifton Springs, NY

ERM

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Legend

Protection of Groundwater SCO Exceedance

Exceedance Compound

- VOC
- SVOC
- PCB
- Metals
- No Exceedance
- Property Parcel Boundary
- Facility Outline
- Surface Stream
- Inferred Stream Path

NOTES:

- Values in parantheses represent field duplicate results.
- J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery was captured in 2015 by New York State.

N

0 25 50 100 150 200
Feet

Figure 13: Soil Sample Exceedances - Protection of Groundwater SCOs

G.W. Lisk

2 South Street, Clifton Springs, NY

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

Analyte	Unit	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	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	09-May-17	08-May-17
		Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
		NY-TOGS 1.1.1-GW													
Volatile Organic Compounds (VOCs)															
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 U*	*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	7	*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	**5**	**44**	**20**	**44**	**210**	*2.5 U*	**28 J**	**3.6**	*2.5 U*	*2.5 U*	*2.5 U*	*2.5 U*	**4.1**	**4**
cis-1,3-Dichloropropene	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*
Cyclohexane	µg/L	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	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	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	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	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*
4-Isopropyltoluene	µg/L	5	--	--	--	--	--	--	--	--	--	--	--	*2.5 U*	*2.5 U*
Methyl acetate	µg/L	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*	*2.0 U*
4-Methyl-2-pentanone	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	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*
Methylcyclohexane	µg/L	NS	**0.99 J**	**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	µg/L	0.4	*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*
1,1,1-Trichloroethane	µg/L	**5**	**5.7**	**69**	**4.0 J**	**47 J**	**0.90 J**	**160**	**3.3**	**0.96 J**	**0.98 J**	**1.5 J**	*2.5 U*	*2.5 U*	*2.5 U*
1,1,2,2-Tetrachloroethane	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*
1,1,2-Trichloroethane	µg/L	1	*1.5 U*	*3.8 U*	*6.0 U*	*30 U*	*1.5 U*	*30 U*	*1.5 U*	*1.5 U*	*1.5 U*	*1.5 U*	*1.5 U*	*1.5 U*	*1.5 U*
1,3,5-Trimethylbenzene	µg/L	5	--	--	--	--	--	--	--	--	--	--	--	*2.5 U*	*2.5 U*
1,2,3-Trichlorobenzene	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	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	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**
Vinyl 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*
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*
1,4-Dioxane	µg/l	50	**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*

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

Analyte	Unit	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	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	09-May-17	08-May-17
		Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
		NY-TOGS 1.1.1-GW													
Semi-Volatile Organic Compounds (SVOCs)															
Acenaphthene	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*
Acenaphthylene	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*
Acetophenone	µg/l	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/l	50	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
Atrazine	µg/l	7.5	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
Benzo(a)anthracene	µg/l	0.002	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Benzo(a)pyrene	µg/l	0.002	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Benzo(b)fluoranthene	µg/l	0.002	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Benzo(g,h,i)perylene	µg/l	NS	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Benzo(k)fluoranthene	µg/l	0.002	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Benzyl butyl phthalate	µg/l	NS	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
Bis(2-chloroethoxy)methane	µg/l	5	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	µg/l	5	--	--	--	--	--	--	*3.0 U*	*3.0 U*	--	--	--	--	--
4-Bromophenyl phenyl ether	µg/l	NS	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Carbazole	µg/l	NS	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
4-Chloro-3-methylphenol	µg/l	NS	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
p-Chloroaniline	µg/l	5	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
2-Chloronaphthalene	µg/l	5	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
2-Chlorophenol	µg/l	5	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
4-Chlorophenyl phenyl ether	µg/l	50	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
m-Cresol	µg/l	NS	--	--	--	--	--	--	**1.6 J**	*5.0 U*	--	--	--	--	--
Chrysene	µg/l	0.002	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Dibenzo(a,h)anthracene	µg/l	NS	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Dibenzofuran	µg/l	NS	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
Dibutyl phthalate	µg/l	50	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
1,2-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*
1,3-Dichlorobenzene	µg/l	5	--	--	--	--	--	--	*5.0 U*	*5.0 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*
3,3'-Dichlorobenzidine	µg/l	NS	--	--	--	--	--	--	*10 U*	*10 U*	--	--	--	--	--
Dichloroethyl ether	µg/l	1	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
2,4-Dichlorophenol	µg/l	10	--	--	--	--	--	--	*0.20 U*	*0.20 U*	--	--	--	--	--
Diethyl phthalate	µg/l	50	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
2,4-Dimethylphenol	µg/l	NS	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
Dimethyl phthalate	µg/l	50	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
Dinitro-o-cresol	µg/l	NS	--	--	--	--	--	--	*10 U*	*10 U*	--	--	--	--	--
2,4-Dinitrophenol	µg/l	4.7	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
2,4-Dinitrotoluene	µg/l	5	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
2,6-Dinitrotoluene	µg/l	NS	--	--	--	--	--	--	*10 U*	*10 U*	--	--	--	--	--
Di-n-octyl phthalate	µg/l	50	--	--	--	--	--	--	*5,0 U*	*5,0 U*	--	--	--	--	--
Fluoranthene	µg/l	50	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Fluorene	µg/l	50	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Hexachlorobenzene	µg/l	5	--	--	--	--	--	--	*0.80 U*	*0.80 U*	--	--	--	--	--
Hexachlorobutadiene	µg/l	0.5	--	--	--	--	--	--	*0.50 U*	*0.50 U*	--	--	--	--	--
Hexachlorocyclopentadiene	µg/l	5	--	--	--	--	--	--	*20 U*	*20 U*	--	--	--	--	--
Hexachloroethane	µg/l	5	--	--	--	--	--	--	*0.80 U*	*0.80 U*	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	µg/l	0.002	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
Isophorone	µg/l	50	--	--	--	--	--	--	*5,0 U*	*5,0 U*	--	--	--	--	--
2-Methylnaphthalene	µg/l	NS	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
Naphthalene	µg/l	10	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	*2.5 U*	*2.5 U*
2-Nitroaniline	µg/l	NS	--	--	--	--	--	--	*2,0 U*	*2,0 U*	--	--	--	--	--
3-Nitroaniline	µg/l	20	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
p-Nitroaniline	µg/l	5	--	--	--	--	--	--	*5,0 U*	*5,0 U*	--	--	--	--	--
Nitrobenzene	µg/l	0.4	--	--	--	--	--	--	*2,0 U*	*2,0 U*	--	--	--	--	--
2-Nitrophenol	µg/l	NS	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
4-Nitrophenol	µg/l	NS	--	--	--	--	--	--	*10 U*	*10 U*	--	--	--	--	--
n-Nitrosodiphenylamine	µg/l	50	--	--	--	--	--	--	*2.0 U*	*2.0 U*	--	--	--	--	--
n-Nitrosodi-n-propylamine	µg/l	NS	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
2,2-Oxybis(1-chloropropane)	µg/l	10	--	--	--	--	--	--	*20 U*	*20 U*	--	--	--	--	--
Pentachlorophenol	µg/l	1	--	--	--	--	--	--	*0.80 U*	*0.80 U*	--	--	--	--	--
Phenanthrene	µg/l	50	--	--	--	--	--	--	**0.02 J**	*0.10 U*	--	--	--	--	--
Phenol	µg/l	**1**	--	--	--	--	--	--	**2.6 J**	*5.0 U*	--	--	--	--	--
Pyrene	µg/l	50	--	--	--	--	--	--	*0.10 U*	*0.10 U*	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/l	NS	--	--	--	--	--	--	*5.0 U*	*5.0 U*	--	--	--	--	--
2,4,5-Trichlorophenol	µg/l	5	--	--	--	--	--	--	*5,0 U*	*5,0 U*	--	--	--	--	--
2,4,6-Trichlorophenol	µg/l	0.07	--	--	--	--	--	--	*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

Analyte	Unit	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	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	20-Nov-17	09-May-17	08-May-17
		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	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1221	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1232	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1242	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1248	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1254	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1260	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1262	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Aroclor 1268	µg/L	NS	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Total PCBs	µg/L	0.09	--	--	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	*0.083 U*	--	--	--	--	--
Metals, Total															
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*	*0.005 U*	*0.005 U*	*0.005 U*	*0.005 U*	*0.005 U*	--	--	--	*0.00050 U*	*0.00050 U*
Cadmium	mg/L	0.005	--	--	*0.005 U*	*0.005 U*	*0.005 U*	*0.005 U*	*0.005 U*	*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*	*0.010 U*	*0.010 U*	*0.010 U*	*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*	*0.00050 U*	*0.00050 U*	*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*	*0.00020 U*	*0.00020 U*	*0.00020 U*	*0.00020 U*	*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*	*0.010 U*	*0.010 U*	*0.010 U*	*0.010 U*	*0.010 U*	--	--	--	*0.00500 U*	*0.00500 U*
Silver	mg/L	0.05	--	--	*0.007 U*	*0.007 U*	*0.007 U*	*0.007 U*	*0.007 U*	*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*	*0.020 U*	*0.020 U*	*0.020 U*	*0.020 U*	*0.020 U*	--	--	--	*0.00050 U*	*0.00050 U*
Vanadium	mg/L	0.014	--	--	*0.010 U*	*0.010 U*	*0.010 U*	*0.010 U*	*0.010 U*	*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 U*	*2.08 U*	**0.762 J**	*1.72 U*	**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/l	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 U*	*2.08 U*	*2.08 U*	**0.634 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*
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/l	NS	*2.08 U*	*3.16 U*	*2.08 U*	*2.08 U*	**5.31 J**	*1.72 U*	*3.32 U*	*1.72 U*	*3.19 U*	*2.68 U*	*1.72 U*	*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 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*
Perfluorotridecanoic Acid (PFTrDA)	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*
Perfluoroundecanoic Acid (PFUnA)	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*

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ng/l = nanogram per liter
Results shown in bold font indicate a compound was detectedabove 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.
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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

Analyte	Unit	NY-TOGS 1.1.1-SW_WILDLIFE PROTECTION	SW-01 10-May-17 N	SW-01 18-Jul-17 N	SW-02 10-May-17 N	SW-02 10-May-17 FD	SW-02 18-Jul-17 N	SW-02 18-Jul-17 FD	SW-03 27-Jun-17 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	10 U	--	--	--
Dibromochloromethane	µg/L	NS	0.50 U	--	0.50 U	0.50 U	--	--	--
1,2-Dibromo-3-chloropropane	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
1,2-Dichlorobenzene	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
1,3-Dichlorobenzene	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
1,4-Dichlorobenzene	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
1,2-Dichloroethane	µg/L	NS	0.50 U	--	0.50 U	0.50 U	--	--	--
1,1-Dichloroethane	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
1,1-Dichloroethene	µg/L	NS	0.50 U	--	0.50 U	0.50 U	--	--	--
1,2-Dichloropropane	µg/L	NS	1.0 U	--	1.0 U	1.0 U	--	--	--
Ethylbenzene	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
Ethylene dibromide	µg/L	NS	2.0 U	--	2.0 U	2.0 U	--	--	--
Freon 11	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
Freon 12	µg/L	NS	5.0 U	--	5.0 U	5.0 U	--	--	--
Freon 113	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
2-Hexanone	µg/L	NS	5.0 U	--	5.0 U	5.0 U	--	--	--
Isopropylbenzene (Cumene)	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
4-Isopropyltoluene	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
Methyl acetate	µg/L	NS	2.0 U	--	2.0 U	2.0 U	--	--	--
4-Methyl-2-pentanone	µg/L	NS	5.0 U	--	5.0 U	5.0 U	--	--	--
Methyl tert-butyl ether	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	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
Naphthalene	µg/L	NS	2.5 U	--	2.5 U	2.5 U	--	--	--
n-Butylbenzene	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	--	--	--
1,4-Dioxane	ng/l	NS	155 U	--	153 U	158 U	--	--	--

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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

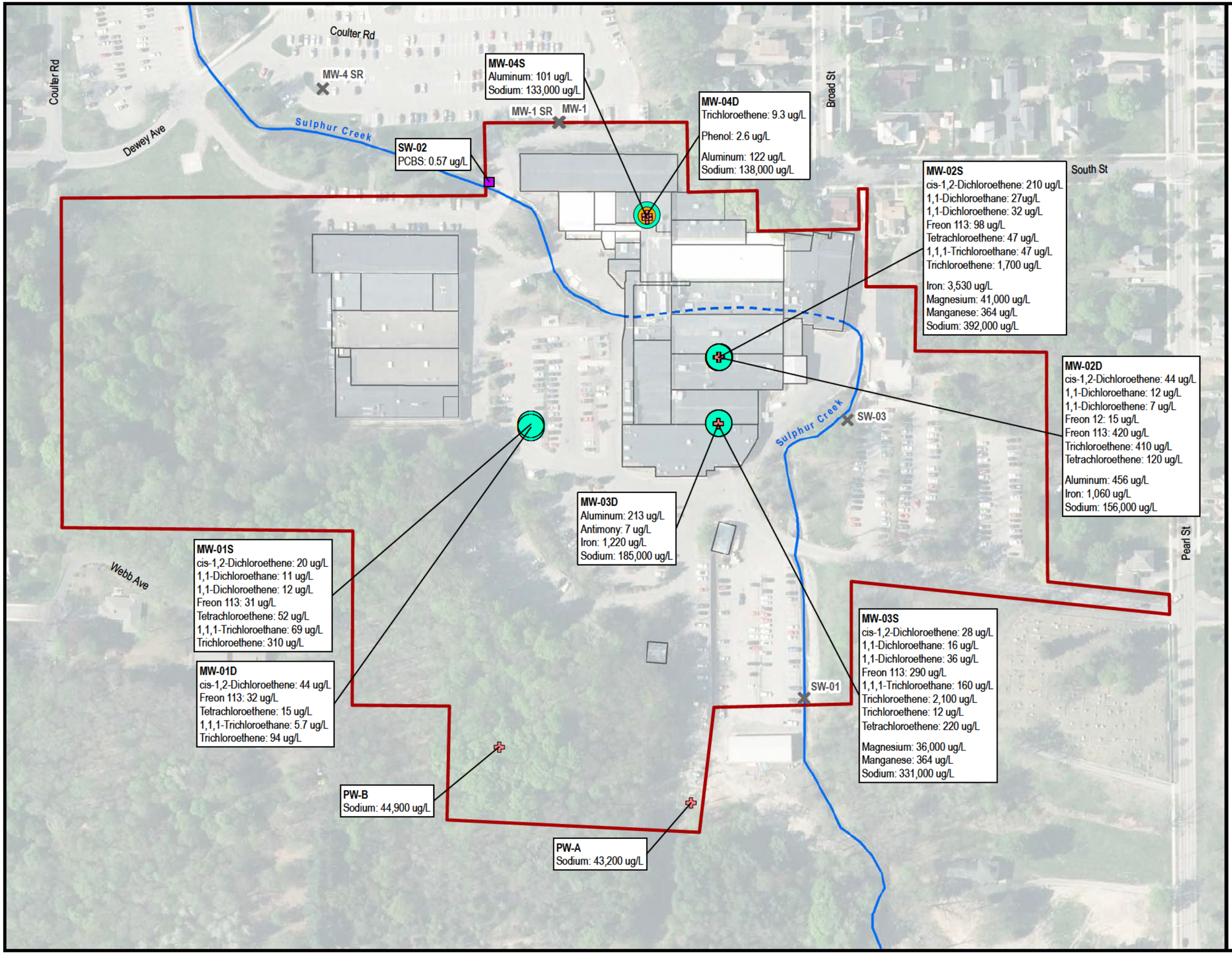
Analyte	Unit	NY-TOGS 1.1.1-SW_WILDLIFE PROTECTION	SW-01 10-May-17 N	SW-01 18-Jul-17 N	SW-02 10-May-17 N	SW-02 10-May-17 FD	SW-02 18-Jul-17 N	SW-02 18-Jul-17 FD	SW-03 27-Jun-17 N
Semi-Volatile Organic Compounds (SVOCs)									
Acenaphthene	µg/L	NS	0.10 U	--	0.10 U	0.10 U	--	--	--
Acenaphthylene	µg/L	NS	0.20 U	--	0.20 U	0.20 U	--	--	--
Acetophenone	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	0.20 U	--	0.20 U	0.20 U	--	--	--
Benzo(b)fluoranthene	µg/L	NS	0.20 U	--	0.20 U	0.20 U	--	--	--
Benzo(g,h,i)perylene	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	µg/L	NS	2.0 U	--	2.0 U	2.0 U	--	--	--
Caprolactam	µg/L	NS	10 U	--	10 U	10 U	--	--	--
Carbazole	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	µg/L	NS	5.0 U	--	5.0 U	5.0 U	--	--	--
m-Cresol	µg/L	NS	5.0 U	--	5.0 U	5.0 U	--	--	--
4-Chlorophenyl phenyl ether	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	µg/L	NS	5.0 UJ	--	5.0 U	5.0 U	--	--	--
Dichloroethyl ether	µg/L	NS	2.0 U	--	2.0 U	2.0 U	--	--	--
2,4-Dichlorophenol	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	--	20 U	20 U	--	--	--
2,4-Dinitrotoluene	µg/L	NS	5.0 U	--	5.0 U	5.0 U	--	--	--
2,6-Dinitrotoluene	µg/L	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	µg/L	NS	20 U	--	20 U	20 U	--	--	--
Hexachloroethane	µg/L	NS	0.80 U	--	0.80 U	0.80 U	--	--	--
Indeno(1,2,3-cd)pyrene	µg/L	NS	0.20 U	--	0.20 U	0.20 U	--	--	--
Isophorone	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	µg/L	NS	2.0 U	--	2.0 U	2.0 U	--	--	--
2-Nitrophenol	µg/L	NS	10 U	--	10 U	10 U	--	--	--
4-Nitrophenol	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	µg/L	NS	0.20 U	--	0.20 U	0.20 U	--	--	--
Phenol	µg/L	NS	5.0 U	--	5.0 U	5.0 U	--	--	--
Pyrene	µg/L	NS	0.20 U	--	0.20 U	0.20 U	--	--	--
1,2,4,5-Tetrachlorobenzene	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	--	--	--

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NY-TOGS 1.1.1-SW_WILDFIRE PROTECTION

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Polychlorinated Biphenyl (PCB)									
Aroclor 1016	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Aroclor 1221	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Aroclor 1232	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Aroclor 1242	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Aroclor 1248	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Aroclor 1254	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Aroclor 1260	µg/L	NS	0.083 U	--	**0.57**	**0.194**	--	--	0.083 U
Aroclor 1262	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Aroclor 1268	µg/L	NS	0.083 U	--	0.083 U	0.083 U	--	--	0.083 U
Total PCBs	µg/L	**0.00012**	0.083 U	--	**0.57**	**0.194**	--	--	0.083 U
Metals, Total									
Aluminum	mg/L	NS	0.0261 U	--	0.0193 U	0.0204 U	--	--	--
Antimony	mg/L	NS	0.00400 U	--	0.00400 U	0.00400 U	--	--	--
Arsenic	mg/L	NS	**0.00049 J**	--	**0.00039 J**	**0.00054**	--	--	--
Barium	mg/L	NS	**0.06442**	--	**0.06078**	**0.0604**	--	--	--
Beryllium	mg/L	NS	0.00050 U	--	0.00050 U	0.00050 U	--	--	--
Cadmium	mg/L	NS	0.00020 U	--	0.00020 U	0.00020 U	--	--	--
Calcium	mg/L	NS	**92.8**	--	**91.4**	**93.5**	--	--	--
Chromium	mg/L	NS	0.00100 U	--	0.00100 U	0.00100 U	--	--	--
Cobalt	mg/L	NS	0.00050 U	--	0.00050 U	0.00050 U	--	--	--
Copper	mg/L	NS	**0.00159**	--	**0.00159**	**0.0014**	--	--	--
Cyanide	mg/L	NS	0.250 U	--	0.005 U	**0.003 J**	--	--	--
Hardness	mg/L	NS	--	**363.5**	--	--	**360.4**	**358**	--
Iron	mg/L	NS	**0.0558**	--	**0.0562**	**0.0542**	--	--	--
Lead	mg/L	NS	0.00100 U	--	0.00100 U	0.00100 U	--	--	--
Magnesium	mg/L	NS	**18.2**	--	**17.4**	**18**	--	--	--
Manganese	mg/L	NS	**0.01432**	--	**0.01383**	**0.0139**	--	--	--
Mercury	mg/L	0.0000026	0.00020 U	--	0.00020 U	0.00020 U	--	--	--
Nickel	mg/L	NS	**0.00098 J**	--	**0.00097 J**	**0.00104 J**	--	--	--
Potassium	mg/L	NS	**2.89**	--	**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	mg/L	NS	**0.00342 J**	--	0.01000 U	0.01000 U	--	--	--
Per- and Polyfluoroalkyl Substances (PFAS)									
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFO	ng/l	NS	1.98 U	--	1.94 U	1.92 U	--	--	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMe	ng/l	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	--	--	--
Perfluorotridecanoic Acid (PFTrDA)	ng/l	NS	1.98 U	--	1.94 U	1.92 U	--	--	--

Notes and Abbreviations:
-- = Not analyzed
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 detectedabove 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.
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





Legend

NYS GA or D Standard Exceedance

Exceedance Compound

- VOCs
- SVOCs
- PCBs
- Metals
- No Exceedance
- Property Parcel Boundary
- Facility Outline
- Surface Stream
- 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.

0 25 50 100 150 200
Feet

N

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

ERM

Q:\team\MW\Clients_2_3\GWLisk\CliftonSprings_NY\MXD\SC-Report-2018\Figure13_GW_Exceedances_20180824.mxd - Caldwell/Payne - 8/1/2018

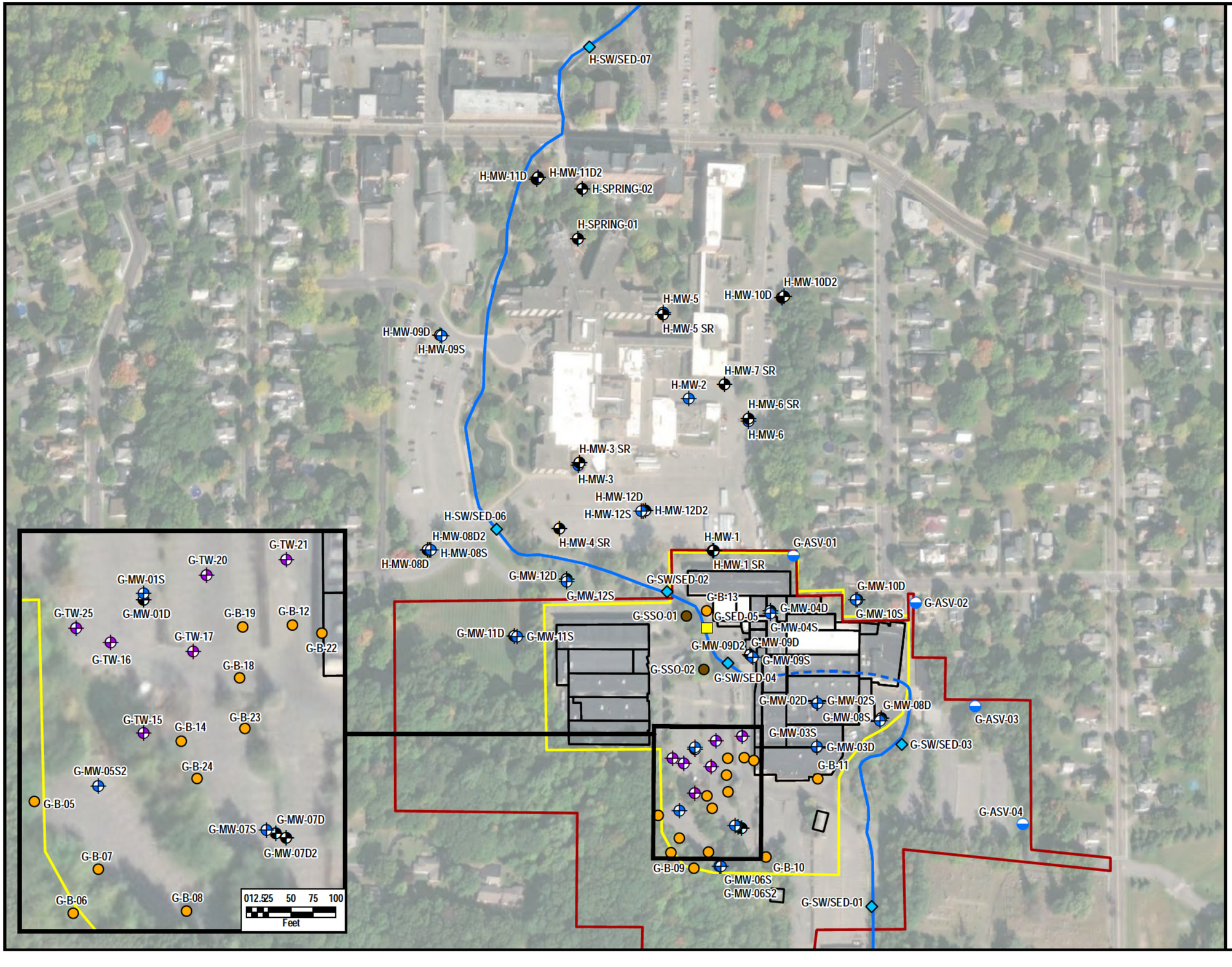


Figure 6: Remedial Investigation Sample Locations
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

ERM

Table 10
Boundary Soil Vapor Analytical Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte	Location ID	AA-01	ASV-01	ASV-01	ASV-02	ASV-03
	Sample Date	4/7/2021	4/7/2021	4/7/2021	4/7/2021	4/7/2021
	Sample Type	N	N	FD	N	N
	Unit					
1,1,1-Trichloroethane	µg/m3	< 0.109	< 1.09	< 1.09	< 1.09	< 2.28
1,1,2,2-Tetrachloroethane	µg/m3	< 1.37	< 1.37	< 1.37	< 1.37	< 2.86
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	µg/m3	< 1.53	< 1.53	< 1.53	< 1.53	< 3.20
1,1,2-Trichloroethane	µg/m3	< 1.09	< 1.09	< 1.09	< 1.09	< 2.28
1,1-Dichloroethane	µg/m3	< 0.809	< 0.809	< 0.809	< 0.809	< 1.69
1,1-Dichloroethene	µg/m3	< 0.079	< 0.793	< 0.793	< 0.793	< 1.65
1,2,4-Trichlorobenzene	µg/m3	< 1.48 J	< 1.48 J	< 1.48 J	< 1.48 J	< 3.10 J
1,2,4-Trimethylbenzene	µg/m3	< 0.983	3.31	3.18	3.98	3.82
1,2-dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	µg/m3	< 1.40	< 1.40	< 1.40	< 1.40	< 2.91
1,2-Dichlorobenzene	µg/m3	< 1.20	< 1.20	< 1.20	< 1.20	< 2.51
1,2-Dichloroethane	µg/m3	< 0.809	< 0.809	< 0.809	< 0.809	< 1.69
1,2-Dichloroethene	µg/m3	< 0.793	< 0.793	< 0.793	< 0.793	< 1.65
1,2-Dichloropropane	µg/m3	< 0.924	< 0.924	< 0.924	< 0.924	< 1.93
1,3,5-Trimethylbenzene	µg/m3	< 0.983	< 0.983	< 0.983	1.14	< 2.05
1,3-Butadiene	µg/m3	< 0.442	< 0.442	< 0.442	< 0.442	< 0.923
1,3-Dichlorobenzene	µg/m3	< 1.20	< 1.20	< 1.20	< 1.20	< 2.51
1,3-Dichloropropene	µg/m3	< 0.908	< 0.908	< 0.908	< 0.908	< 1.89
1,4-Dichlorobenzene	µg/m3	< 1.20	10.8	9.92	12.4	10.7
1,4-Dioxane	µg/m3	< 0.721	< 0.721	< 0.721	< 0.721	< 1.50
2,2,4-Trimethylpentane	µg/m3	< 0.934	< 0.934	< 0.934	< 0.934	< 1.95
2-Butanone	µg/m3	< 1.47	145	147	14.1	457
2-Hexanone	µg/m3	< 0.820	61.5	50.4	6.76	122
4-Ethyltoluene	µg/m3	< 0.983	< 0.983	< 0.983	< 0.983	< 2.05
4-Methyl-2-pentanone	µg/m3	< 2.05	< 2.05	< 2.05	< 2.05	< 4.26
Acetone	µg/m3	< 2.38	323	335	111	960
Allyl chloride	µg/m3	< 0.626	< 0.626	< 0.626	< 0.626	< 1.31
Benzene	µg/m3	< 0.639	< 0.639	< 0.639	< 0.639	< 1.33
Benzyl chloride	µg/m3	< 1.04	< 1.04	< 1.04	< 1.04	< 2.16
Bromodichloromethane	µg/m3	< 1.34	7.17	7.24	< 1.34	3.97
Bromoform	µg/m3	< 2.07	< 2.07	< 2.07	< 2.07	< 4.31
Bromomethane	µg/m3	< 0.777	< 0.777	< 0.777	< 0.777	< 1.62
Carbon disulfide	µg/m3	< 0.623	6.76	6.73	3.05	5.29
Carbon tetrachloride	µg/m3	0.434	< 1.26	< 1.26	< 1.26	< 2.62
Chlorobenzene	µg/m3	< 0.921	< 0.921	< 0.921	< 0.921	< 1.92
Chloroethane	µg/m3	< 0.528	< 0.528	< 0.528	< 0.528	< 1.10
Chloroform	µg/m3	< 0.977	56.2	55.2	10.1	39.6
Chloromethane	µg/m3	1.16	< 0.413	< 0.413	< 0.413	< 0.861
cis-1,2-Dichloroethene	µg/m3	< 0.079	< 0.793	< 0.793	< 0.793	< 1.65
cis-1,3-Dichloropropene	µg/m3	< 0.908	< 0.908	< 0.908	< 0.908	< 1.89
Cyclohexane	µg/m3	< 0.688	< 0.688	< 0.688	< 0.688	< 1.44
Dibromochloromethane	µg/m3	< 1.70	< 1.70	< 1.70	< 1.70	< 3.55
Dichlorodifluoromethane (Freon 12)	µg/m3	2.19	2.17	2.17	2.16	2.21
Ethanol	µg/m3	< 9.42	14.9	16	< 9.42	48.6
Ethyl acetate	µg/m3	< 1.80	< 1.80	< 1.80	< 1.80	< 3.75
Ethylbenzene	µg/m3	< 0.869	1.91	1.83	2.54	3.45
Ethylene dibromide	µg/m3	< 1.54	< 1.54	< 1.54	< 1.54	< 3.20
Heptane	µg/m3	< 0.820	6.27	6.56	1.25	13.8
Hexachlorobutadiene	µg/m3	< 2.13	< 2.13	< 2.13	< 2.13	< 4.45
Isopropyl alcohol	µg/m3	< 1.23	9	9.12	< 1.23	24.3
m,p-Xylenes	µg/m3	< 1.74	6.6	6.34	8.77	10.7
Methyl tert-butyl ether	µg/m3	< 0.721	< 0.721	< 0.721	< 0.721	< 1.50
Methylene chloride	µg/m3	< 1.74	< 1.74	< 1.74	< 1.74	< 3.61
n-Hexane	µg/m3	< 0.705	4.09	4.26	0.744	9.8
o-Xylene	µg/m3	< 0.869	3.14	3.05	4.14	4.73
Styrene	µg/m3	< 0.852	< 0.852	< 0.852	< 0.852	< 1.78
tert-Butyl alcohol	µg/m3	< 1.52	4.24	4.46	< 1.52	14.8
Tetrachloroethene	µg/m3	< 0.136	< 1.36	< 1.36	< 1.36	< 2.83
Tetrahydrofuran	µg/m3	< 1.47	< 1.47	< 1.47	< 1.47	< 3.07
Toluene	µg/m3	< 0.754	5.2	5.05	5.16	9.91
trans-1,2-Dichloroethene	µg/m3	< 0.793	< 0.793	< 0.793	< 0.793	< 1.65
trans-1,3-Dichloropropene	µg/m3	< 0.908	< 0.908	< 0.908	< 0.908	< 1.89
Trichloroethene	µg/m3	< 0.107	< 1.07	< 1.07	1.36	3.37
Trichlorofluoromethane (Freon 11)	µg/m3	1.28	1.3	1.25	1.35	< 2.34
Vinyl bromide	µg/m3	< 0.874	< 0.874	< 0.874	< 0.874	< 1.82
Vinyl chloride	µg/m3	< 0.051	< 0.511	< 0.511	< 0.511	< 1.07
Xylene, Total	µg/m3	< 0.869	9.73	9.38	12.9	15.5

Notes and Abbreviations

< = Compound not detected at concentrations above the laboratory reporting detection limit. The laboratory reporting detection limit is shown
µg/m3 = micrograms per cubic meter
N = Normal Environmental Sample
FD = Field Duplicate Sample
J = The value is an estimated quantity due to a QC exceedance. The value is usable as a non-detect at the estimated reporting detection limit

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-05	G-B-06	G-B-07	G-B-08	G-B-09	G-B-10	G-B-11	G-B-12	G-B-13	G-B-14	G-B-14	G-B-14	G-B-15
				Sample Date	3/10/2021	3/9/2021	3/11/2021	3/11/2021	3/10/2021	3/15/2021	3/15/2021	3/12/2021	3/15/2021	3/12/2021	3/19/2021	3/25/2021	8/9/2022
				Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N
				Depth	6 - 9 ft	6 - 7 ft	5 - 7 ft	16 - 18 ft	20 - 22 ft	9 - 10 ft	8 - 9 ft	15 - 16 ft	5 - 8 ft	28 - 30 ft	0 - 0.1 ft	0.1 - 1 ft	0 - 0.5 ft
				Unit													
VOCs	1,1,1-Trichloroethane	1,000,000	680	µg/kg	< 0.70	< 0.57	< 0.47	< 0.51	< 0.65	< 0.52	< 0.49	3.0	< 0.38	130	< 0.56	< 0.95	< 0.59
	1,1,2,2-Tetrachloroethane	NS	NS	µg/kg	< 0.70	< 0.57	< 0.47	< 0.51	< 0.65	< 0.52	< 0.49	< 0.48	< 0.38	< 29	< 0.56	< 0.95	< 0.59
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NS	NS	µg/kg	< 5.6	< 4.5	< 3.8	< 4.1	< 5.2	< 4.1	< 3.9	80	< 3.0	1,000	< 4.4	< 7.6	< 4.7
	1,1,2-Trichloroethane	NS	NS	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	1,1-Dichloroethane	480,000	270	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	80	< 0.76	180	< 1.1	< 1.9	< 1.2
	1,1-Dichloroethene	1,000,000	330	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	70	< 0.76	180	< 1.1	< 1.9	< 1.2 J
	1,2,3-Trichlorobenzene	NS	NS	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8 J	< 2.3
	1,2,4-Trichlorobenzene	NS	NS	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8 J	< 2.3
	1,2-Dibromo-3-chloropropane	NS	NS	µg/kg	< 4.2	< 3.4	< 2.8	< 3.1	< 3.9	< 3.1	< 3.0	< 2.9	< 2.3	< 170	< 3.3	< 5.7	< 3.5
	1,2-Dichlorobenzene	1,000,000	1,100	µg/kg	0.57 J	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8	< 2.3
	1,2-Dichloroethane	60,000	20	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	1,2-Dichloropropane	NS	NS	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	1,3-Dichlorobenzene	560,000	2,400	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8	< 2.3
	1,4-Dichlorobenzene	250,000	1,800	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8	< 2.3
	1,4-Dioxane	250,000	100	µg/kg	< 110	< 91	< 76	< 82	< 100	< 83	< 79	< 77	< 61	< 4,600	< 89	< 150	< 94
	2-Butanone (Methyl ethyl ketone)	1,000,000	120	µg/kg	< 19	24	23	< 10	< 13	< 10	< 9.8	2.4 J	< 7.6	< 580	< 11	< 19	< 12
	2-Hexanone	NS	NS	µg/kg	< 14	< 11	< 9.4	< 10	< 13	< 10	< 9.8	< 9.6	< 7.6	< 580	< 11	< 19 J	< 12
	4-Methyl-2-pentanone	NS	NS	µg/kg	< 14	< 11	< 9.4	< 10	< 13	< 10	< 9.8	< 9.6	< 7.6	< 580	< 11	< 19	< 12
	Acetone	1,000,000	**50**	µg/kg	**86**	**110**	**87**	< 10	< 13	< 10	< 9.8	< 17	< 7.6	< 580	12	< 19	< 12
	Benzene	89,000	60	µg/kg	57	6.0	4.5	< 0.51	< 0.65	< 0.52	< 0.49	0.26 J	< 0.38	< 29	< 0.56	< 0.95	< 0.59
	Bromodichloromethane	NS	NS	µg/kg	< 0.70	< 0.57	< 0.47	< 0.51	< 0.65	< 0.52	< 0.49	< 0.48	< 0.38	< 29	< 0.56	< 0.95	< 0.59
	Bromoform	NS	NS	µg/kg	< 5.6	< 4.5	< 3.8	< 4.1	< 5.2	< 4.1	< 3.9	< 3.9	< 3.0	< 230	< 4.4	< 7.6	< 4.7
	Bromomethane	NS	NS	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8	< 2.3 J
	Carbon disulfide	NS	NS	µg/kg	< 14	< 11	< 9.4	< 10	< 13	< 10	< 9.8	< 9.6	< 7.6	< 580	< 11	< 19	< 12 J
	Carbon tetrachloride	44,000	760	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	Chlorobenzene	1,000,000	1,100	µg/kg	< 0.70	< 0.57	< 0.47	< 0.51	< 0.65	< 0.52	< 0.49	< 0.48	< 0.38	< 29	< 0.56	< 0.95	< 0.59
	Chlorobromomethane	NS	NS	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8	< 2.3 J
	Chloroethane	NS	NS	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8	< 2.3 J
	Chloroform	700,000	370	µg/kg	< 2.1	< 1.7	< 1.4	< 1.5	< 1.9	< 1.6	< 1.5	< 1.4	< 1.1	< 86	< 1.7	< 2.8	< 1.8
	Chloromethane	NS	NS	µg/kg	< 5.6	< 4.5	< 3.8	< 4.1	< 5.2	< 4.1	< 3.9	< 3.9	< 3.0	< 230	< 4.4	< 7.6 J	< 4.7 J
	cis-1,2-Dichloroethene	1,000,000	250	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	64	< 0.76	210	< 1.1	< 1.9	< 1.2
	cis-1,3-Dichloropropene	NS	NS	µg/kg	< 0.70	< 0.57	< 0.47	< 0.51	< 0.65	< 0.52	< 0.49	< 0.48	< 0.38	< 29	< 0.56	< 0.95 J	< 0.59
	Cyclohexane	NS	NS	µg/kg	1.6 J	< 11	2.2 J	< 10	< 13	< 10	< 9.8	< 9.6	< 7.6	< 580	< 11	< 19	< 12
	Dibromochloromethane	NS	NS	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	Dichlorodifluoromethane (Freon 12)	NS	NS	µg/kg	< 14	< 11	< 9.4	< 10	< 13	< 10	< 9.8	< 9.6	< 7.6	< 580	< 11	< 19	< 12 J
	Ethylbenzene	780,000	1,000	µg/kg	150	2.9	20	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	Ethylene dibromide	NS	NS	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	Isopropylbenzene (Cumene)	NS	NS	µg/kg	22	0.79 J	6.2	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	m,p-Xylenes	1,000,000	1,600	µg/kg	85	7.9	50	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2	< 3.8	< 2.3
	Methyl acetate	NS	NS	µg/kg	< 5.6	< 4.5	< 3.8	< 4.1	< 5.2	< 4.1	< 3.9	< 3.9	< 3.0	< 230	< 4.4	< 7.6 J	< 4.7
	Methyl tert-butyl ether	1,000,000	930	µg/kg	< 2.8	< 2.3	< 1.9	< 2.0	< 2.6	< 2.1	< 2.0	< 1.9	< 1.5	< 120	< 2.2 J	< 3.8	< 2.3
	Methylcyclohexane	NS	NS	µg/kg	11	2.2 J	36	< 4.1	< 5.2	< 4.1	< 3.9	< 3.9	< 3.0	< 230	< 4.4	< 7.6	< 4.7
	Methylene chloride	1,000,000	**50**	µg/kg	< 7.0	< 5.7	< 4.7	< 5.1	< 6.5	< 5.2	< 4.9	**78**	< 3.8	< 290	< 5.6	< 9.5	< 5.9
	o-Xylene	1,000,000	1,600	µg/kg	100	9.0	44	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	Styrene	NS	NS	µg/kg	2.3	2.4	2.2	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	Tetrachloroethene	300,000	1,300	µg/kg	< 0.70	< 0.57	< 0.47	< 0.51	< 0.65	< 0.52	< 0.49	< 0.48	< 0.38	950	< 0.56	< 0.95	< 0.59
	Toluene	1,000,000	700	µg/kg	10	3.5	9.6	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	trans-1,2-Dichloroethene	1,000,000	190	µg/kg	< 2.1	< 1.7	< 1.4	< 1.5	< 1.9	< 1.6	< 1.5	0.41 J	< 1.1	< 86	< 1.7 J	< 2.8	< 1.8 J
	trans-1,3-Dichloropropene	NS	NS	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2
	Trichloroethene	400,000	**470**	µg/kg	< 0.70	< 0.57	< 0.47	< 0.51	< 0.65	< 0.52	< 0.49	**780 J**	< 0.38	**9,100**	< 0.56	< 0.95	< 0.59
	Trichlorofluoromethane (Freon 11)	NS	NS	µg/kg	< 5.6	< 4.5	< 3.8	< 4.1	< 5.2	< 4.1	< 3.9	< 3.9	< 3.0	< 230	< 4.4	< 7.6	< 4.7 J
	Vinyl chloride	27,000	20	µg/kg	< 1.4	< 1.1	< 0.94	< 1.0	< 1.3	< 1.0	< 0.98	< 0.96	< 0.76	< 58	< 1.1	< 1.9	< 1.2 J

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-05	G-B-06	G-B-07	G-B-08	G-B-09	G-B-10	G-B-11	G-B-12	G-B-13	G-B-14	G-B-14	G-B-14	G-B-15
				Sample Date	3/10/2021	3/9/2021	3/11/2021	3/11/2021	3/10/2021	3/15/2021	3/15/2021	3/12/2021	3/15/2021	3/12/2021	3/19/2021	3/25/2021	8/9/2022
				Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N
				Depth	6 - 9 ft	6 - 7 ft	5 - 7 ft	16 - 18 ft	20 - 22 ft	9 - 10 ft	8 - 9 ft	15 - 16 ft	5 - 8 ft	28 - 30 ft	0 - 0.1 ft	0.1 - 1 ft	0 - 0.5 ft
				Unit													
SVOCs	1,2,4,5-Tetrachlorobenzene	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2,2'-Oxybis(1-chloropropane)	NS	NS	µg/kg	*< 1,200*	*< 240*	*< 1,100*	*< 200*	*< 250*	*< 210*	--	--	--	*< 200*	*< 320*	*< 300*	*< 1,200*
	2,3,4,6-Tetrachlorophenol	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2,4,5-Trichlorophenol	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2,4,6-Trichlorophenol	NS	NS	µg/kg	*< 600*	*< 120*	*< 560*	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	*< 160*	*< 150*	*< 610*
	2,4-Dichlorophenol	NS	NS	µg/kg	*< 900*	*< 180*	*< 840*	*< 150*	*< 190*	*< 150*	--	--	--	*< 150*	*< 240*	*< 220*	*< 920*
	2,4-Dimethylphenol	NS	NS	µg/kg	*< 1,000*	150 J	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2,4-Dinitrophenol	NS	NS	µg/kg	*< 4,800*	*< 950*	*< 4,400*	*< 820*	*< 1,000*	*< 820*	--	--	--	*< 820*	*< 1,300*	R	*< 4,900*
	2,4-Dinitrotoluene	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2,6-Dinitrotoluene	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2-Chloronaphthalene	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2-Chlorophenol	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2-Methylnaphthalene	NS	NS	µg/kg	1,300	670	3,200	*< 200*	*< 250*	*< 210*	--	--	--	*< 200*	230 J	210 J	*< 1,200*
	2-Nitroaniline	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	2-Nitrophenol	NS	NS	µg/kg	*< 2,200*	*< 430*	*< 2,000*	*< 370*	*< 460*	*< 370*	--	--	--	*< 370*	*< 570*	*< 540*	*< 2,200*
	3,3'-Dichlorobenzidine	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	3-Nitroaniline	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	4-Bromophenyl phenyl ether	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	4-Chloro-3-methylphenol	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	4-Chlorophenyl phenyl ether	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	4-Nitrophenol	NS	NS	µg/kg	*< 1,400*	*< 280*	*< 1,300*	*< 240*	*< 300*	*< 240*	--	--	--	*< 240*	*< 370*	*< 350*	*< 1,400*
	Acenaphthene	1,000,000	**98,000**	µg/kg	2,900	1,700	4,300	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	140 J	160 J	*< 820*
	Acenaphthylene	1,000,000	**107,000**	µg/kg	1,800	1,600	4,100	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	1,100	1,000	*< 820*
	Acetophenone	NS	NS	µg/kg	*< 1,000*	44 J	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Anthracene	1,000,000	1,000,000	µg/kg	3,200	3,700	11,000	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	540	660	*< 610*
	Atrazine	NS	NS	µg/kg	*< 800*	*< 160*	*< 740*	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	*< 210*	*< 200*	*< 820*
	Benzaldehyde	NS	NS	µg/kg	*< 1,300*	*< 260*	*< 1,200*	*< 220*	*< 280*	*< 230*	--	--	--	*< 220*	620	80 J	*< 1,300*
	Benzo(a)anthracene	**11,000**	**1,000**	µg/kg	**5,000**	**6,200**	**16,000**	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	**1,400**	**1,400 J**	200
	Benzo(a)pyrene	**1,100**	**22,000**	µg/kg	**4,200**	**5,800**	**12,000**	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	**1,800**	**2,000**	*< 820*
	Benzo(b)fluoranthene	**11,000**	**1,700**	µg/kg	**4,700**	**6,000**	**14,000**	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	**1,800**	**1,900 J**	260
	Benzo(g,h,i)perylene	1,000,000	1,000,000	µg/kg	1,900	3,300	4,900	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	1,200	1,200 J	160
	Benzo(k)fluoranthene	110,000	**1,700**	µg/kg	1,300	**2,300**	**5,300**	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	680	1,000	*< 610*
	Benzyl butyl phthalate	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Biphenyl	NS	NS	µg/kg	*< 2,300*	310 J	950 J	*< 390*	*< 480*	*< 390*	--	--	--	*< 390*	*< 600*	*< 570*	*< 2,300*
	Bis(2-chloroethoxy)methane	NS	NS	µg/kg	*< 1,100*	*< 210*	*< 1,000*	*< 180*	*< 230*	*< 180*	--	--	--	*< 180*	*< 290*	*< 270*	*< 1,100*
	Bis(2-ethylhexyl)phthalate	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000 J*
	Caprolactam	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Carbazole	NS	NS	µg/kg	450 J	780	2,200	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	150 J	210 J	*< 1,000*
	Chrysene	110,000	**1,000**	µg/kg	**4,100**	**5,300**	**12,000**	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	**1,200**	**1,600 J**	200
	Dibenzo(a,h)anthracene	**1,100**	1,000,000	µg/kg	540 J	870	**1,700**	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	250	200	*< 610*
	Dibenzofuran	1,000,000	210,000	µg/kg	990 J	1,400	6,300	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	140 J	150 J	*< 1,000*
	Dibutyl phthalate	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Dichloroethyl ether	NS	NS	µg/kg	*< 900*	*< 180*	*< 840*	*< 150*	*< 190*	*< 150*	--	--	--	*< 150*	*< 240*	*< 220*	*< 920*
	Diethyl phthalate	NS	NS	µg/kg	*< 1,000*	90 J	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Dimethyl phthalate	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Dinitro-o-cresol	NS	NS	µg/kg	*< 2,600*	*< 510*	*< 2,400*	*< 440*	*< 550*	*< 450*	--	--	--	*< 440*	*< 690*	R	*< 2,600*
	Di-n-octyl phthalate	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Fluoranthene	1,000,000	1,000,000	µg/kg	8,900	10,000	29,000	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	2,200	2,500 J	320
	Fluorene	1,000,000	386,000	µg/kg	2,700	2,400	8,800	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	220 J	240 J	*< 1,000*
	Hexachlorobenzene	12,000	3,200	µg/kg	*< 600*	*< 120*	*< 560*	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	*< 160*	*< 150*	*< 610*
	Hexachlorobutadiene	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Hexachlorocyclopentadiene	NS	NS	µg/kg	*< 2,900*	*< 570*	*< 2,600*	*< 480*	*< 610*	*< 490*	--	--	--	*< 490*	*< 760*	R	*< 2,900*
	Hexachloroethane	NS	NS	µg/kg	*< 800*	*< 160*	*< 740*	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	*< 210*	*< 200*	*< 820*
	Indeno(1,2,3-cd)pyrene	**11,000**	**8,200**	µg/kg	2,100	3,600	6,200	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	1,200	1,400 J	150
	Isophorone	NS	NS	µg/kg	*< 900*	*< 180*	*< 840*	*< 150*	*< 190*	*< 150*	--	--	--	*< 150*	*< 240*	*< 220*	*< 920*
	m,p-cresol	1,000,000	**330**	µg/kg	260 J	270 J	**620 J**	*< 240*	*< 300*	*< 250*	--	--	--	*< 240*	85 J	62 J	*< 1,500*
	Naphthalene	**1,000,000**	**12,000**	µg/kg	4,400	2,500	**12,000**	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	700	700	*< 1,000*

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-05	G-B-06	G-B-07	G-B-08	G-B-09	G-B-10	G-B-11	G-B-12	G-B-13	G-B-14	G-B-14	G-B-14	G-B-15
				Sample Date	3/10/2021	3/9/2021	3/11/2021	3/11/2021	3/10/2021	3/15/2021	3/15/2021	3/12/2021	3/15/2021	3/12/2021	3/19/2021	3/25/2021	8/9/2022
				Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N
				Depth	6 - 9 ft	6 - 7 ft	5 - 7 ft	16 - 18 ft	20 - 22 ft	9 - 10 ft	8 - 9 ft	15 - 16 ft	5 - 8 ft	28 - 30 ft	0 - 0.1 ft	0.1 - 1 ft	0 - 0.5 ft
				Unit													
SVOCs	Nitrobenzene	NS	NS	µg/kg	*< 900*	*< 180*	*< 840*	*< 150*	*< 190*	*< 150*	--	--	--	*< 150*	*< 240*	*< 220*	*< 920*
	n-Nitrosodi-n-propylamine	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	n-Nitrosodiphenylamine	NS	NS	µg/kg	*< 800*	*< 160*	*< 740*	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	*< 210*	*< 200*	*< 820*
	o-Cresol	1,000,000	330	µg/kg	*< 1,000*	95 J	170 J	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	p-Chloroaniline	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Pentachlorophenol	55,000	800	µg/kg	*< 800*	*< 160*	*< 740*	*< 140*	*< 170*	*< 140*	--	--	--	*< 140*	*< 210*	*< 200*	*< 820*
	Phenanthrene	1,000,000	1,000,000	µg/kg	9,600	8,600	29,000	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	1,300	1,500 J	150
	Phenol	1,000,000	**330**	µg/kg	*< 1,000*	150 J	**350 J**	*< 170*	*< 210*	*< 170*	--	--	*< 180*	*< 170*	78 J	*< 250*	*< 1,000*
	p-Nitroaniline	NS	NS	µg/kg	*< 1,000*	*< 200*	*< 930*	*< 170*	*< 210*	*< 170*	--	--	--	*< 170*	*< 260*	*< 250*	*< 1,000*
	Pyrene	1,000,000	1,000,000	µg/kg	9,400	9,500	23,000	*< 100*	*< 130*	*< 100*	--	--	--	*< 100*	2,200	2,400 J	300
1,4-Dioxane	1,4-Dioxane	250,000	100	µg/kg	*< 85.1*	*< 9.21*	*< 8.41*	*< 7.68*	*< 9.04*	*< 8.11*	*< 7.70*	*< 9.96*	*< 8.45*	*< 8.22*	*< 11.3*	*< 12.2*	--
Metals	Aluminum	NS	NS	mg/kg	3,020	3,420	2,730	1,360	1,840	1,160	4,360	8,440	--	1,020	2,990	2,580	--
	Antimony	NS	NS	mg/kg	*< 4.78*	*< 4.54*	*< 4.47*	*< 3.99*	*< 4.95*	*< 4.09*	0.603 J	0.487 J	--	*< 4.07*	*< 6.22*	*< 6.00*	--
	Arsenic	**16**	**16**	mg/kg	3.89	3.88	5.27	1.47	1.38	1.42	4.01	4.11	--	1.56	3.31	3.31	--
	Barium	10,000	820	mg/kg	32.2	32.9	42.8	6.55	23.4	15.2 J	26.0 J	91.7	--	5.69	30.5	33.0	--
	Beryllium	2,700	47	mg/kg	0.144 J	0.082 J	0.116 J	0.040 J	*< 0.495*	*< 0.409*	0.228 J	0.328 J	--	0.041 J	0.149 J	0.156 J	--
	Cadmium	60	7.5	mg/kg	1.94	0.463 J	0.331 J	0.152 J	0.228 J	0.147 J	0.320 J	0.468 J	--	0.130 J	4.34	2.25	--
	Calcium	NS	NS	mg/kg	48,500 J	28,300	30,500	32,000	56,000	31,800	3,990	55,600	--	113,000	54,200	41,200	--
	Chromium	6,800	NS	mg/kg	8.32	5.58	4.55	2.95	4.05	2.88	7.26	13.9	--	5.01	10.5	7.02	--
	Cobalt	NS	NS	mg/kg	3.10	3.52	2.84	1.80	2.26	1.61 J	3.96	8.08	--	2.09	3.20	2.88	--
	Copper	10,000	1,720	mg/kg	12.6	12.0	31.7	7.56	7.90	4.50	14.2	16.8	--	4.63	17.8	22.2	--
	Iron	NS	NS	mg/kg	7,650	8,600	6,630	4,840	5,940	4,960	11,200	18,900	--	3,810	7,890	6,660	--
	Lead	3,900	450	mg/kg	30.4 J	36.5	31.2	2.54 J	3.40 J	2.13 J	6.43 J	6.75	--	3.88 J	31.7	27.9	--
	Magnesium	NS	NS	mg/kg	11,700 J	9,750	7,830	10,900	15,600	11,300 J	2,180 J	18,400	--	6,360	22,400	11,200	--
	Manganese	10,000	2,000	mg/kg	251	243	233	203	291	173	368	429	--	196	284	269	--
	Mercury	5.7	**0.73**	mg/kg	0.203	0.172	0.121 J	*< 0.076*	*< 0.081*	0.051 J	0.118	*< 0.081*	--	*< 0.069*	0.252	0.205	--
	Nickel	10,000	130	mg/kg	11.3	8.83	6.61	3.54	4.91	3.16	10.0	17.9	--	6.08	18.0	10.3	--
	Potassium	NS	NS	mg/kg	359	318	229	153 J	241 J	142 J	413	1,260	--	184 J	621	390	--
	Selenium	6,800	4	mg/kg	*< 1.91*	*< 1.81*	0.438 J	*< 1.60*	*< 1.98*	*< 1.64*	0.447 J	*< 1.99*	--	*< 1.63*	0.709 J	0.540 J	--
	Silver	6,800	8.3	mg/kg	*< 0.957*	*< 0.907*	*< 0.894*	*< 0.798*	*< 0.991*	*< 0.818*	*< 0.913*	*< 0.995*	--	*< 0.814*	*< 1.24*	*< 1.20*	--
	Sodium	NS	NS	mg/kg	344	245	943	54.3 J	76.3 J	311	695	357	--	201	137 J	428	--
	Thallium	NS	NS	mg/kg	*< 1.91*	*< 1.81*	*< 1.79*	*< 1.60*	*< 1.98*	*< 1.64*	0.484 J	*< 1.99*	--	*< 1.63*	*< 2.49*	*< 2.40*	--
	Vanadium	NS	NS	mg/kg	9.79	10.7	8.49	5.66	5.93	5.96	10.5	19.8	--	5.07	10.8	7.09	--
	Zinc	10,000	2,480	mg/kg	67.6	82.1	56.9	23.4	27.2	19.1	46.6	48.4	--	16.6	78.2	77.5	--
PCBs	Aroclor 1016	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1221	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1232	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1242	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1248	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1254	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1260	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1262	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	Aroclor 1268	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
	PCBs, Total	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	*< 52.0*	*< 49.3*	--
General Chemistry	pH, Lab	NS	NS	pH units	7.7	7.9	8.1	8.2	8.3	9.3	8.3	8.2	8.4	8.8	7.3	8.0	--
	Organic Carbon, Total	NS	NS	%	2.89	3.06	2.03	0.718	1.87	*< 0.050*	0.178	1.33	0.475	1.03	4.82	5.25	--
	Solids, Total	NS	NS	%	82.3	83.2	87.9	95.1	78.3	94.8	87.4	79.4	90.2	95.4	62.1	65.5	80.9

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL).
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-15	G-B-16	G-B-16	G-B-16	G-B-17	G-B-17	G-B-17	G-B-18	G-B-18	G-B-19	G-B-19	G-B-20	G-B-20
				Sample Date	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/11/2022	8/11/2022	8/11/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022
				Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N
				Depth	23 - 24 ft	8 - 9 ft	21 - 22 ft	27 - 28 ft	11 - 12 ft	19 - 20 ft	19 - 20 ft	6 - 7 ft	19 - 20 ft	17 - 18 ft	23 - 24 ft	10 - 11 ft	19 - 20 ft
				Unit													
VOCs	1,1,1-Trichloroethane	1,000,000	680	µg/kg	< 0.51	< 0.36	< 0.38	< 0.45	< 0.48	< 0.64	< 0.51	< 0.33	< 0.51	31	4.7 J	50	450
	1,1,2,2-Tetrachloroethane	NS	NS	µg/kg	< 0.51	< 0.36	< 0.38	< 0.45	< 0.48	< 0.64	< 0.51	< 0.33	< 0.51 J	< 0.42	< 0.52 J	< 27	< 30
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NS	NS	µg/kg	< 4.1	< 2.9	< 3.1	< 3.6	< 3.8	< 5.2	< 4.0	< 2.6	< 4.1	30	1.2 J	130	66
	1,1,2-Trichloroethane	NS	NS	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	1,1-Dichloroethane	480,000	270	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	1.6	0.32 J	100	**630**
	1,1-Dichloroethene	1,000,000	330	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	3.7	< 1.0 J	55	130
	1,2,3-Trichlorobenzene	NS	NS	µg/kg	< 2.0	< 1.4	< 1.5	< 1.8	< 1.9	< 2.6	< 2.0	< 1.3	< 2.0 J	< 1.7	< 2.1 J	< 110	< 120
	1,2,4-Trichlorobenzene	NS	NS	µg/kg	< 2.0	< 1.4	< 1.5	< 1.8	< 1.9	< 2.6	< 2.0	< 1.3	< 2.0 J	< 1.7	< 2.1 J	< 110	< 120
	1,2-Dibromo-3-chloropropane	NS	NS	µg/kg	< 3.1	< 2.2	< 2.3	< 2.7	< 2.9	< 3.9	< 3.0	< 2.0	< 3.1 J	< 2.5	< 3.1 J	< 160	< 180
	1,2-Dichlorobenzene	1,000,000	1,100	µg/kg	< 2.0	< 1.4	< 1.5	< 1.8	< 1.9	< 2.6	< 2.0	< 1.3	< 2.0 J	< 1.7	< 2.1 J	< 110	< 120
	1,2-Dichloroethane	60,000	20	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	1,2-Dichloropropane	NS	NS	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	1,3-Dichlorobenzene	560,000	2,400	µg/kg	< 2.0	< 1.4	< 1.5	< 1.8	< 1.9	< 2.6	< 2.0	< 1.3	< 2.0 J	< 1.7	< 2.1 J	< 110	< 120
	1,4-Dichlorobenzene	250,000	1,800	µg/kg	< 2.0	< 1.4	< 1.5	< 1.8	< 1.9	< 2.6	< 2.0	< 1.3	< 2.0 J	< 1.7	< 2.1 J	< 110	< 120
	1,4-Dioxane	250,000	100	µg/kg	< 82	< 57	< 62	< 72	< 77	< 100	< 81	< 53	< 82	< 68	< 83 J	< 4,400	< 4,800
	2-Butanone (Methyl ethyl ketone)	1,000,000	120	µg/kg	< 10	< 7.2	< 7.7	< 9.0	< 9.6	< 13	< 10	< 6.6	< 10	< 8.4	< 10 J	< 540	< 600
	2-Hexanone	NS	NS	µg/kg	< 10	< 7.2	< 7.7	< 9.0	< 9.6	< 13	< 10	< 6.6	< 10	< 8.4	< 10 J	< 540	< 600
	4-Methyl-2-pentanone	NS	NS	µg/kg	< 10	< 7.2	< 7.7	< 9.0	< 9.6	< 13	< 10	< 6.6	< 10	< 8.4	< 10 J	< 540	< 600
	Acetone	1,000,000	**50**	µg/kg	< 10	< 7.2	< 7.7	< 9.0	< 9.6	< 13	< 10	< 6.6	5.2	< 8.4	< 10 J	< 540	< 600
	Benzene	89,000	60	µg/kg	< 0.51	< 0.36	0.28	0.28	< 0.48	< 0.64	< 0.51	< 0.33	< 0.51	< 0.42	< 0.52 J	< 27	< 30
	Bromodichloromethane	NS	NS	µg/kg	< 0.51	< 0.36	< 0.38	< 0.45	< 0.48	< 0.64	< 0.51	< 0.33	< 0.51	< 0.42	< 0.52 J	< 27	< 30
	Bromoform	NS	NS	µg/kg	< 4.1	< 2.9	< 3.1	< 3.6	< 3.8	< 5.2	< 4.0	< 2.6	< 4.1 J	< 3.4	< 4.2 J	< 220	< 240
	Bromomethane	NS	NS	µg/kg	< 2.0 J	< 1.4 J	< 1.5 J	< 1.8 J	< 1.9	< 2.6	< 2.0	< 1.3 J	< 2.0 J	< 1.7 J	< 2.1 J	< 110 J	< 120 J
	Carbon disulfide	NS	NS	µg/kg	< 10	< 7.2	< 7.7	< 9.0	< 9.6	< 13	< 10	< 6.6	< 10	< 8.4	< 10 J	< 540	< 600
	Carbon tetrachloride	44,000	760	µg/kg	< 1.0	< 0.72	< 0.77 J	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0 J	< 0.84	< 1.0 J	< 54	< 60
	Chlorobenzene	1,000,000	1,100	µg/kg	< 0.51	< 0.36	< 0.38	< 0.45	< 0.48	< 0.64	< 0.51	< 0.33	< 0.51	< 0.42	< 0.52 J	< 27	< 30
	Chlorobromomethane	NS	NS	µg/kg	< 2.0 J	< 1.4 J	< 1.5 J	< 1.8 J	< 1.9	< 2.6	< 2.0	< 1.3 J	< 2.0 J	< 1.7 J	< 2.1 J	< 110 J	< 120 J
	Chloroethane	NS	NS	µg/kg	< 2.0 J	< 1.4 J	< 1.5 J	< 1.8 J	< 1.9 J	< 2.6 J	< 2.0 J	< 1.3 J	< 2.0 J	< 1.7 J	< 2.1 J	< 110 J	< 120 J
	Chloroform	700,000	370	µg/kg	< 1.5	< 1.1	< 1.2	< 1.4	< 1.4	< 1.9	< 1.5	< 0.99	< 1.5	< 1.3	< 1.6 J	< 82	< 90
	Chloromethane	NS	NS	µg/kg	< 4.1	< 2.9	< 3.1	< 3.6	< 3.8 J	< 5.2 J	< 4.0 J	< 2.6	< 4.1	< 3.4	< 4.2 J	< 220	< 240
	cis-1,2-Dichloroethene	1,000,000	250	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	2.6	3.1 J	200	**320**
	cis-1,3-Dichloropropene	NS	NS	µg/kg	< 0.51	< 0.36	< 0.38	< 0.45	< 0.48	< 0.64	< 0.51	< 0.33	< 0.51	< 0.42	< 0.52 J	< 27	< 30
	Cyclohexane	NS	NS	µg/kg	< 10	< 7.2	1.2	0.52	< 9.6	< 13	< 10	< 6.6	< 10	< 8.4	< 10 J	< 540	< 600
	Dibromochloromethane	NS	NS	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	Dichlorodifluoromethane (Freon 12)	NS	NS	µg/kg	< 10	< 7.2	< 7.7	< 9.0	< 9.6 J	< 13 J	< 10 J	< 6.6	< 10	< 8.4	< 10 J	< 540	< 600
	Ethylbenzene	780,000	1,000	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	Ethylene dibromide	NS	NS	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	Isopropylbenzene (Cumene)	NS	NS	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0 J	< 0.84	< 1.0 J	< 54	< 60
	m,p-Xylenes	1,000,000	1,600	µg/kg	< 2.0	< 1.4	0.69	0.61	< 1.9	< 2.6	< 2.0	< 1.3	< 2.0	< 1.7	< 2.1 J	< 110	< 120
	Methyl acetate	NS	NS	µg/kg	< 4.1	< 2.9	< 3.1	< 3.6	< 3.8	< 5.2	< 4.0	< 2.6	< 4.1	< 3.4	< 4.2 J	< 220	< 240
	Methyl tert-butyl ether	1,000,000	930	µg/kg	< 2.0	< 1.4	< 1.5	< 1.8	< 1.9	< 2.6	< 2.0	< 1.3	< 2.0	< 1.7	< 2.1 J	< 110	< 120
	Methylcyclohexane	NS	NS	µg/kg	< 4.1	< 2.9	1.2	0.81	< 3.8	< 5.2	< 4.0	< 2.6	< 4.1	< 3.4	< 4.2 J	< 220	< 240
	Methylene chloride	1,000,000	**50**	µg/kg	< 5.1	< 3.6	< 3.8	< 4.5	< 4.8	< 6.4	< 5.1	< 3.3	< 5.1	< 4.2	< 5.2 J	< 270	**370**
	o-Xylene	1,000,000	1,600	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	Styrene	NS	NS	µg/kg	< 1.0 J	< 0.72 J	< 0.77 J	< 0.90 J	< 0.96	< 1.3	< 1.0	< 0.66 J	< 1.0 J	< 0.84 J	< 1.0 J	< 54 J	< 60 J
	Tetrachloroethene	300,000	1,300	µg/kg	< 0.51	< 0.36	0.31	< 0.45	0.63	< 0.64	< 0.51	0.29 J	< 0.51	88	22 J	1,100	470
	Toluene	1,000,000	700	µg/kg	< 1.0	< 0.72	1.2	0.78	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	trans-1,2-Dichloroethene	1,000,000	190	µg/kg	< 1.5	< 1.1	< 1.2	< 1.4	< 1.4	< 1.9	< 1.5	< 0.99	< 1.5	< 1.3	< 1.6 J	< 82	< 90
	trans-1,3-Dichloropropene	NS	NS	µg/kg	< 1.0	< 0.72	< 0.77	< 0.90	< 0.96	< 1.3	< 1.0	< 0.66	< 1.0	< 0.84	< 1.0 J	< 54	< 60
	Trichloroethene	400,000	**470**	µg/kg	< 0.51	< 0.36	0.58 J	< 0.45	0.45	< 0.64	< 0.51	0.12 J	< 0.51 J	130	30 J	**7,200**	**3,000**
	Trichlorofluoromethane (Freon 11)	NS	NS	µg/kg	< 4.1	< 2.9	< 3.1 J	< 3.6	< 3.8	< 5.2	< 4.0	< 2.6	< 4.1 J	< 3.4	< 4.2 J	< 220	< 240
	Vinyl chloride	27,000	20	µg/kg	< 1.0	< 0.72	< 0.77 J	< 0.90	< 0.96 J	< 1.3 J	< 1.0 J	< 0.66	< 1.0 J	< 0.84	< 1.0 J	< 54	< 60

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-15	G-B-16	G-B-16	G-B-16	G-B-17	G-B-17	G-B-17	G-B-18	G-B-18	G-B-19	G-B-19	G-B-20	G-B-20
				Sample Date	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/11/2022	8/11/2022	8/11/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022
				Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N
				Depth	23 - 24 ft	8 - 9 ft	21 - 22 ft	27 - 28 ft	11 - 12 ft	19 - 20 ft	19 - 20 ft	6 - 7 ft	19 - 20 ft	17 - 18 ft	23 - 24 ft	10 - 11 ft	19 - 20 ft
				Unit													
SVOCs	1,2,4,5-Tetrachlorobenzene	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2,2'-Oxybis(1-chloropropane)	NS	NS	µg/kg	< 200	< 200	< 210	< 220	< 220	< 230	< 240	< 210	< 230	< 220	< 220	< 230	< 230
	2,3,4,6-Tetrachlorophenol	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2,4,5-Trichlorophenol	NS	NS	µg/kg	< 170 J	< 170 J	< 170	< 180 J	< 180	< 190	< 200	< 170	< 190	< 180 J	< 180	< 190 J	< 190 J
	2,4,6-Trichlorophenol	NS	NS	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	2,4-Dichlorophenol	NS	NS	µg/kg	< 150	< 150	< 160	< 160	< 160	< 170	< 180	< 150	< 170	< 160	< 160	< 170	< 170
	2,4-Dimethylphenol	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2,4-Dinitrophenol	NS	NS	µg/kg	< 820	< 820	< 830	< 860	< 880	< 910	< 950	< 830	< 910	< 870	R	< 920	< 920
	2,4-Dinitrotoluene	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2,6-Dinitrotoluene	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2-Chloronaphthalene	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2-Chlorophenol	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2-Methylnaphthalene	NS	NS	µg/kg	< 200	< 200	< 210	< 220	< 220	< 230	< 240	< 210	< 230	< 220	< 220	< 230	< 230
	2-Nitroaniline	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	2-Nitrophenol	NS	NS	µg/kg	< 370 J	< 370 J	< 380	< 390 J	< 390	< 410	< 430	< 370	< 410	< 390 J	< 390	< 410 J	< 420 J
	3,3'-Dichlorobenzidine	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	3-Nitroaniline	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	4-Bromophenyl phenyl ether	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	4-Chloro-3-methylphenol	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	4-Chlorophenyl phenyl ether	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	4-Nitrophenol	NS	NS	µg/kg	< 240	< 240	< 240	< 250	< 260	< 270	< 280	< 240	< 270	< 250	< 250	< 270	< 270
	Acenaphthene	1,000,000	**98,000**	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Acenaphthylene	1,000,000	**107,000**	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Acetophenone	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Anthracene	1,000,000	1,000,000	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Atrazine	NS	NS	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Benzaldehyde	NS	NS	µg/kg	< 220	< 220	< 230	< 240	< 240	< 250	< 260	< 230	< 250	< 240	< 240	< 250	< 250
	Benzo(a)anthracene	**11,000**	**1,000**	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Benzo(a)pyrene	**1,100**	**22,000**	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Benzo(b)fluoranthene	**11,000**	**1,700**	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Benzo(g,h,i)perylene	1,000,000	1,000,000	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Benzo(k)fluoranthene	110,000	**1,700**	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Benzyl butyl phthalate	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Biphenyl	NS	NS	µg/kg	< 390	< 390	< 400	< 410	< 420	< 430	< 450	< 390	< 430	< 420	< 420	< 440	< 440
	Bis(2-chloroethoxy)methane	NS	NS	µg/kg	< 180	< 180	< 190	< 190	< 200	< 200	< 210	< 180	< 200	< 200	< 200	< 210	< 210
	Bis(2-ethylhexyl)phthalate	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Caprolactam	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Carbazole	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Chrysene	110,000	**1,000**	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Dibenzo(a,h)anthracene	**1,100**	1,000,000	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Dibenzofuran	1,000,000	210,000	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Dibutyl phthalate	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Dichloroethyl ether	NS	NS	µg/kg	< 150	< 150	< 160	< 160	< 160	< 170	< 180	< 150	< 170	< 160	< 160	< 170	< 170
	Diethyl phthalate	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Dimethyl phthalate	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Dinitro-o-cresol	NS	NS	µg/kg	< 440	< 440	< 450	< 470	< 480	< 500	< 510	< 450	< 490	< 470	< 470	< 500	< 500
	Di-n-octyl phthalate	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Fluoranthene	1,000,000	1,000,000	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Fluorene	1,000,000	386,000	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Hexachlorobenzene	12,000	3,200	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Hexachlorobutadiene	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Hexachlorocyclopentadiene	NS	NS	µg/kg	< 490 J	< 490 J	< 500 J	< 520 J	< 520	< 540	< 560	< 490 J	< 540 J	< 520 J	< 520	< 550 J	< 550 J
	Hexachloroethane	NS	NS	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Indeno(1,2,3-cd)pyrene	**11,000**	**8,200**	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Isophorone	NS	NS	µg/kg	< 150	< 150	< 160	< 160	< 160	< 170	< 180	< 150	< 170	< 160	< 160	< 170	< 170
	m,p-cresol	1,000,000	**330**	µg/kg	< 240	< 240	< 250	< 260	< 260	< 270	< 280	< 250	< 270	< 260	< 260	< 280	< 280
	Naphthalene	**1,000,000**	**12,000**	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-15	G-B-16	G-B-16	G-B-16	G-B-17	G-B-17	G-B-17	G-B-18	G-B-18	G-B-19	G-B-19	G-B-20	G-B-20
				Sample Date	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/11/2022	8/11/2022	8/11/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022	8/10/2022
				Sample Type	N	N	N	N	N	N	FD	N	N	N	N	N	N
				Depth	23 - 24 ft	8 - 9 ft	21 - 22 ft	27 - 28 ft	11 - 12 ft	19 - 20 ft	19 - 20 ft	6 - 7 ft	19 - 20 ft	17 - 18 ft	23 - 24 ft	10 - 11 ft	19 - 20 ft
				Unit													
SVOCs	Nitrobenzene	NS	NS	µg/kg	< 150	< 150	< 160	< 160	< 160	< 170	< 180	< 150	< 170	< 160	< 160	< 170	< 170
	n-Nitrosodi-n-propylamine	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	n-Nitrosodiphenylamine	NS	NS	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	o-Cresol	1,000,000	330	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	p-Chloroaniline	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Pentachlorophenol	55,000	800	µg/kg	< 140	< 140	< 140	< 140	< 150	< 150	< 160	< 140	< 150	< 140	< 140	< 150	< 150
	Phenanthrene	1,000,000	1,000,000	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
	Phenol	1,000,000	**330**	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	p-Nitroaniline	NS	NS	µg/kg	< 170	< 170	< 170	< 180	< 180	< 190	< 200	< 170	< 190	< 180	< 180	< 190	< 190
	Pyrene	1,000,000	1,000,000	µg/kg	< 100	< 100	< 100	< 110	< 110	< 110	< 120	< 100	< 110	< 110	< 110	< 120	< 120
1,4-Dioxane	1,4-Dioxane	250,000	100	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
Metals	Aluminum	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Antimony	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Arsenic	**16**	**16**	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Barium	10,000	820	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Beryllium	2,700	47	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Cadmium	60	7.5	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Calcium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chromium	6,800	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Cobalt	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Copper	10,000	1,720	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Iron	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Lead	3,900	450	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Magnesium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Manganese	10,000	2,000	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Mercury	5.7	**0.73**	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Nickel	10,000	130	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Potassium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Selenium	6,800	4	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Silver	6,800	8.3	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Sodium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Thallium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Vanadium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Zinc	10,000	2,480	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
PCBs	Aroclor 1016	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1221	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1232	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1242	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1248	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1254	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1260	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1262	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1268	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCBs, Total	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
General Chemistry	pH, Lab	NS	NS	pH units	--	--	--	--	--	--	--	--	--	--	--	--	--
	Organic Carbon, Total	NS	NS	%	--	--	--	--	--	--	--	--	--	--	--	--	--
	Solids, Total	NS	NS	%	95.1	96.0	94.6	91.3	89.0	86.7	84.3	95.5	85.9	90.0	91.1	84.8	84.7

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL).
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-21	G-B-21	G-B-21	G-B-22	G-B-22	G-B-23	G-B-23	G-B-24	G-B-24	G-B-25	G-B-25	G-MW-05	G-MW-05
				Sample Date	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/10/2022	8/10/2022	8/11/2022	8/11/2022	3/17/2021	3/17/2021
				Sample Type	N	N	FD	N	N	N	N	N	N	N	N	N	FD
				Depth	7 - 8 ft	15 - 16 ft	15 - 16 ft	12 - 13 ft	23 - 24 ft	8 - 9 ft	27 - 28 ft	12 - 13 ft	23 - 24 ft	12 - 13 ft	20 - 21 ft	7 - 8 ft	7 - 8 ft
				Unit													
VOCs	1,1,1-Trichloroethane	1,000,000	680	µg/kg	12	140 J	74 J	28 J	130	< 0.38	1.6	< 0.50	< 0.50	< 0.42	< 0.40	< 80	< 81
	1,1,2,2-Tetrachloroethane	NS	NS	µg/kg	< 0.53	< 47	< 30	< 27	< 25	< 0.38	< 0.55	< 0.50	< 0.50	< 0.42	< 0.40	< 80	< 81
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NS	NS	µg/kg	18	99	66	< 220	130	< 3.0	5.3	< 4.0	< 4.0	< 3.4	< 3.2	< 640	< 640
	1,1,2-Trichloroethane	NS	NS	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	1,1-Dichloroethane	480,000	270	µg/kg	8.0	**380 J**	120 J	< 55	36	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	1,1-Dichloroethene	1,000,000	330	µg/kg	4.2 J	140 J	< 60 J	< 55 J	25 J	< 0.75 J	< 1.1 J	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	1,2,3-Trichlorobenzene	NS	NS	µg/kg	< 2.1	< 190	< 120	< 110	< 99	< 1.5	< 2.2	< 2.0	< 2.0	< 1.7	< 1.6 J	< 320	< 320
	1,2,4-Trichlorobenzene	NS	NS	µg/kg	< 2.1	< 190	< 120	< 110	< 99	< 1.5	< 2.2	< 2.0	< 2.0	< 1.7	< 1.6 J	< 320	< 320
	1,2-Dibromo-3-chloropropane	NS	NS	µg/kg	< 3.2	< 280	< 180	< 160	< 150	< 2.3	< 3.3	< 3.0	< 3.0	< 2.5	< 2.4	< 480	< 480
	1,2-Dichlorobenzene	1,000,000	1,100	µg/kg	< 2.1	< 190	< 120	< 110	< 99	< 1.5	< 2.2	< 2.0	< 2.0	< 1.7	< 1.6	< 320	< 320
	1,2-Dichloroethane	60,000	20	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	1,2-Dichloropropane	NS	NS	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	1,3-Dichlorobenzene	560,000	2,400	µg/kg	< 2.1	< 190	< 120	< 110	< 99	< 1.5	< 2.2	< 2.0	< 2.0	< 1.7	< 1.6	< 320	< 320
	1,4-Dichlorobenzene	250,000	1,800	µg/kg	< 2.1	< 190	< 120	< 110	< 99	< 1.5	< 2.2	< 2.0	< 2.0	< 1.7	< 1.6	< 320	< 320
	1,4-Dioxane	250,000	100	µg/kg	< 85	< 7,500	< 4,800	< 4,400	< 4,000	< 60	< 88	< 81	< 80	< 67	< 64	< 13,000	< 13,000
	2-Butanone (Methyl ethyl ketone)	1,000,000	120	µg/kg	< 11	< 930	< 600	< 550	< 500	< 7.5	< 11	< 10	< 10	< 8.4	< 8.0	< 1,600	< 1,600
	2-Hexanone	NS	NS	µg/kg	< 11	< 930	< 600	< 550	< 500	< 7.5	< 11	< 10	< 10	< 8.4	< 8.0	< 1,600	< 1,600
	4-Methyl-2-pentanone	NS	NS	µg/kg	< 11	< 930	< 600	< 550	< 500	< 7.5	< 11	< 10	< 10	< 8.4	< 8.0	< 1,600	< 1,600
	Acetone	1,000,000	**50**	µg/kg	< 11	< 930	< 600	< 550	< 500	< 7.5	< 11	< 10	< 10	< 8.4	< 8.0	< 1,600	< 1,600
	Benzene	89,000	60	µg/kg	0.23	< 47	< 30	< 27	< 25	< 0.38	< 0.55	< 0.50	< 0.50	< 0.42	< 0.40	**44,000**	**32,000**
	Bromodichloromethane	NS	NS	µg/kg	< 0.53	< 47	< 30	< 27	< 25	< 0.38	< 0.55	< 0.50	< 0.50	< 0.42	< 0.40	< 80	< 81
	Bromoform	NS	NS	µg/kg	< 4.2	< 370	< 240	< 220	< 200	< 3.0	< 4.4	< 4.0	< 4.0	< 3.4	< 3.2	< 640	< 640
	Bromomethane	NS	NS	µg/kg	< 2.1 J	< 190 J	< 120 J	< 110 J	< 99 J	< 1.5 J	< 2.2 J	< 2.0 J	< 2.0 J	< 1.7	< 1.6	< 320	< 320
	Carbon disulfide	NS	NS	µg/kg	< 11 J	< 930 J	< 600 J	< 550 J	< 500 J	< 7.5 J	< 11 J	< 10	< 10	< 8.4	< 8.0	< 1,600	< 1,600
	Carbon tetrachloride	44,000	760	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	Chlorobenzene	1,000,000	1,100	µg/kg	< 0.53	< 47	< 30	< 27	< 25	< 0.38	< 0.55	< 0.50	< 0.50	< 0.42	< 0.40	< 80	< 81
	Chlorobromomethane	NS	NS	µg/kg	< 2.1 J	< 190 J	< 120 J	< 110 J	< 99 J	< 1.5 J	< 2.2 J	< 2.0 J	< 2.0 J	< 1.7	< 1.6	< 320	< 320
	Chloroethane	NS	NS	µg/kg	< 2.1 J	< 190 J	< 120 J	< 110 J	< 99 J	< 1.5 J	< 2.2 J	< 2.0 J	< 2.0 J	< 1.7 J	< 1.6 J	< 320	< 320
	Chloroform	700,000	370	µg/kg	< 1.6	< 140	< 90	< 82	< 75	< 1.1	< 1.6	< 1.5	< 1.5	< 1.3	< 1.2	< 240	< 240
	Chloromethane	NS	NS	µg/kg	< 4.2 J	< 370 J	< 240 J	< 220 J	< 200 J	< 3.0 J	< 4.4 J	< 4.0	< 4.0	< 3.4 J	< 3.2 J	< 640	< 640
	cis-1,2-Dichloroethene	1,000,000	250	µg/kg	10	**370 J**	110 J	< 55	180	< 0.75	0.42	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	cis-1,3-Dichloropropene	NS	NS	µg/kg	< 0.53	< 47	< 30	< 27	< 25	< 0.38	< 0.55	< 0.50	< 0.50	< 0.42	< 0.40	< 80	< 81
	Cyclohexane	NS	NS	µg/kg	< 11	< 930	< 600	< 550	< 500	< 7.5	< 11	< 10	< 10	< 8.4	< 8.0	660 J	630 J
	Dibromochloromethane	NS	NS	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	Dichlorodifluoromethane (Freon 12)	NS	NS	µg/kg	< 11 J	< 930 J	< 600 J	< 550 J	< 500 J	< 7.5 J	< 11 J	< 10	< 10	< 8.4 J	< 8.0 J	< 1,600	< 1,600
	Ethylbenzene	780,000	1,000	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	**81,000**	**67,000**
	Ethylene dibromide	NS	NS	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	Isopropylbenzene (Cumene)	NS	NS	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	3,500	3,000
	m,p-Xylenes	1,000,000	1,600	µg/kg	< 2.1	< 190	< 120	< 110	< 99	< 1.5	< 2.2	< 2.0	< 2.0	< 1.7	< 1.6	**110,000**	**95,000**
	Methyl acetate	NS	NS	µg/kg	< 4.2	< 370	< 240	< 220	< 200	< 3.0	< 4.4	< 4.0	< 4.0	< 3.4	< 3.2	< 640	< 640
	Methyl tert-butyl ether	1,000,000	930	µg/kg	< 2.1	< 190	< 120	< 110	< 99	< 1.5	< 2.2	< 2.0	< 2.0	< 1.7	< 1.6	< 320	< 320
	Methylcyclohexane	NS	NS	µg/kg	< 4.2	< 370	< 240	< 220	< 200	< 3.0	< 4.4	< 4.0	< 4.0	< 3.4	< 3.2	4,400	4,200
	Methylene chloride	1,000,000	**50**	µg/kg	< 5.3	< 470	< 300	< 270	< 250	< 3.8	< 5.5	< 5.0	< 5.0	< 4.2	< 4.0	< 800	< 810
	o-Xylene	1,000,000	1,600	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	**48,000**	**42,000**
	Styrene	NS	NS	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0 J	< 1.0 J	< 0.84	< 0.80	25,000	19,000
	Tetrachloroethene	300,000	1,300	µg/kg	63	910	560	240 J	710	< 0.38	4.8	< 0.50	< 0.50	0.45	0.18	< 80	< 81
	Toluene	1,000,000	700	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	**85,000**	**78,000**
	trans-1,2-Dichloroethene	1,000,000	190	µg/kg	0.19 J	< 140 J	< 90 J	< 82 J	< 75 J	< 1.1 J	< 1.6 J	< 1.5	< 1.5	< 1.3	< 1.2	< 240	< 240
	trans-1,3-Dichloropropene	NS	NS	µg/kg	< 1.1	< 93	< 60	< 55	< 50	< 0.75	< 1.1	< 1.0	< 1.0	< 0.84	< 0.80	< 160	< 160
	Trichloroethene	400,000	**470**	µg/kg	250	**10,000 J**	**3,500 J**	45 J	**2,800**	< 0.38	5.8	< 0.50	< 0.50	0.25	0.11	< 80	< 81
	Trichlorofluoromethane (Freon 11)	NS	NS	µg/kg	< 4.2 J	< 370 J	< 240 J	< 220 J	< 200 J	< 3.0 J	< 4.4 J	< 4.0	< 4.0	< 3.4	< 3.2	< 640	< 640
	Vinyl chloride	27,000	20	µg/kg	< 1.1 J	< 93 J	< 60 J	< 55 J	< 50 J	< 0.75 J	< 1.1 J	< 1.0	< 1.0	< 0.84 J	< 0.80 J	< 160	< 160

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-21	G-B-21	G-B-21	G-B-22	G-B-22	G-B-23	G-B-23	G-B-24	G-B-24	G-B-25	G-B-25	G-MW-05	G-MW-05
				Sample Date	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/10/2022	8/10/2022	8/11/2022	8/11/2022	3/17/2021	3/17/2021
				Sample Type	N	N	FD	N	N	N	N	N	N	N	N	N	FD
				Depth	7 - 8 ft	15 - 16 ft	15 - 16 ft	12 - 13 ft	23 - 24 ft	8 - 9 ft	27 - 28 ft	12 - 13 ft	23 - 24 ft	12 - 13 ft	20 - 21 ft	7 - 8 ft	7 - 8 ft
				Unit													
SVOCs	1,2,4,5-Tetrachlorobenzene	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2,2'-Oxybis(1-chloropropane)	NS	NS	µg/kg	< 220	< 240	< 230	< 220	< 210	< 210	< 230	< 200	< 230	< 210	< 220	< 24,000	< 23,000
	2,3,4,6-Tetrachlorophenol	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2,4,5-Trichlorophenol	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170 J	< 190 J	< 180	< 180	< 20,000	< 19,000
	2,4,6-Trichlorophenol	NS	NS	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	< 100	< 120	< 100	< 110	< 12,000	< 11,000
	2,4-Dichlorophenol	NS	NS	µg/kg	< 170	< 180	< 170	< 170	< 160	< 160	< 170	< 150	< 170	< 160	< 160	< 18,000	< 17,000
	2,4-Dimethylphenol	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2,4-Dinitrophenol	NS	NS	µg/kg	< 890	< 970	< 920	< 890	< 830	< 850	< 920	< 810	< 920	< 840	R	< 94,000	< 91,000
	2,4-Dinitrotoluene	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2,6-Dinitrotoluene	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2-Chloronaphthalene	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2-Chlorophenol	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2-Methylnaphthalene	NS	NS	µg/kg	< 220	< 240	< 230	65	< 210	< 210	< 230	< 200	< 230	< 210	< 220	360,000	470,000
	2-Nitroaniline	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	2-Nitrophenol	NS	NS	µg/kg	< 400	< 440	< 410	< 400	< 370	< 380	< 420	< 360 J	< 420 J	< 380	< 390	< 42,000	< 41,000
	3,3'-Dichlorobenzidine	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	3-Nitroaniline	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	4-Bromophenyl phenyl ether	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	4-Chloro-3-methylphenol	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	4-Chlorophenyl phenyl ether	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	4-Nitrophenol	NS	NS	µg/kg	< 260	< 280	< 270	< 260	< 240	< 250	< 270	< 240	< 270	< 250	< 250	< 27,000	< 27,000
	Acenaphthene	1,000,000	**98,000**	µg/kg	< 150	< 160	< 150	< 150	< 140	< 140	< 150	17	< 150	< 140	< 140	77,000	**110,000**
	Acenaphthylene	1,000,000	**107,000**	µg/kg	< 150	< 160	< 150	< 150	< 140	< 140	< 150	< 130	< 150	< 140	< 140	**200,000**	**250,000**
	Acetophenone	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Anthracene	1,000,000	1,000,000	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	54	< 120	< 100	< 110	120,000	160,000
	Atrazine	NS	NS	µg/kg	< 150	< 160	< 150	< 150	< 140	< 140	< 150	< 130	< 150	< 140	< 140	< 16,000	< 15,000
	Benzaldehyde	NS	NS	µg/kg	< 240	< 270	< 250	< 240	< 230	< 230	< 250	< 220	< 250	< 230	< 240	< 26,000	< 25,000
	Benzo(a)anthracene	**11,000**	**1,000**	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	230	< 120	< 100	< 110	**88,000**	**110,000**
	Benzo(a)pyrene	**1,100**	**22,000**	µg/kg	< 150	< 160	< 150	< 150	< 140	< 140	< 150	230	< 150	< 140	< 140	**72,000**	**92,000**
	Benzo(b)fluoranthene	**11,000**	**1,700**	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	270	< 120	< 100	< 110	**66,000**	**86,000**
	Benzo(g,h,i)perylene	1,000,000	1,000,000	µg/kg	< 150	< 160	< 150	< 150	< 140	< 140	< 150	150	< 150	< 140	< 140	32,000	42,000
	Benzo(k)fluoranthene	110,000	**1,700**	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	94	< 120	< 100	< 110	**27,000**	**33,000**
	Benzyl butyl phthalate	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Biphenyl	NS	NS	µg/kg	< 420	< 460	< 440	< 420	< 400	< 400	< 440	< 380	< 440	< 400	< 410	57,000	75,000
	Bis(2-chloroethoxy)methane	NS	NS	µg/kg	< 200	< 220	< 210	< 200	< 190	< 190	< 210	< 180	< 210	< 190	< 190	< 21,000	< 20,000
	Bis(2-ethylhexyl)phthalate	NS	NS	µg/kg	< 180	< 200	< 190	230	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Caprolactam	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Carbazole	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	36	< 190	< 180	< 180	21,000	26,000
	Chrysene	110,000	**1,000**	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	210	< 120	< 100	< 110	**73,000**	**96,000**
	Dibenzo(a,h)anthracene	**1,100**	1,000,000	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	33	< 120	< 100	< 110	**7,400 J**	**10,000 J**
	Dibenzofuran	1,000,000	210,000	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	16	< 190	< 180	< 180	46,000	60,000
	Dibutyl phthalate	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Dichloroethyl ether	NS	NS	µg/kg	< 170	< 180	< 170	< 170	< 160	< 160	< 170	< 150	< 170	< 160	< 160	< 18,000	< 17,000
	Diethyl phthalate	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Dimethyl phthalate	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Dinitro-o-cresol	NS	NS	µg/kg	< 480	< 520	< 500	< 480	< 450	< 460	< 500	< 440	< 500	< 460	< 470	< 51,000	< 50,000
	Di-n-octyl phthalate	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Fluoranthene	1,000,000	1,000,000	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	460	< 120	< 100	< 110	190,000	240,000
	Fluorene	1,000,000	386,000	µg/kg	< 180	< 200	< 190	20	< 170	< 180	< 190	< 170	< 190	< 180	< 180	140,000	180,000
	Hexachlorobenzene	12,000	3,200	µg/kg	< 110	< 120	< 110	< 110	< 100	< 110	< 120	< 100	< 120	< 100	< 110	< 12,000	< 11,000
	Hexachlorobutadiene	NS	NS	µg/kg	< 180	< 200	< 190	< 180	< 170	< 180	< 190	< 170	< 190	< 180	< 180	< 20,000	< 19,000
	Hexachlorocyclopentadiene	NS	NS	µg/kg	< 530 J	< 580 J	< 550 J	< 530 J	< 500 J	< 510 J	< 550 J	< 480 J	< 550 J	< 500	< 510 J	< 56,000	< 54,000
	Hexachloroethane	NS	NS	µg/kg	< 150	< 160	< 150	< 150	< 140	< 140	< 150	< 130	< 150	< 140	< 140	< 16,000	< 15,000
	Indeno(1,2,3-cd)pyrene	**11,000**	**8,200**	µg/kg	< 150	< 160	< 150	< 150	< 140	< 140	< 150	130	< 150	< 140	< 140	**34,000**	**44,000**
	Isophorone	NS	NS	µg/kg	< 170	< 180	< 170	< 170	< 160	< 160	< 170	< 150	< 170	< 160	< 160	< 18,000	< 17,000
	m,p-cresol	1,000,000	**330**	µg/kg	< 270	< 290	< 280	< 260	< 250	< 260	< 280	< 240	< 280	< 250	< 260	< 28,000	**3,800 J**
	Naphthalene	**1,000,000**	**12,000**	µg/kg	< 180	< 200	< 190	28	< 170	< 180	< 190	< 170	< 190	< 180	< 180	**970,000**	**1,200,000**

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-B-21	G-B-21	G-B-21	G-B-22	G-B-22	G-B-23	G-B-23	G-B-24	G-B-24	G-B-25	G-B-25	G-MW-05	G-MW-05
				Sample Date	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/9/2022	8/10/2022	8/10/2022	8/11/2022	8/11/2022	3/17/2021	3/17/2021
				Sample Type	N	N	FD	N	N	N	N	N	N	N	N	N	FD
				Depth	7 - 8 ft	15 - 16 ft	15 - 16 ft	12 - 13 ft	23 - 24 ft	8 - 9 ft	27 - 28 ft	12 - 13 ft	23 - 24 ft	12 - 13 ft	20 - 21 ft	7 - 8 ft	7 - 8 ft
				Unit													
SVOCs	Nitrobenzene	NS	NS	µg/kg	*< 170*	*< 180*	*< 170*	*< 170*	*< 160*	*< 160*	*< 170*	*< 150*	*< 170*	*< 160*	*< 160*	*< 18,000*	*< 17,000*
	n-Nitrosodi-n-propylamine	NS	NS	µg/kg	*< 180*	*< 200*	*< 190*	*< 180*	*< 170*	*< 180*	*< 190*	*< 170*	*< 190*	*< 180*	*< 180*	*< 20,000*	*< 19,000*
	n-Nitrosodiphenylamine	NS	NS	µg/kg	*< 150*	*< 160*	*< 150*	*< 150*	*< 140*	*< 140*	*< 150*	*< 130*	*< 150*	*< 140*	*< 140*	*< 16,000*	*< 15,000*
	o-Cresol	1,000,000	330	µg/kg	*< 180*	*< 200*	*< 190*	*< 180*	*< 170*	*< 180*	*< 190*	*< 170*	*< 190*	*< 180*	*< 180*	*< 20,000*	*< 19,000*
	p-Chloroaniline	NS	NS	µg/kg	*< 180*	*< 200*	*< 190*	*< 180*	*< 170*	*< 180*	*< 190*	*< 170*	*< 190*	*< 180*	*< 180*	*< 20,000*	*< 19,000*
	Pentachlorophenol	55,000	800	µg/kg	*< 150*	*< 160*	*< 150*	*< 150*	*< 140*	*< 140*	*< 150*	*< 130*	*< 150*	*< 140*	*< 140*	*< 16,000*	*< 15,000*
	Phenanthrene	1,000,000	1,000,000	µg/kg	*< 110*	*< 120*	*< 110*	40	*< 100*	*< 110*	*< 120*	290	*< 120*	*< 100*	*< 110*	450,000	580,000
	Phenol	1,000,000	**330**	µg/kg	*< 180*	*< 200*	*< 190*	*< 180*	*< 170*	*< 180*	*< 190*	*< 170*	*< 190*	*< 180*	*< 180*	*< 20,000*	*< 19,000*
	p-Nitroaniline	NS	NS	µg/kg	*< 180*	*< 200*	*< 190*	*< 180*	*< 170*	*< 180*	*< 190*	*< 170*	*< 190*	*< 180*	*< 180*	*< 20,000*	*< 19,000*
	Pyrene	1,000,000	1,000,000	µg/kg	*< 110*	*< 120*	*< 110*	18	*< 100*	*< 110*	*< 120*	410	20	*< 100*	*< 110*	210,000	270,000
1,4-Dioxane	1,4-Dioxane	250,000	100	µg/kg	--	--	--	--	--	--	--	--	--	--	--	*< 185*	*< 173*
Metals	Aluminum	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	3,410	4,170
	Antimony	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.490 J	*< 4.52*
	Arsenic	**16**	**16**	mg/kg	--	--	--	--	--	--	--	--	--	--	--	11.6 J	**22.6 J**
	Barium	10,000	820	mg/kg	--	--	--	--	--	--	--	--	--	--	--	46.1 J	88.0 J
	Beryllium	2,700	47	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.196 J	0.298 J
	Cadmium	60	7.5	mg/kg	--	--	--	--	--	--	--	--	--	--	--	0.713 J	0.624 J
	Calcium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	35,500	41,300
	Chromium	6,800	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	5.90	7.55
	Cobalt	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	3.62	3.78
	Copper	10,000	1,720	mg/kg	--	--	--	--	--	--	--	--	--	--	--	14.9 J	27.2 J
	Iron	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	15,400	12,400
	Lead	3,900	450	mg/kg	--	--	--	--	--	--	--	--	--	--	--	41.4 J	71.6 J
	Magnesium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	7,860	9,440
	Manganese	10,000	2,000	mg/kg	--	--	--	--	--	--	--	--	--	--	--	371	374
	Mercury	5.7	**0.73**	mg/kg	--	--	--	--	--	--	--	--	--	--	--	**0.743**	**1.07**
	Nickel	10,000	130	mg/kg	--	--	--	--	--	--	--	--	--	--	--	8.05	9.41
	Potassium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	407	421
	Selenium	6,800	4	mg/kg	--	--	--	--	--	--	--	--	--	--	--	*< 1.78*	0.642 J
	Silver	6,800	8.3	mg/kg	--	--	--	--	--	--	--	--	--	--	--	*< 0.891*	0.732 J
	Sodium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	656	591
	Thallium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	1.09 J	0.777 J
	Vanadium	NS	NS	mg/kg	--	--	--	--	--	--	--	--	--	--	--	11.1	16.6
	Zinc	10,000	2,480	mg/kg	--	--	--	--	--	--	--	--	--	--	--	114	158
PCBs	Aroclor 1016	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1221	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1232	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1242	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1248	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1254	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1260	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1262	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	Aroclor 1268	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCBs, Total	25,000	3,200	µg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--
General Chemistry	pH, Lab	NS	NS	pH units	--	--	--	--	--	--	--	--	--	--	--	8.0	8.0
	Organic Carbon, Total	NS	NS	%	--	--	--	--	--	--	--	--	--	--	--	4.79	7.99
	Solids, Total	NS	NS	%	88.6	81.9	84.4	89.1	93.2	92.6	85.6	96.9	85.1	92.3	92.2	84.4	87.0

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL).
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-MW-06	G-MW-07	G-MW-08	G-MW-09	G-MW-10	G-MW-10	G-MW-10	G-MW-11	G-MW-11	G-MW-11	G-MW-12	G-MW-12	G-MW-12
				Sample Date	3/17/2021	3/16/2021	3/16/2021	3/15/2021	3/10/2021	3/10/2021	3/16/2021	3/11/2021	3/11/2021	3/16/2021	3/11/2021	3/11/2021	3/11/2021
				Sample Type	N	N	N	N	N	N	N	N	N	N	N	FD	N
				Depth	7 - 8 ft	35 - 36 ft	7 - 8 ft	15 - 16 ft	0 - 0.2 ft	0.2 - 1 ft	6 - 7 ft	0 - 0.1 ft	0.1 - 1 ft	5 - 6 ft	0 - 0.1 ft	0 - 0.1 ft	0.1 - 1 ft
				Unit													
VOCs	1,1,1-Trichloroethane	1,000,000	680	µg/kg	< 0.47	< 0.54	< 0.48	0.22 J	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	1,1,2,2-Tetrachloroethane	NS	NS	µg/kg	< 0.47	< 0.54	< 0.48	< 0.48	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NS	NS	µg/kg	< 3.8	< 4.3	< 3.8	< 3.9	< 5.3	< 4.9	< 4.3	< 16	< 4.0	< 4.5	< 5.8	< 6.2	< 4.8
	1,1,2-Trichloroethane	NS	NS	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	1,1-Dichloroethane	480,000	270	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	1,1-Dichloroethene	1,000,000	330	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	1,2,3-Trichlorobenzene	NS	NS	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2 J	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	1,2,4-Trichlorobenzene	NS	NS	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2 J	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	1,2-Dibromo-3-chloropropane	NS	NS	µg/kg	< 2.8	< 3.2	< 2.9	< 2.9	< 4.0	< 3.6	< 3.2	< 12	< 3.0	< 3.4	< 4.4	< 4.6	< 3.6
	1,2-Dichlorobenzene	1,000,000	1,100	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	1,2-Dichloroethane	60,000	20	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	1,2-Dichloropropane	NS	NS	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	1,3-Dichlorobenzene	560,000	2,400	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	1,4-Dichlorobenzene	250,000	1,800	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	1,4-Dioxane	250,000	100	µg/kg	< 75	< 86	< 77	< 77	< 100	< 97	< 86	< 320	< 81	< 90	< 120	< 120	< 97
	2-Butanone (Methyl ethyl ketone)	1,000,000	120	µg/kg	< 9.4	< 11	< 9.6	< 9.7	< 13	< 12	< 11	< 40	< 10	< 11	< 14	< 15	< 12
	2-Hexanone	NS	NS	µg/kg	< 9.4	< 11	< 9.6	< 9.7	< 13	< 12	< 11	< 40	< 10	< 11	< 14	< 15	< 12
	4-Methyl-2-pentanone	NS	NS	µg/kg	< 9.4	< 11	< 9.6	< 9.7	< 13	< 12	< 11	< 40	< 10	< 11	< 14	< 15	< 12
	Acetone	1,000,000	**50**	µg/kg	38	< 11	< 9.6	< 9.7	< 13	< 12	< 12	< 40	< 10	< 11	< 14	< 15	< 12
	Benzene	89,000	60	µg/kg	0.29 J	< 0.54	< 0.48	2.8	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	Bromodichloromethane	NS	NS	µg/kg	< 0.47	< 0.54	< 0.48	< 0.48	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	Bromoform	NS	NS	µg/kg	< 3.8	< 4.3	< 3.8	< 3.9	< 5.3	< 4.9	< 4.3	< 16	< 4.0	< 4.5	< 5.8	< 6.2	< 4.8
	Bromomethane	NS	NS	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	Carbon disulfide	NS	NS	µg/kg	< 9.4	< 11	< 9.6	< 9.7	< 13	< 12	< 11	< 40	< 10	< 11	< 14	< 15	< 12
	Carbon tetrachloride	44,000	760	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	Chlorobenzene	1,000,000	1,100	µg/kg	< 0.47	< 0.54	< 0.48	< 0.48	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	Chlorobromomethane	NS	NS	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	Chloroethane	NS	NS	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	Chloroform	700,000	370	µg/kg	< 1.4	< 1.6	< 1.4	< 1.4	< 2.0	< 1.8	< 1.6	< 6.0	< 1.5	< 1.7	< 2.2	< 2.3	< 1.8
	Chloromethane	NS	NS	µg/kg	< 3.8	< 4.3	< 3.8	< 3.9	< 5.3	< 4.9	< 4.3	< 16	< 4.0	< 4.5	< 5.8	< 6.2	< 4.8
	cis-1,2-Dichloroethene	1,000,000	250	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	cis-1,3-Dichloropropene	NS	NS	µg/kg	< 0.47	< 0.54	< 0.48	< 0.48	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	Cyclohexane	NS	NS	µg/kg	< 9.4	< 11	0.67 J	13	< 13	< 12	< 11	< 40	< 10	< 11	< 14	< 15	< 12
	Dibromochloromethane	NS	NS	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	Dichlorodifluoromethane (Freon 12)	NS	NS	µg/kg	< 9.4	< 11	< 9.6	< 9.7	< 13	< 12	< 11	< 40	< 10	< 11	< 14	< 15	< 12
	Ethylbenzene	780,000	1,000	µg/kg	< 0.94	< 1.1	< 0.96	0.91 J	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	Ethylene dibromide	NS	NS	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	Isopropylbenzene (Cumene)	NS	NS	µg/kg	< 0.94	< 1.1	< 0.96	0.32 J	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	m,p-Xylenes	1,000,000	1,600	µg/kg	< 1.9	< 2.2	< 1.9	8.6	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	Methyl acetate	NS	NS	µg/kg	< 3.8	< 4.3	< 3.8	< 3.9	< 5.3	< 4.9	< 4.3	< 16	< 4.0	< 4.5	< 5.8	< 6.2	< 4.8
	Methyl tert-butyl ether	1,000,000	930	µg/kg	< 1.9	< 2.2	< 1.9	< 1.9	< 2.6	< 2.4	< 2.2	< 8.1	< 2.0	< 2.2	< 2.9	< 3.1	< 2.4
	Methylcyclohexane	NS	NS	µg/kg	< 3.8	0.66 J	1.3 J	19	< 5.3	< 4.9	< 4.3	< 16	< 4.0	< 4.5	< 5.8	< 6.2	< 4.8
	Methylene chloride	1,000,000	**50**	µg/kg	< 4.7	< 5.4	< 4.8	< 4.8	< 6.6	< 6.1	< 5.4	< 20	< 5.0	< 5.6	< 7.3	< 7.7	< 6.0
	o-Xylene	1,000,000	1,600	µg/kg	< 0.94	< 1.1	< 0.96	2.6	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	Styrene	NS	NS	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	Tetrachloroethene	300,000	1,300	µg/kg	< 0.47	< 0.54	< 0.48	0.85	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	Toluene	1,000,000	700	µg/kg	< 0.94	< 1.1	0.58 J	14	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	trans-1,2-Dichloroethene	1,000,000	190	µg/kg	< 1.4	< 1.6	< 1.4	< 1.4	< 2.0	< 1.8	< 1.6	< 6.0	< 1.5	< 1.7	< 2.2	< 2.3	< 1.8
	trans-1,3-Dichloropropene	NS	NS	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2
	Trichloroethene	400,000	**470**	µg/kg	< 0.47	0.59	25	7.6	< 0.66	< 0.61	< 0.54	< 2.0	< 0.50	< 0.56	< 0.73	< 0.77	< 0.60
	Trichlorofluoromethane (Freon 11)	NS	NS	µg/kg	< 3.8	< 4.3	< 3.8	< 3.9	< 5.3	< 4.9	< 4.3	< 16	< 4.0	< 4.5	< 5.8	< 6.2	< 4.8
	Vinyl chloride	27,000	20	µg/kg	< 0.94	< 1.1	< 0.96	< 0.97	< 1.3	< 1.2	< 1.1	< 4.0	< 1.0	< 1.1	< 1.4	< 1.5	< 1.2

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-MW-06	G-MW-07	G-MW-08	G-MW-09	G-MW-10	G-MW-10	G-MW-10	G-MW-11	G-MW-11	G-MW-11	G-MW-12	G-MW-12	G-MW-12
				Sample Date	3/17/2021	3/16/2021	3/16/2021	3/15/2021	3/10/2021	3/10/2021	3/16/2021	3/11/2021	3/11/2021	3/16/2021	3/11/2021	3/11/2021	3/11/2021
				Sample Type	N	N	N	N	N	N	N	N	N	N	N	FD	N
				Depth	7 - 8 ft	35 - 36 ft	7 - 8 ft	15 - 16 ft	0 - 0.2 ft	0.2 - 1 ft	6 - 7 ft	0 - 0.1 ft	0.1 - 1 ft	5 - 6 ft	0 - 0.1 ft	0 - 0.1 ft	0.1 - 1 ft
				Unit													
SVOCs	1,2,4,5-Tetrachlorobenzene	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2,2'-Oxybis(1-chloropropane)	NS	NS	µg/kg	< 230	< 220	--	--	--	--	--	< 1,400	< 240	--	< 290	< 290	< 260
	2,3,4,6-Tetrachlorophenol	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2,4,5-Trichlorophenol	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2,4,6-Trichlorophenol	NS	NS	µg/kg	< 110	< 110	--	--	--	--	--	< 690	< 120	--	< 140	< 150	< 130
	2,4-Dichlorophenol	NS	NS	µg/kg	< 170	< 170	--	--	--	--	--	< 1,000	< 180	--	< 220	< 220	< 190
	2,4-Dimethylphenol	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2,4-Dinitrophenol	NS	NS	µg/kg	< 910	< 890	--	--	--	--	--	< 5,500	< 950	--	< 1,200	< 1,200	< 1,000
	2,4-Dinitrotoluene	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2,6-Dinitrotoluene	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2-Chloronaphthalene	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2-Chlorophenol	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2-Methylnaphthalene	NS	NS	µg/kg	< 230	< 220	--	--	--	--	--	< 1,400	< 240	--	< 290	< 290	< 260
	2-Nitroaniline	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	2-Nitrophenol	NS	NS	µg/kg	< 410	< 400	--	--	--	--	--	< 2,500	< 430	--	< 520	< 530	< 460
	3,3'-Dichlorobenzidine	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	3-Nitroaniline	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	4-Bromophenyl phenyl ether	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	4-Chloro-3-methylphenol	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	4-Chlorophenyl phenyl ether	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	4-Nitrophenol	NS	NS	µg/kg	< 260	< 260	--	--	--	--	--	< 1,600	< 280	--	< 340	< 340	< 300
	Acenaphthene	1,000,000	**98,000**	µg/kg	< 150	< 150	--	--	--	--	--	< 920	33 J	--	< 190	< 200	< 170
	Acenaphthylene	1,000,000	**107,000**	µg/kg	< 150	< 150	--	--	--	--	--	< 920	110 J	--	100 J	110 J	120 J
	Acetophenone	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Anthracene	1,000,000	1,000,000	µg/kg	< 110	< 110	--	--	--	--	--	< 690	130	--	64 J	77 J	72 J
	Atrazine	NS	NS	µg/kg	< 150	< 150	--	--	--	--	--	< 920	< 160	--	< 190	< 200	< 170
	Benzaldehyde	NS	NS	µg/kg	< 250	< 240	--	--	--	--	--	< 1,500	< 260	--	< 320	< 320	< 280
	Benzo(a)anthracene	**11,000**	**1,000**	µg/kg	38 J	< 110	--	--	--	--	--	200 J	350	--	400	470	520
	Benzo(a)pyrene	**1,100**	**22,000**	µg/kg	< 150	< 150	--	--	--	--	--	< 920	340	--	390	460	460
	Benzo(b)fluoranthene	**11,000**	**1,700**	µg/kg	< 110	< 110	--	--	--	--	--	220 J	380	--	480	570	570
	Benzo(g,h,i)perylene	1,000,000	1,000,000	µg/kg	< 150	< 150	--	--	--	--	--	130 J	220	--	220	250	250
	Benzo(k)fluoranthene	110,000	**1,700**	µg/kg	< 110	< 110	--	--	--	--	--	< 690	150	--	210	220	260
	Benzyl butyl phthalate	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Biphenyl	NS	NS	µg/kg	< 430	< 420	--	--	--	--	--	< 2,600	< 450	--	< 550	< 560	< 490
	Bis(2-chloroethoxy)methane	NS	NS	µg/kg	< 200	< 200	--	--	--	--	--	< 1,200	< 210	--	< 260	< 260	< 230
	Bis(2-ethylhexyl)phthalate	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Caprolactam	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Carbazole	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	33 J	--	36 J	36 J	33 J
	Chrysene	110,000	**1,000**	µg/kg	29 J	< 110	--	--	--	--	--	190 J	340	--	330	420	410
	Dibenzo(a,h)anthracene	**1,100**	1,000,000	µg/kg	< 110	< 110	--	--	--	--	--	< 690	44 J	--	53 J	69 J	69 J
	Dibenzofuran	1,000,000	210,000	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	27 J	--	< 240	< 240	< 210
	Dibutyl phthalate	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Dichloroethyl ether	NS	NS	µg/kg	< 170	< 170	--	--	--	--	--	< 1,000	< 180	--	< 220	< 220	< 190
	Diethyl phthalate	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Dimethyl phthalate	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Dinitro-o-cresol	NS	NS	µg/kg	< 490	< 480	--	--	--	--	--	< 3,000	< 510	--	< 620	< 640	< 560
	Di-n-octyl phthalate	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Fluoranthene	1,000,000	1,000,000	µg/kg	54 J	< 110	--	--	--	--	--	300 J	570	--	500	620	610
	Fluorene	1,000,000	386,000	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	48 J	--	< 240	< 240	< 210
	Hexachlorobenzene	12,000	3,200	µg/kg	< 110	< 110	--	--	--	--	--	< 690	< 120	--	< 140	< 150	< 130
	Hexachlorobutadiene	NS	NS	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	< 200	--	< 240	< 240	< 210
	Hexachlorocyclopentadiene	NS	NS	µg/kg	< 540	< 530	--	--	--	--	--	< 3,300	< 560	--	< 690	< 700	< 610
	Hexachloroethane	NS	NS	µg/kg	< 150	< 150	--	--	--	--	--	< 920	< 160	--	< 190	< 200	< 170
	Indeno(1,2,3-cd)pyrene	**11,000**	**8,200**	µg/kg	< 150	< 150	--	--	--	--	--	< 920	210	--	240	280	300
	Isophorone	NS	NS	µg/kg	< 170	< 170	--	--	--	--	--	< 1,000	< 180	--	< 220	< 220	< 190
	m,p-cresol	1,000,000	**330**	µg/kg	< 270	< 260	--	--	--	--	--	200 J	< 280	--	< 350	< 350	< 310
	Naphthalene	**1,000,000**	**12,000**	µg/kg	< 190	< 180	--	--	--	--	--	< 1,100	35 J	--	59 J	63 J	54 J

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-MW-06	G-MW-07	G-MW-08	G-MW-09	G-MW-10	G-MW-10	G-MW-10	G-MW-11	G-MW-11	G-MW-11	G-MW-12	G-MW-12	G-MW-12
				Sample Date	3/17/2021	3/16/2021	3/16/2021	3/15/2021	3/10/2021	3/10/2021	3/16/2021	3/11/2021	3/11/2021	3/16/2021	3/11/2021	3/11/2021	3/11/2021
				Sample Type	N	N	N	N	N	N	N	N	N	N	N	FD	N
				Depth	7 - 8 ft	35 - 36 ft	7 - 8 ft	15 - 16 ft	0 - 0.2 ft	0.2 - 1 ft	6 - 7 ft	0 - 0.1 ft	0.1 - 1 ft	5 - 6 ft	0 - 0.1 ft	0 - 0.1 ft	0.1 - 1 ft
				Unit													
SVOCs	Nitrobenzene	NS	NS	µg/kg	*< 170*	*< 170*	--	--	--	--	--	*< 1,000*	*< 180*	--	*< 220*	*< 220*	*< 190*
	n-Nitrosodi-n-propylamine	NS	NS	µg/kg	*< 190*	*< 180*	--	--	--	--	--	*< 1,100*	*< 200*	--	*< 240*	*< 240*	*< 210*
	n-Nitrosodiphenylamine	NS	NS	µg/kg	*< 150*	*< 150*	--	--	--	--	--	*< 920*	*< 160*	--	*< 190*	*< 200*	*< 170*
	o-Cresol	1,000,000	330	µg/kg	*< 190*	*< 180*	--	--	--	--	--	*< 1,100*	*< 200*	--	*< 240*	*< 240*	*< 210*
	p-Chloroaniline	NS	NS	µg/kg	*< 190*	*< 180*	--	--	--	--	--	*< 1,100*	*< 200*	--	*< 240*	*< 240*	*< 210*
	Pentachlorophenol	55,000	800	µg/kg	*< 150*	*< 150*	--	--	--	--	--	*< 920*	*< 160*	--	*< 190*	*< 200*	*< 170*
	Phenanthrene	1,000,000	1,000,000	µg/kg	32 J	*< 110*	--	--	--	--	--	170 J	460	--	150	170	140
	Phenol	1,000,000	**330**	µg/kg	*< 190*	*< 180*	--	*< 180*	*< 220*	*< 200*	*< 180*	*< 1,100*	*< 200*	--	*< 240*	*< 240*	*< 210*
	p-Nitroaniline	NS	NS	µg/kg	*< 190*	*< 180*	--	--	--	--	--	*< 1,100*	*< 200*	--	*< 240*	*< 240*	*< 210*
	Pyrene	1,000,000	1,000,000	µg/kg	45 J	*< 110*	--	--	--	--	--	290 J	560	--	460	540	550
1,4-Dioxane	1,4-Dioxane	250,000	100	µg/kg	*< 8.72*	*< 8.58*	*< 7.95*	*< 8.41*	*< 9.70*	*< 8.80*	*< 8.51*	*< 18.8*	*< 9.19*	*< 8.49*	*< 11.3*	*< 11.8*	*< 9.41*
Metals	Aluminum	NS	NS	mg/kg	3,460	1,930	1,080	--	--	--	--	6,450	4,100	--	4,240	4,120	3,800
	Antimony	NS	NS	mg/kg	*< 4.46*	*< 4.28 J*	*< 4.06 J*	--	--	--	--	1.48 J	*< 4.57*	--	*< 5.56*	*< 5.59*	*< 5.10*
	Arsenic	**16**	**16**	mg/kg	4.23	2.49	2.55	--	--	--	--	5.94	4.86	--	4.77	5.05	4.32
	Barium	10,000	820	mg/kg	21.0	11.0	7.58	--	--	--	--	45.4	28.7	--	35.8	33.6	30.9
	Beryllium	2,700	47	mg/kg	0.125 J	0.086 J	0.106 J	--	--	--	--	0.284 J	0.192 J	--	0.211 J	0.201 J	0.184 J
	Cadmium	60	7.5	mg/kg	0.250 J	0.188 J	0.138 J	--	--	--	--	0.531 J	0.356 J	--	0.400 J	0.436 J	0.347 J
	Calcium	NS	NS	mg/kg	68,300	155,000 J	278,000 J	--	--	--	--	11,100	10,100	--	30,100	21,200	30,800
	Chromium	6,800	NS	mg/kg	6.00	4.73	3.49	--	--	--	--	10.4	6.61	--	7.39	7.25	6.47
	Cobalt	NS	NS	mg/kg	3.10	2.67	3.86	--	--	--	--	6.14	3.76	--	4.27	4.65	3.77
	Copper	10,000	1,720	mg/kg	10.2	6.90 J	5.89 J	--	--	--	--	16.8	10.5	--	21.9	17.6	13.4
	Iron	NS	NS	mg/kg	8,470	6,890	4,010	--	--	--	--	14,500	8,660	--	10,400	10,000	9,190
	Lead	3,900	450	mg/kg	13.0	3.27 J	1.85 J	--	--	--	--	19.8	17.7	--	16.5	18.1	14.5
	Magnesium	NS	NS	mg/kg	18,400	16,600	10,800	--	--	--	--	4,520	3,210	--	8,600	7,770	11,700
	Manganese	10,000	2,000	mg/kg	235	276	305	--	--	--	--	493	309	--	440	409	403
	Mercury	5.7	**0.73**	mg/kg	0.208	*< 0.080*	*< 0.070*	--	--	--	--	*< 0.166*	0.171 J	--	0.114 J	0.108 J	0.104 J
	Nickel	10,000	130	mg/kg	8.33	6.81	7.24	--	--	--	--	12.0	7.62	--	12.1	12.7	10.6
	Potassium	NS	NS	mg/kg	365	309	318	--	--	--	--	779	273	--	421	449	377
	Selenium	6,800	4	mg/kg	0.303 J	0.325 J	0.617 J	--	--	--	--	0.721 J	*< 1.83*	--	*< 2.22*	0.536 J	0.367 J
	Silver	6,800	8.3	mg/kg	*< 0.892*	*< 0.855*	*< 0.812*	--	--	--	--	*< 1.90*	*< 0.914*	--	*< 1.11*	*< 1.12*	*< 1.02*
	Sodium	NS	NS	mg/kg	782	*< 171*	352	--	--	--	--	112 J	32.8 J	--	61.8 J	52.9 J	59.1 J
	Thallium	NS	NS	mg/kg	0.348 J	0.445 J	*< 1.62*	--	--	--	--	*< 3.79*	*< 1.83*	--	*< 2.22*	*< 2.23*	*< 2.04*
	Vanadium	NS	NS	mg/kg	12.1	6.29 J	3.58 J	--	--	--	--	17.1	10.4	--	11.1	11.5	10.3
	Zinc	10,000	2,480	mg/kg	75.6	27.2 J	27.1 J	--	--	--	--	66.2	43.6	--	56.9	59.7	48.4
PCBs	Aroclor 1016	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1221	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1232	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1242	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1248	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1254	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1260	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1262	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	Aroclor 1268	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
	PCBs, Total	25,000	3,200	µg/kg	--	--	--	--	--	--	--	*< 211*	*< 37.6*	--	*< 124*	*< 47.2*	*< 110*
General Chemistry	pH, Lab	NS	NS	pH units	8.6	8.4	8.7	8.5	7.6	7.7	8.2	7.3	8.0	8.0	7.6	7.7	7.8
	Organic Carbon, Total	NS	NS	%	2.52	0.778	4.11	2.46	3.60	2.84	2.11 J	6.88	4.37	1.61	4.09	5.98	3.26
	Solids, Total	NS	NS	%	87.5	89.1	96.7	92.9	73.4	79.6	90.6	41.0	84.2	89.9	68.3	67.7	76.7

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL).
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-MW-12	G-SSO-01	G-SSO-01	G-SSO-01	G-SSO-02	G-SSO-02
				Sample Date	3/16/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021
				Sample Type	N	N	N	FD	N	N
				Depth	5 - 6 ft	0 - 0.1 ft	0.1 - 1 ft	0.1 - 1 ft	0 - 0.1 ft	0.1 - 1 ft
				Unit						
VOCs	1,1,1-Trichloroethane	1,000,000	680	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	1,1,2,2-Tetrachloroethane	NS	NS	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NS	NS	µg/kg	< 4.1	< 4.7	< 4.8 J	< 4.3	< 4.9	< 3.8
	1,1,2-Trichloroethane	NS	NS	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	1,1-Dichloroethane	480,000	270	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	1,1-Dichloroethene	1,000,000	330	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	1,2,3-Trichlorobenzene	NS	NS	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	1,2,4-Trichlorobenzene	NS	NS	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	1,2-Dibromo-3-chloropropane	NS	NS	µg/kg	< 3.1	< 3.5	< 3.6 J	< 3.2	< 3.6	< 2.9
	1,2-Dichlorobenzene	1,000,000	1,100	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	1,2-Dichloroethane	60,000	20	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	1,2-Dichloropropane	NS	NS	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	1,3-Dichlorobenzene	560,000	2,400	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	1,4-Dichlorobenzene	250,000	1,800	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	1,4-Dioxane	250,000	100	µg/kg	< 82	< 94	< 95 J	< 86	< 97	< 76
	2-Butanone (Methyl ethyl ketone)	1,000,000	120	µg/kg	< 10	< 12	< 12 J	< 11	< 12	< 9.6
	2-Hexanone	NS	NS	µg/kg	< 10	< 12	< 12 J	< 11	< 12	< 9.6
	4-Methyl-2-pentanone	NS	NS	µg/kg	< 10	< 12	< 12 J	< 11	< 12	< 9.6
	Acetone	1,000,000	**50**	µg/kg	< 10	< 12	< 12 J	< 11	< 12	< 9.6
	Benzene	89,000	60	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	Bromodichloromethane	NS	NS	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	Bromoform	NS	NS	µg/kg	< 4.1	< 4.7	< 4.8 J	< 4.3	< 4.9	< 3.8
	Bromomethane	NS	NS	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	Carbon disulfide	NS	NS	µg/kg	< 10	< 12	< 12 J	< 11	< 12	< 9.6
	Carbon tetrachloride	44,000	760	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	Chlorobenzene	1,000,000	1,100	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	Chlorobromomethane	NS	NS	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	Chloroethane	NS	NS	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	Chloroform	700,000	370	µg/kg	< 1.5	< 1.8	< 1.8 J	< 1.6	< 1.8	< 1.4
	Chloromethane	NS	NS	µg/kg	< 4.1	< 4.7	< 4.8 J	< 4.3	< 4.9	< 3.8
	cis-1,2-Dichloroethene	1,000,000	250	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	cis-1,3-Dichloropropene	NS	NS	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	Cyclohexane	NS	NS	µg/kg	0.57 J	< 12	< 12 J	< 11	< 12	< 9.6
	Dibromochloromethane	NS	NS	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	Dichlorodifluoromethane (Freon 12)	NS	NS	µg/kg	< 10	< 12	< 12 J	< 11	< 12	< 9.6
	Ethylbenzene	780,000	1,000	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	Ethylene dibromide	NS	NS	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	Isopropylbenzene (Cumene)	NS	NS	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	m,p-Xylenes	1,000,000	1,600	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	Methyl acetate	NS	NS	µg/kg	< 4.1	< 4.7	< 4.8 J	< 4.3	< 4.9	< 3.8
	Methyl tert-butyl ether	1,000,000	930	µg/kg	< 2.0	< 2.4	< 2.4 J	< 2.1	< 2.4	< 1.9
	Methylcyclohexane	NS	NS	µg/kg	0.71 J	< 4.7	< 4.8 J	< 4.3	< 4.9	< 3.8
	Methylene chloride	1,000,000	**50**	µg/kg	< 5.1	< 5.9	< 5.9 J	< 5.4	< 6.1	< 4.8
	o-Xylene	1,000,000	1,600	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	Styrene	NS	NS	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	Tetrachloroethene	300,000	1,300	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	Toluene	1,000,000	700	µg/kg	0.57 J	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	trans-1,2-Dichloroethene	1,000,000	190	µg/kg	< 1.5	< 1.8	< 1.8 J	< 1.6	< 1.8	< 1.4
	trans-1,3-Dichloropropene	NS	NS	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96
	Trichloroethene	400,000	**470**	µg/kg	< 0.51	< 0.59	< 0.59 J	< 0.54	< 0.61	< 0.48
	Trichlorofluoromethane (Freon 11)	NS	NS	µg/kg	< 4.1	< 4.7	< 4.8 J	< 4.3	< 4.9	< 3.8
	Vinyl chloride	27,000	20	µg/kg	< 1.0	< 1.2	< 1.2 J	< 1.1	< 1.2	< 0.96

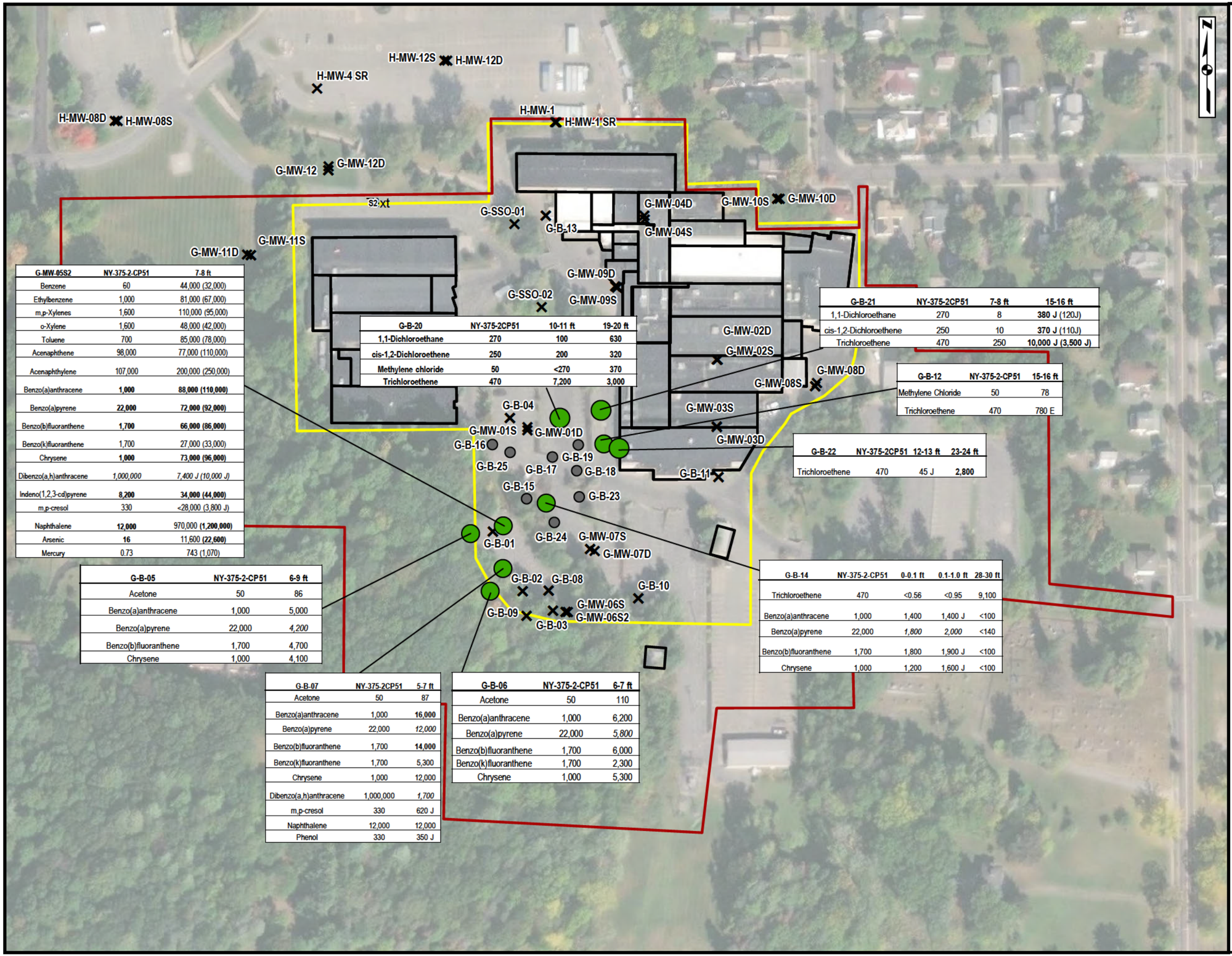
Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-MW-12	G-SSO-01	G-SSO-01	G-SSO-01	G-SSO-02	G-SSO-02
				Sample Date	3/16/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021
				Sample Type	N	N	N	FD	N	N
				Depth	5 - 6 ft	0 - 0.1 ft	0.1 - 1 ft	0.1 - 1 ft	0 - 0.1 ft	0.1 - 1 ft
				Unit						
SVOCs	1,2,4,5-Tetrachlorobenzene	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2,2'-Oxybis(1-chloropropane)	NS	NS	µg/kg	--	< 250 J	< 250 J	< 240 J	< 260 J	< 240 J
	2,3,4,6-Tetrachlorophenol	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2,4,5-Trichlorophenol	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2,4,6-Trichlorophenol	NS	NS	µg/kg	--	< 130	< 120	< 120	< 130	< 120
	2,4-Dichlorophenol	NS	NS	µg/kg	--	< 190	< 190	< 180	< 190	< 180
	2,4-Dimethylphenol	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2,4-Dinitrophenol	NS	NS	µg/kg	--	< 1,000	< 1,000	< 960	< 1,000	< 940
	2,4-Dinitrotoluene	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2,6-Dinitrotoluene	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2-Chloronaphthalene	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2-Chlorophenol	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2-Methylnaphthalene	NS	NS	µg/kg	--	45 J	38 J	27 J	< 260	< 240
	2-Nitroaniline	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	2-Nitrophenol	NS	NS	µg/kg	--	< 460	< 450	< 430	< 460	< 420
	3,3'-Dichlorobenzidine	NS	NS	µg/kg	--	< 210	< 210 J	< 200	< 210	< 200
	3-Nitroaniline	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	4-Bromophenyl phenyl ether	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	4-Chloro-3-methylphenol	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	4-Chlorophenyl phenyl ether	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	4-Nitrophenol	NS	NS	µg/kg	--	< 300	< 290	< 280	< 300	< 270
	Acenaphthene	1,000,000	**98,000**	µg/kg	--	62 J	56 J	34 J	25 J	39 J
	Acenaphthylene	1,000,000	**107,000**	µg/kg	--	140 J	150 J	130 J	52 J	48 J
	Acetophenone	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Anthracene	1,000,000	1,000,000	µg/kg	--	270	230	180	100 J	110 J
	Atrazine	NS	NS	µg/kg	--	< 170	< 170	< 160	< 170	< 160
	Benzaldehyde	NS	NS	µg/kg	--	110 J	< 270	< 260	< 280	< 260
	Benzo(a)anthracene	**11,000**	**1,000**	µg/kg	--	960	960 J	630	380	420
	Benzo(a)pyrene	**1,100**	**22,000**	µg/kg	--	800	860 J	490	350	440
	Benzo(b)fluoranthene	**11,000**	**1,700**	µg/kg	--	1,100	1,100 J	640	440	570
	Benzo(g,h,i)perylene	1,000,000	1,000,000	µg/kg	--	390	440	200	190	230
	Benzo(k)fluoranthene	110,000	**1,700**	µg/kg	--	280	360	220	170	150
	Benzyl butyl phthalate	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Biphenyl	NS	NS	µg/kg	--	< 480	< 470	< 450	< 490	< 450
	Bis(2-chloroethoxy)methane	NS	NS	µg/kg	--	< 230	< 220	< 220	< 230	< 210
	Bis(2-ethylhexyl)phthalate	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Caprolactam	NS	NS	µg/kg	--	< 210 J	< 210 J	< 200 J	< 210 J	< 200 J
	Carbazole	NS	NS	µg/kg	--	84 J	84 J	62 J	43 J	46 J
	Chrysene	110,000	**1,000**	µg/kg	--	860	860 J	490	340	360
	Dibenzo(a,h)anthracene	**1,100**	1,000,000	µg/kg	--	110 J	120	69 J	50 J	68 J
	Dibenzofuran	1,000,000	210,000	µg/kg	--	64 J	54 J	37 J	22 J	28 J
	Dibutyl phthalate	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Dichloroethyl ether	NS	NS	µg/kg	--	< 190	< 190	< 180	< 190	< 180
	Diethyl phthalate	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Dimethyl phthalate	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Dinitro-o-cresol	NS	NS	µg/kg	--	< 550	< 540	< 520	< 560	< 510
	Di-n-octyl phthalate	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Fluoranthene	1,000,000	1,000,000	µg/kg	--	1,400	1,500 J	950	620	620
	Fluorene	1,000,000	386,000	µg/kg	--	78 J	72 J	64 J	32 J	39 J
	Hexachlorobenzene	12,000	3,200	µg/kg	--	< 130	< 120	< 120	< 130	< 120
	Hexachlorobutadiene	NS	NS	µg/kg	--	< 210	< 210	< 200	< 210	< 200
	Hexachlorocyclopentadiene	NS	NS	µg/kg	--	< 600	< 590 J	< 570	< 610	< 560
	Hexachloroethane	NS	NS	µg/kg	--	< 170	< 170	< 160	< 170	< 160
	Indeno(1,2,3-cd)pyrene	**11,000**	**8,200**	µg/kg	--	470	510	250	220	280
	Isophorone	NS	NS	µg/kg	--	< 190	< 190	< 180	< 190	< 180
	m,p-cresol	1,000,000	**330**	µg/kg	--	< 300	< 300	35 J	< 310	< 280
	Naphthalene	**1,000,000**	**12,000**	µg/kg	--	86 J	82 J	46 J	40 J	36 J

Table 11
Summary of Validated Soil Results
G.W. Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		6 NYCRR PART 375 RESTRICTED INDUSTRIAL	6 NYCRR PART 375 PROTECTION OF GROUND WATER	Location ID	G-MW-12	G-SSO-01	G-SSO-01	G-SSO-01	G-SSO-02	G-SSO-02
				Sample Date	3/16/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021	5/4/2021
				Sample Type	N	N	N	FD	N	N
				Depth	5 - 6 ft	0 - 0.1 ft	0.1 - 1 ft	0.1 - 1 ft	0 - 0.1 ft	0.1 - 1 ft
				Unit						
SVOCs	Nitrobenzene	NS	NS	µg/kg	--	*< 190*	*< 190*	*< 180*	*< 190*	*< 180*
	n-Nitrosodi-n-propylamine	NS	NS	µg/kg	--	*< 210*	*< 210*	*< 200*	*< 210*	*< 200*
	n-Nitrosodiphenylamine	NS	NS	µg/kg	--	*< 170*	*< 170*	*< 160*	*< 170*	*< 160*
	o-Cresol	1,000,000	330	µg/kg	--	*< 210*	*< 210*	*< 200*	*< 210*	*< 200*
	p-Chloroaniline	NS	NS	µg/kg	--	*< 210*	*< 210*	*< 200*	*< 210*	*< 200*
	Pentachlorophenol	55,000	800	µg/kg	--	*< 170*	*< 170*	*< 160*	*< 170*	*< 160*
	Phenanthrene	1,000,000	1,000,000	µg/kg	--	790	740	640	350	370
	Phenol	1,000,000	**330**	µg/kg	--	*< 210*	*< 210*	*< 200*	*< 210*	*< 200*
	p-Nitroaniline	NS	NS	µg/kg	--	*< 210*	*< 210*	*< 200*	*< 210*	*< 200*
	Pyrene	1,000,000	1,000,000	µg/kg	--	1,200	1,300	810	530	530
1,4-Dioxane	1,4-Dioxane	250,000	100	µg/kg	*< 7.69*	*< 9.98*	*< 9.21*	*< 9.23*	*< 9.20*	*< 8.96*
Metals	Aluminum	NS	NS	mg/kg	--	4,160	3,780	3,640	4,210	2,160
	Antimony	NS	NS	mg/kg	--	*< 5.03*	*< 4.86*	*< 4.75*	*< 5.05*	*< 4.46*
	Arsenic	**16**	**16**	mg/kg	--	5.07	4.75	4.39	5.15	3.67
	Barium	10,000	820	mg/kg	--	39.1	35.6	28.3	32.4	17.4
	Beryllium	2,700	47	mg/kg	--	0.231 J	0.223 J	0.190 J	0.222 J	0.125 J
	Cadmium	60	7.5	mg/kg	--	0.835 J	0.768 J	0.465 J	0.515 J	0.321 J
	Calcium	NS	NS	mg/kg	--	21,600	25,300	27,400	24,000	65,400
	Chromium	6,800	NS	mg/kg	--	9.85	9.00	8.25	9.79	5.51
	Cobalt	NS	NS	mg/kg	--	3.94	3.68	3.25	3.78	2.39
	Copper	10,000	1,720	mg/kg	--	16.3	15.7	10.8	12.4	10.0
	Iron	NS	NS	mg/kg	--	9,720	8,770	8,400	9,510	6,480
	Lead	3,900	450	mg/kg	--	39.5	39.9 J	21.1 J	36.6	13.4
	Magnesium	NS	NS	mg/kg	--	6,790	7,070	7,570	7,480	7,040
	Manganese	10,000	2,000	mg/kg	--	398	348	343	384	242
	Mercury	5.7	**0.73**	mg/kg	--	0.532	0.521 J	0.564	0.664	0.580
	Nickel	10,000	130	mg/kg	--	8.79	8.52	6.78	7.91	5.01
	Potassium	NS	NS	mg/kg	--	565	513	424	468	290
	Selenium	6,800	4	mg/kg	--	0.503 J	0.457 J	*< 1.90*	0.344 J	0.572 J
	Silver	6,800	8.3	mg/kg	--	*< 1.01*	*< 0.972*	*< 0.950*	*< 1.01*	*< 0.893*
	Sodium	NS	NS	mg/kg	--	63.2 J	60.8 J	72.7 J	72.2 J	63.4 J
	Thallium	NS	NS	mg/kg	--	0.392 J	0.408 J	0.418 J	0.323 J	*< 1.78*
	Vanadium	NS	NS	mg/kg	--	12.0	10.9	10.1	11.4	6.08
	Zinc	10,000	2,480	mg/kg	--	95.1 J	89.7 J	56.2 J	62.7 J	33.3 J
PCBs	Aroclor 1016	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	Aroclor 1221	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	Aroclor 1232	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	Aroclor 1242	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	Aroclor 1248	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	Aroclor 1254	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	4.97 J	12.9 J	*< 39.0*
	Aroclor 1260	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	Aroclor 1262	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	Aroclor 1268	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	*< 38.3*	*< 41.0*	*< 39.0*
	PCBs, Total	25,000	3,200	µg/kg	--	*< 41.6*	*< 40.1*	4.97 J	12.9 J	*< 39.0*
General Chemistry	pH, Lab	NS	NS	pH units	8.1	7.2	7.4	7.6	7.3	7.5
	Organic Carbon, Total	NS	NS	%	1.96	4.62	4.24	2.89	2.54	1.70
	Solids, Total	NS	NS	%	94.2	76.8	80.1	82.2	76.3	84.2

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL).
R = Rejected. Quality control indicates that the data are unusable (compound may or not be present).
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/kg = micrograms per kilogram
mg/kg = milligrams per kilogram



G-MW-05S2	NY-375-2-CP51	7-8 ft
Benzene	60	44,000 (32,000)
Ethylbenzene	1,000	81,000 (67,000)
m,p-Xylenes	1,600	110,000 (95,000)
o-Xylene	1,600	48,000 (42,000)
Toluene	700	85,000 (78,000)
Acenaphthene	98,000	77,000 (110,000)
Acenaphthylene	107,000	200,000 (250,000)
Benzo(a)anthracene	**1,000**	**88,000 (110,000)**
Benzo(a)pyrene	**22,000**	**72,000 (92,000)**
Benzo(b)fluoranthene	**1,700**	**66,000 (86,000)**
Benzo(k)fluoranthene	1,700	27,000 (33,000)
Chrysene	**1,000**	**73,000 (96,000)**
Dibenzo(a,h)anthracene	*1,000,000*	*7,400 J (10,000 J)*
Indeno(1,2,3-cd)pyrene	**8,200**	**34,000 (44,000)**
m,p-cresol	330	<28,000 (3,800 J)
Naphthalene	**12,000**	970,000 (**1,200,000**)
Arsenic	**16**	11,600 (**22,600**)
Mercury	0.73	743 (1,070)

G-B-20	NY-375-2CP51	10-11 ft	19-20 ft
1,1-Dichloroethane	270	100	630
cis-1,2-Dichloroethene	250	200	320
Methylene chloride	50	<270	370
Trichloroethene	470	7,200	3,000

G-B-21	NY-375-2CP51	7-8 ft	15-16 ft
1,1-Dichloroethane	270	8	**380 J** (120J)
cis-1,2-Dichloroethene	250	10	**370 J** (110J)
Trichloroethene	470	250	**10,000 J (3,500 J)**

G-B-12	NY-375-2-CP51	15-16 ft
Methylene Chloride	50	78
Trichloroethene	470	780 E

G-B-22	NY-375-2CP51	12-13 ft	23-24 ft
Trichloroethene	470	45 J	**2,800**

G-B-05	NY-375-2-CP51	6-9 ft
Acetone	50	86
Benzo(a)anthracene	1,000	5,000
Benzo(a)pyrene	22,000	*4,200*
Benzo(b)fluoranthene	1,700	4,700
Chrysene	1,000	4,100

G-B-14	NY-375-2-CP51	0-0.1 ft	0.1-1.0 ft	28-30 ft
Trichloroethene	470	<0.56	<0.95	9,100
Benzo(a)anthracene	1,000	1,400	1,400 J	<100
Benzo(a)pyrene	22,000	*1,800*	*2,000*	<140
Benzo(b)fluoranthene	1,700	1,800	1,900 J	<100
Chrysene	1,000	1,200	1,600 J	<100

G-B-07	NY-375-2CP51	5-7 ft
Acetone	50	87
Benzo(a)anthracene	1,000	**16,000**
Benzo(a)pyrene	22,000	*12,000*
Benzo(b)fluoranthene	1,700	**14,000**
Benzo(k)fluoranthene	1,700	5,300
Chrysene	1,000	12,000
Dibenzo(a,h)anthracene	1,000,000	*1,700*
m,p-cresol	330	620 J
Naphthalene	12,000	12,000
Phenol	330	350 J

G-B-06	NY-375-2-CP51	6-7 ft
Acetone	50	110
Benzo(a)anthracene	1,000	6,200
Benzo(a)pyrene	22,000	*5,800*
Benzo(b)fluoranthene	1,700	6,000
Benzo(k)fluoranthene	1,700	2,300
Chrysene	1,000	5,300



Legend

- Soil Boring that exceeds the 6 NYCRR Part 375 SCOs - Protection of Groundwater
- Soil Boring that does not exceed the 6 NYCRR Part 375 SCOs - Protection of Groundwater
- Soil Boring Not Sampled
- BCP Boundary
- Facility Outline

NOTES:

- Results are in micrograms per kilogram (µg/kg)
- ft = feet
- J = estimated value
- E = concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- SCOs = Soil Cleanup Objectives
- NYCRR = New York Codes, Rules and Regulations
- Soil samples collected during the Remedial Investigation (RI) during March 2021 and August 2022.
- 1,200 = result that exceeds the Protection of Groundwater SCO.
- *1,200* = result that exceeds the Restricted Industrial SCO.
- **1,200** = result that exceeds both the Protection of Groundwater and Restricted Industrial SCOs.
- Field duplicates shown in parentheses
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

0 25 50 100 150 200
Feet

Figure 16: Soil Sample Exceedances
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

ERM

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Table 12
Sediment Analytical Results GW
Lisk Clifton Springs Facility
Clifton Springs, NY

Analyte		NY-SACS-FW SGV CLASS B Table 5-2014	NY-SACS-FW SGV CLASS C Table 5-2014	Location ID	SED-01	SED-01	SED-02	SED-03	SED-04	SED-05	H-SED-06	H-SED-07
				Sample Date	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021
				Sample Type	N	FD	N	N	N	N	N	N
				Depth	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft	0 - 0.5 ft
				Unit								
VOCs	1,1,1-Trichloroethane	NS	NS	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	*< 0.54*
	1,1,2,2-Tetrachloroethane	2,800	5,400	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	*< 0.54*
	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	NS	NS	µg/kg	*< 12*	*< 12*	*< 4.4*	*< 4.8*	*< 15*	*< 15*	*< 4.8*	*< 4.3*
	1,1,2-Trichloroethane	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	1,1-Dichloroethane	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	1,1-Dichloroethene	520	4,700	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	1,2,3-Trichlorobenzene	230	2,800	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	*< 2.4*	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	1,2,4-Trichlorobenzene	35,000	55,000	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	*< 2.4*	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	1,2-Dibromo-3-chloropropane	NS	NS	µg/kg	*< 8.7*	*< 8.8*	*< 3.3*	*< 3.6*	*< 12*	*< 11*	*< 3.6*	*< 3.2*
	1,2-Dichlorobenzene	280	2,500	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	0.20 J	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	1,2-Dichloroethane	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	1,2-Dichloropropane	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	1,3-Dichlorobenzene	1,800	7,100	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	0.19 J	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	1,4-Dichlorobenzene	720	3,300	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	0.25 J	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	1,4-Dioxane	NS	NS	µg/kg	*< 230*	*< 230*	*< 87*	*< 95*	*< 310*	*< 300*	*< 96*	*< 86*
	2-Butanone	NS	NS	µg/kg	*< 29*	*< 29*	*< 11*	*< 12*	*< 39*	*< 38*	*< 12*	*< 11*
	2-Hexanone	NS	NS	µg/kg	*< 29*	*< 29*	*< 11*	*< 12*	*< 39*	*< 38*	*< 12*	*< 11*
	4-Methyl-2-pentanone	NS	NS	µg/kg	*< 29*	*< 29*	*< 11*	*< 12*	*< 39*	*< 38*	*< 12*	*< 11*
	Acetone	NS	NS	µg/kg	16 J	*< 29*	*< 11*	*< 12*	69	52	*< 12*	9.3 J
	Benzene	530	1,900	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	*< 0.54*
	Bromodichloromethane	NS	NS	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	*< 0.54*
	Bromoform	NS	NS	µg/kg	*< 12*	*< 12*	*< 4.4*	0.53 J	*< 15*	*< 15*	*< 4.8*	*< 4.3*
	Bromomethane	NS	NS	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	*< 2.4 J*	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	Carbon disulfide	NS	NS	µg/kg	*< 29*	*< 29*	*< 11*	*< 12*	*< 39*	*< 38*	*< 12*	*< 11*
	Carbon tetrachloride	1,070	9,600	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	Chlorobenzene	200	1,700	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	*< 0.54*
	Chlorobromomethane	NS	NS	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	*< 2.4*	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	Chloroethane	NS	NS	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	*< 2.4*	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	Chloroform	NS	NS	µg/kg	*< 4.3*	*< 4.4*	*< 1.6*	0.21 J	*< 5.8*	*< 5.6*	*< 1.8*	*< 1.6*
	Chloromethane	NS	NS	µg/kg	*< 12*	*< 12*	*< 4.4*	*< 4.8*	*< 15*	*< 15*	*< 4.8*	*< 4.3*
	cis-1,2-Dichloroethene	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	cis-1,3-Dichloropropene	NS	NS	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	*< 0.54*
	Cyclohexane	NS	NS	µg/kg	*< 29*	*< 29*	*< 11*	*< 12*	*< 39*	*< 38*	*< 12*	*< 11*
	Dibromochloromethane	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	Dichlorodifluoromethane (Freon 12)	NS	NS	µg/kg	*< 29*	*< 29*	*< 11*	*< 12*	*< 39*	*< 38*	*< 12*	*< 11*
	Ethylbenzene	430	3,700	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	Ethylene dibromide	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	Isopropylbenzene (Cumene)	210	1,800	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	m,p-Xylenes	NS	NS	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	*< 2.4*	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	Methyl acetate	NS	NS	µg/kg	*< 12*	*< 12*	*< 4.4*	*< 4.8*	*< 15*	*< 15*	*< 4.8*	*< 4.3*
	Methyl tert-butyl ether	NS	NS	µg/kg	*< 5.8*	*< 5.8*	*< 2.2*	*< 2.4*	*< 7.7*	*< 7.5*	*< 2.4*	*< 2.1*
	Methylcyclohexane	NS	NS	µg/kg	*< 12*	*< 12*	*< 4.4*	*< 4.8*	*< 15*	*< 15*	*< 4.8*	*< 4.3*
	Methylene chloride	NS	NS	µg/kg	*< 14*	*< 14*	*< 5.4*	*< 6.0*	*< 19*	*< 19*	*< 6.0*	*< 5.4*
	o-Xylene	820	7,240	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	Styrene	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	0.25 J	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	Tetrachloroethene	16,000	57,000	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	*< 0.54*
	Toluene	930	4,500	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	trans-1,2-Dichloroethene	1,200	11,000	µg/kg	*< 4.3*	*< 4.4*	*< 1.6*	*< 1.8*	*< 5.8*	*< 5.6*	*< 1.8*	*< 1.6*
	trans-1,3-Dichloropropene	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
	Trichloroethene	1,800	8,600	µg/kg	*< 1.4*	*< 1.4*	*< 0.54*	*< 0.60*	*< 1.9*	*< 1.9*	*< 0.60*	0.40 J
	Trichlorofluoromethane (Freon 11)	NS	NS	µg/kg	*< 12*	*< 12*	*< 4.4*	*< 4.8*	*< 15*	*< 15*	*< 4.8*	*< 4.3*
	Vinyl chloride	NS	NS	µg/kg	*< 2.9*	*< 2.9*	*< 1.1*	*< 1.2*	*< 3.9*	*< 3.8*	*< 1.2*	*< 1.1*
Metals, Total	Aluminum	NS	NS	mg/kg	5,400	6,390	848	1,750	6,090	2,500	957	1,230
	Antimony	NS	NS	mg/kg	*< 13.1*	*< 14.1*	*< 4.66*	*< 4.88*	*< 19.0*	*< 18.0*	*< 5.02*	*< 4.75*
	Arsenic	10	33	mg/kg	3.91	4.29	1.07	1.52	3.76 J	3.28 J	1.68	1.40
	Barium	NS	NS	mg/kg	144	166	17.2	25.4	152	55.4	32.5	9.03
	Beryllium	NS	NS	mg/kg	0.367 J	0.451 J	0.056 J	0.117 J	0.418 J	0.288 J	0.070 J	0.104 J
	Cadmium	**1**	5	mg/kg	0.761 J	0.874 J	0.168 J	0.176 J	**1.14 J**	0.432 J	0.311 J	0.266 J
	Calcium	NS	NS	mg/kg	56,800	63,700	228,000	231,000	101,000	1,120,000	231,000	180,000
	Chromium	43	110	mg/kg	11.8	12.5	3.04	2.95	15.2	7.53	4.35	3.24
	Cobalt	NS	NS	mg/kg	5.64	6.37	1.57 J	2.46	6.61 J	3.71 J	1.50 J	1.84 J
	Copper	32	150	mg/kg	20.7	23.8	6.16	4.60	31.0	17.7	8.71	11.0
	Iron	NS	NS	mg/kg	14,900	17,300	4,030	4,280	15,800	8,440	7,350	4,800
	Lead	36	130	mg/kg	18.2	20.4	3.23 J	3.30 J	27.2	9.40 J	3.14 J	3.93 J
	Magnesium	NS	NS	mg/kg	11,000	11,900	26,700	5,990	9,820	21,000	11,300	16,100
	Manganese	NS	NS	mg/kg	1,560	1,800	308	396	633	774	268	216
	Mercury	0.2	1	mg/kg	*< 0.279*	*< 0.283*	*< 0.074*	*< 0.098*	*< 0.331*	*< 0.341*	*< 0.085*	*< 0.090*
	Nickel	23	49	mg/kg	12.3	13.9	4.23	5.24	18.5	9.66	4.64	4.17
	Potassium	NS	NS	mg/kg	625 J	709	232 J	250	870 J	718 J	248 J	220 J
	Selenium	NS	NS	mg/kg	1.44 J	1.89 J	*< 1.86*	*< 1.95*	1.97 J	*< 7.21*	*< 2.01*	*< 1.90*
	Silver	1	2.2	mg/kg	*< 2.62*	*< 2.82*	*< 0.932*	*< 0.976*	*< 3.80*	*< 3.60*	*< 1.00*	*< 0.951*
	Sodium	NS	NS	mg/kg	309 J	339 J	180 J	191 J	838	771	183 J	151 J
	Thallium	NS	NS	mg/kg	2.62 J	2.88 J	0.531 J	0.615 J	*< 7.60*	*< 7.21*	0.381 J	*< 1.90*
	Vanadium	NS	NS	mg/kg	13.2	15.5	2.87	3.38	16.4	10.3	3.51	7.49
	Zinc	**120**	460	mg/kg	107	**122**	47.1	24.1	**200**	117	42.1	33.1
PCBs	Aroclor 1016	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	Aroclor 1221	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	Aroclor 1232	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	Aroclor 1242	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	Aroclor 1248	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	Aroclor 1254	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	Aroclor 1260	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	10.2 J
	Aroclor 1262	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	Aroclor 1268	NS	NS	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	*< 39.1*
	PCBs, Total	100	1,000	µg/kg	*< 109*	*< 116*	*< 37.1*	*< 39.6*	*< 159*	*< 150*	*< 42.2*	10.2 J
1,4-Dioxane	1,4-Dioxane	NS	NS	µg/kg	*< 23.7*	*< 26.6*	*< 8.26*	*< 9.09*	*< 38.2*	*< 35.1*	*< 10.1*	*< 9.44*
General Chemistry	Solids, Total	NS	NS	%	28.7	28.1	85.0	79.4	20.7	21.3	75.5	81.6
	Organic Carbon, Total	NS	NS	%	6.52	8.21	5.42	5.57	11.4	11.5	8.83	0.305
	pH, Lab	NS	NS	pH units	7.6	7.6	8.0	7.8	7.1	7.1	7.8	7.8

Notes and Abbreviations

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/kg = milligrams per kilogram
µg/kg = micrograms per kilogram
ft = feet
Exceedance of Class B Sediment Criteria
Exceedance of Class C Sediment Criteria

Table 13
Surface Water Analytical Results
GW Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	NY-TOGS1.1.1 Freshwater CLASS D 1998-2004	Location ID	SW-01	SW-02	SW-03	SW-03	SW-04	H-SW-06	H-SW-07
			Sample Date	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021
			Sample Type	N	N	N	FD	N	N	N
			Unit							
VOCs	1,1,1-Trichloroethane	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,1,2,2-Tetrachloroethane	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,1,2-Trichloroethane	NS	µg/L	--	--	< 1.5	< 1.5	--	--	--
	1,1-Dichloroethane	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,1-Dichloroethene	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	1,2,3-Trichlorobenzene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,2,4-Trichlorobenzene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,2-Dibromo-3-chloropropane	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,2-Dichlorobenzene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,2-Dichloroethane	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	1,2-Dichloropropane	NS	µg/L	--	--	< 1.0	< 1.0	--	--	--
	1,3-Dichlorobenzene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,4-Dichlorobenzene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	1,4-Dioxane	NS	µg/L	--	--	< 250	< 250	--	--	--
	2-Butanone	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2-Hexanone	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	4-Methyl-2-pentanone	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Acetone	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Benzene	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Bromodichloromethane	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Bromoform	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	Bromomethane	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Carbon disulfide	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Carbon tetrachloride	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Chlorobenzene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Chlorobromomethane	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Chloroethane	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Chloroform	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Chloromethane	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	cis-1,2-Dichloroethene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	cis-1,3-Dichloropropene	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Cyclohexane	NS	µg/L	--	--	< 10	< 10	--	--	--
	Dibromochloromethane	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Dichlorodifluoromethane (Freon 12)	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Ethylbenzene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Ethylene dibromide	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	Isopropylbenzene (Cumene)	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	m,p-Xylenes	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Methyl acetate	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	Methyl tert-butyl ether	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Methylcyclohexane	NS	µg/L	--	--	< 10	< 10	--	--	--
	Methylene chloride	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	o-Xylene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Styrene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Tetrachloroethene	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Toluene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	trans-1,2-Dichloroethene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	trans-1,3-Dichloropropene	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Trichloroethene	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Trichlorofluoromethane (Freon 11)	NS	µg/L	--	--	< 2.5	< 2.5	--	--	--
	Vinyl chloride	NS	µg/L	--	--	< 1.0	< 1.0	--	--	--
SVOCs	1,2,4,5-Tetrachlorobenzene	NS	µg/L	--	--	< 10	< 10	--	--	--
	2,2'-Oxybis(1-chloropropane)	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	2,3,4,6-Tetrachlorophenol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2,4,5-Trichlorophenol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2,4,6-Trichlorophenol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2,4-Dichlorophenol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2,4-Dimethylphenol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2,4-Dinitrophenol	NS	µg/L	--	--	< 20	< 20	--	--	--
	2,4-Dinitrotoluene	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2,6-Dinitrotoluene	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2-Chloronaphthalene	NS	µg/L	--	--	< 0.20	< 0.20	--	--	--
	2-Chlorophenol	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	2-Methylnaphthalene	NS	µg/L	--	--	< 0.10	0.02 J	--	--	--
	2-Nitroaniline	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2-Nitrophenol	NS	µg/L	--	--	< 10	< 10	--	--	--
	2-Nitroaniline	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	2-Nitrophenol	NS	µg/L	--	--	< 10	< 10	--	--	--
	3,3'-Dichlorobenzidine	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	3-Nitroaniline	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	4-Bromophenyl phenyl ether	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	4-Chloro-3-methylphenol	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	4-Chlorophenyl phenyl ether	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	4-Nitrophenol	NS	µg/L	--	--	< 10	< 10	--	--	--
	Acenaphthene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Acenaphthylene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Acetophenone	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Anthracene	NS	µg/L	--	--	< 0.10	< 0.10 J	--	--	--
	Atrazine	NS	µg/L	--	--	< 10	< 10	--	--	--
	Benzaldehyde	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Benzo(a)anthracene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Benzo(a)pyrene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Benzo(b)fluoranthene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Benzo(g,h,i)perylene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Benzo(k)fluoranthene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Benzyl butyl phthalate	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Biphenyl	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	Bis(2-chloroethoxy)methane	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Bis(2-ethylhexyl)phthalate	NS	µg/L	--	--	< 3.0 J	< 3.0	--	--	--
	Caprolactam	NS	µg/L	--	--	< 10	< 10	--	--	--
	Carbazole	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	Chrysene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Dibenzo(a,h)anthracene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Dibenzofuran	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	Dibutyl phthalate	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Dichloroethyl ether	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	Diethyl phthalate	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Dimethyl phthalate	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Dinitro-o-cresol	NS	µg/L	--	--	< 10	< 10	--	--	--

Table 13
Surface Water Analytical Results
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 Freshwater CLASS D 1998-2004	Location ID	SW-01	SW-02	SW-03	SW-03	SW-04	H-SW-06	H-SW-07
			Sample Date	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021	4/13/2021
			Sample Type	N	N	N	FD	N	N	N
			Unit							
SVOCs	Di-n-octyl phthalate	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Fluoranthene	NS	µg/L	--	--	< 0.10 J	< 0.10 J	--	--	--
	Fluorene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Hexachlorobenzene	NS	µg/L	--	--	< 0.80	< 0.80	--	--	--
	Hexachlorobutadiene	NS	µg/L	--	--	< 0.50	< 0.50	--	--	--
	Hexachlorocyclopentadiene	NS	µg/L	--	--	< 20	< 20	--	--	--
	Hexachloroethane	NS	µg/L	--	--	< 0.80	< 0.80	--	--	--
	Indeno(1,2,3-cd)pyrene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Isophorone	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	m,p-cresol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Naphthalene	NS	µg/L	--	--	< 0.10	< 0.10	--	--	--
	Nitrobenzene	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	n-Nitrosodi-n-propylamine	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	n-Nitrosodiphenylamine	NS	µg/L	--	--	< 2.0	< 2.0	--	--	--
	o-Cresol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	p-Chloroaniline	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Pentachlorophenol	NS	µg/L	--	--	0.08 J	0.11 J	--	--	--
	Phenanthrene	NS	µg/L	--	--	< 0.10 J	< 0.10 J	--	--	--
	Phenol	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	p-Nitroaniline	NS	µg/L	--	--	< 5.0	< 5.0	--	--	--
	Pyrene	NS	µg/L	--	--	< 0.10 J	< 0.10 J	--	--	--
1,4-Dioxane	1,4-Dioxane	NS	ng/l	--	--	< 139	< 139	--	--	--
Metals, Total	Aluminum	NS	mg/L	--	--	< 0.100	< 0.100	--	--	--
	Antimony	NS	mg/L	--	--	< 0.050	< 0.050	--	--	--
	Arsenic	NS	mg/L	--	--	< 0.005	< 0.005	--	--	--
	Barium	NS	mg/L	--	--	0.103	0.098	--	--	--
	Beryllium	NS	mg/L	--	--	< 0.005	< 0.005	--	--	--
	Cadmium	NS	mg/L	--	--	< 0.005	< 0.005	--	--	--
	Calcium	NS	mg/L	--	--	157	153	--	--	--
	Chromium	NS	mg/L	--	--	< 0.010	< 0.010	--	--	--
	Cobalt	NS	mg/L	--	--	< 0.020	< 0.020	--	--	--
	Copper	NS	mg/L	--	--	0.003 J	< 0.010	--	--	--
	Iron	NS	mg/L	--	--	0.189	0.152	--	--	--
	Lead	NS	mg/L	--	--	< 0.010	< 0.010	--	--	--
	Magnesium	NS	mg/L	--	--	28.8	28.7	--	--	--
	Manganese	NS	mg/L	--	--	0.059	0.055	--	--	--
	Mercury	0.0000026	mg/L	--	--	< 0.00020	< 0.00020	--	--	--
	Nickel	NS	mg/L	--	--	< 0.025	< 0.025	--	--	--
	Potassium	NS	mg/L	--	--	3.02	3.03	--	--	--
	Selenium	NS	mg/L	--	--	< 0.010	< 0.010	--	--	--
	Silver	NS	mg/L	--	--	< 0.007	< 0.007	--	--	--
	Sodium	NS	mg/L	--	--	474	437	--	--	--
	Thallium	NS	mg/L	--	--	< 0.020 J	< 0.020 J	--	--	--
	Vanadium	NS	mg/L	--	--	< 0.010	< 0.010	--	--	--
	Zinc	NS	mg/L	--	--	0.008 J	0.008 J	--	--	--
PCBs	Aroclor 1016	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1221	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1232	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1242	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1248	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1254	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1260	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1262	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	Aroclor 1268	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
	PCBs, Total	0.00012	µg/L	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071	< 0.071
Anions	Alkalinity, Total as CaCO3	NS	mg/L	278	270	292	289	268	271	275
	Carbonate Alkalinity as CaCO3	NS	mg/L	< 2.00	< 2.00	< 2.00	< 2.00	9.60	< 2.00	< 2.00
	Bicarbonate Alkalinity as CaCO3	NS	mg/L	278	270	292	289	263	271	275
	Sulfate	NS	mg/L	24.6	25.0	33.4	33.1	25.2	25.0	61.6
	Nitrate (NO3)	NS	mg/L	2.2	2.3	11	11	2.3	2.2	2.3
Cations*	Calcium	NS	mg/L	90.5	91.8	147	147	92.1	91.3	105
	Magnesium	NS	mg/L	21.0	21.1	27.2	27.2	21.0	21.3	22.9
	Potassium	NS	mg/L	3.80	3.99	2.89	2.95	3.89	4.04	4.06
	Sodium	NS	mg/L	46.4	57.2	432	429	57.4	57.2	73.0
General Chemistry	Organic Carbon, Total	NS	mg/L	6.60	6.77	0.930	0.970	6.61	7.01	6.46
	pH, Lab	NS	pH units	8.2	8.1	7.8	7.6	8.2	8.2	8.1
Dissolved Gases	Ethane	NS	µg/L	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
	Ethene	NS	µg/L	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
	Methane	NS	µg/L	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00

Notes and Abbreviations

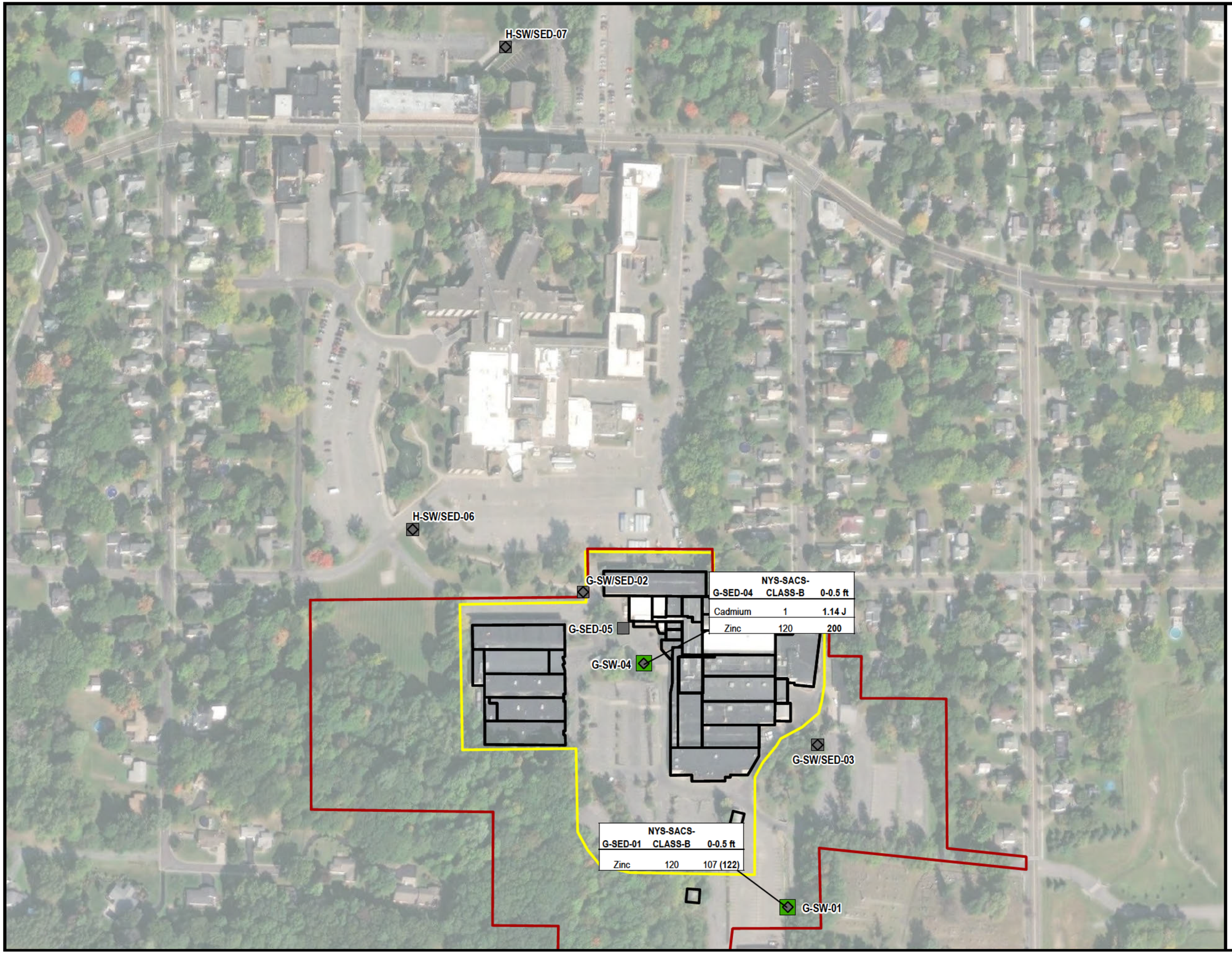
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/L = milligrams per liter
µg/L = micrograms per liter
ng/l = nanogram per liter

Table 13A
Surface Water PFAS Analytical Results
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte	NYSDEC Ambient Water Quality Guidance	Location ID	G-SW-01	G-SW-02	G-SW-02
		Sample Date	5/10/2017	5/10/2017	5/10/2017
		Sample Type	N	N	FD
		Unit			
Perfluorohexanoic acid (PFHxA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluoroheptanoic acid (PFHpA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorooctanoic acid (PFOA)	6.7	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorononanoic acid (PFNA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorodecanoic acid (PFDA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluoroundecanoic acid (PFUnDA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorododecanoic acid (PFDoDA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorotridecanoic acid (PFTrDA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorotetradecanoic acid (PFTeDA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorobutane sulfonic acid (PFBS)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorohexane sulfonic acid (PFHxS)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
Perfluorooctane sulfonic acid (PFOS)	2.7	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtPFOSAA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*
N-Methyl perfluorooctanesulfonamidoacetic acid (NMePFOSAA)	NS	ng/l	*< 1.98*	*< 1.94*	*< 1.92*

Notes:

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL)
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
ng/l = nanogram per liter





Legend

- Sediment Location with NY-SACS-FW SGV Class B Exceedance
- Sediment Location without NY-SACS-FW SGV Class B or Class C Exceedance
- Surface Water Location without NY-TOGS1.1.1-Class D Exceedance
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- Results displayed in micrograms per kilogram (mg/kg)
- ft = feet
- J = Estimated value
- **200** = Result exeedance
- Field duplicate results displayed in parentheses
- Samples collected 13 April 2021
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

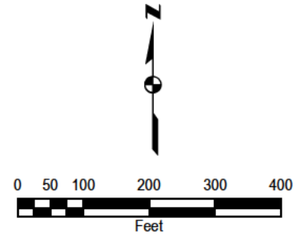


Figure 17: Surface Water and Sediment Exceedances
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

ERM

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Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01S	G-MW-01S	G-MW-01S	G-MW-02D	G-MW-02D	G-MW-02D	G-MW-02D	G-MW-02S	G-MW-02S	G-MW-02S	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-04D	G-MW-04D	G-MW-04D
			Sample Date	6/24/2021	6/24/2021	8/30/2022	3/9/2023	6/24/2021	8/31/2022	3/9/2023	6/3/2021	6/3/2021	8/31/2022	3/9/2023	6/3/2021	8/31/2022	3/9/2023	6/4/2021	8/30/2022	3/9/2023	6/4/2021	8/31/2022	8/31/2022	3/9/2023	6/3/2021	8/30/2022	3/8/2023
			Sample Type	N	FD	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
			Unit																							
VOCs	1,1,1-Trichloroethane	**5**	µg/L	2.4 J	**5.7**	**7.0**	3.1	**16 J**	**21 J**	**26**	**7.9 J**	**7.9 J**	2.3	4.2 J	**29**	**24**	**21 J**	**13**	1.7	*< 2.5*	**230**	**85**	**94**	**110**	1.5 J	1.2	0.89 J
	1,1,2,2-Tetrachloroethane	5	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 1.0*	*< 0.50*	*< 0.50*	*< 12*	*< 5.0*	*< 5.0*	*< 10*	*< 0.50*	*< 0.50*	*< 0.50*
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5**	µg/L	**12**	**30**	**59**	**23 J**	**7.0 J**	**9.3 J**	**23 J**	**57**	**60**	**42**	**280 J**	**53**	**50**	**52 J**	**7.8**	1.5	0.95 J	**300**	**190**	**210**	**220 J**	*< 2.5*	*< 2.5*	*< 2.5 J*
	1,1,2-Trichloroethane	1	µg/L	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5 J*	*< 1.5 J*	*< 1.5*	*< 7.5*	*< 7.5*	*< 3.0*	*< 3.0*	*< 15*	*< 15*	*< 15*	*< 3.0*	*< 1.5*	*< 1.5*	*< 38*	*< 15*	*< 15*	*< 30*	*< 1.5*	*< 1.5*	*< 1.5*
	1,1-Dichloroethane	**5**	µg/L	1.6 J	4.5	**5.9**	2.6	4.4 J	**6.2 J**	**6.9**	**14**	**14**	**13**	**9.9**	**16 J**	**19**	**13 J**	1.4 J	0.76	*< 2.5*	*< 62*	**12**	**13**	**14 J**	1.8 J	1.8	1.8 J
	1,1-Dichloroethene	**5**	µg/L	0.98	2.6	4.3	1.9 J	2.9 J	3.9 J	**5.7 J**	**6.3**	**6.7**	4.9	**6.7 J**	**14**	**17**	**16 J**	1.9	0.54	*< 0.50 J*	**39**	**22**	**26**	**32 J**	0.25 J	0.21	0.27 J
	1,2,3-Trichlorobenzene	5	µg/L	--	--	*< 2.5*	*< 2.5*	--	*< 2.5 J*	*< 2.5*	--	--	*< 5.0*	*< 5.0*	--	*< 25*	*< 25*	--	*< 2.5*	*< 2.5*	--	*< 25*	*< 25*	*< 50*	--	*< 2.5*	*< 2.5*
	1,2,4-Trichlorobenzene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	1,2,4-Trimethylbenzene	5	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	1,2-Dibromo-3-chloropropane	0.04	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	1,2-Dichlorobenzene	3	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	1,2-Dichloroethane	0.6	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 1.0*	*< 0.50*	*< 0.50*	*< 12*	*< 5.0*	*< 5.0*	*< 10*	*< 0.50*	*< 0.50*	*< 0.50*
	1,2-Dichloroethene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2-Dichloropropane	1	µg/L	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0 J*	*< 1.0 J*	*< 1.0*	*< 5.0*	*< 5.0*	*< 2.0*	*< 2.0*	*< 10*	*< 10*	*< 10*	*< 2.0*	*< 1.0*	*< 1.0*	*< 25*	*< 10*	*< 10*	*< 20*	*< 1.0*	*< 1.0*	*< 1.0*
	1,3,5-Trimethylbenzene	5	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	1,3-Dichlorobenzene	3	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	1,3-Dichloropropene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,4-Dichlorobenzene	3	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	1,4-Dioxane	NS	µg/L	--	--	*< 250*	*< 250*	--	*< 250 J*	*< 250*	--	--	*< 500*	*< 500*	--	*< 2,500*	*< 2,500*	--	*< 250*	*< 250*	--	*< 2,500*	*< 2,500*	*< 5,000*	--	*< 250*	*< 250*
	2-Butanone (Methyl ethyl ketone)	50	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0 J*	*< 5.0 J*	*< 5.0*	*< 25*	*< 25*	*< 10*	*< 10*	*< 50*	*< 50*	*< 50*	*< 10*	*< 5.0*	*< 5.0*	*< 120*	*< 50*	*< 50*	*< 100*	*< 5.0*	*< 5.0*	*< 5.0*
	2-Hexanone	50	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0 J*	*< 5.0 J*	*< 5.0*	*< 25*	*< 25*	*< 10*	*< 10*	*< 50*	*< 50*	*< 50*	*< 10*	*< 5.0*	*< 5.0*	*< 120*	*< 50*	*< 50*	*< 100*	*< 5.0*	*< 5.0*	*< 5.0*
	4-Isopropyltoluene	5	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	4-Methyl-2-pentanone	NS	µg/L	*< 5.0*	*< 5.0*	*< 5.0 J*	*< 5.0*	*< 5.0 J*	*< 5.0 J*	*< 5.0*	*< 25*	*< 25*	*< 10*	*< 10*	*< 50*	*< 50*	*< 50*	*< 10*	*< 5.0*	*< 5.0*	*< 120*	*< 50*	*< 50*	*< 100*	*< 5.0*	*< 5.0 J*	*< 5.0*
	Acetone	50	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0 J*	*< 5.0 J*	*< 5.0*	*< 25*	*< 25*	*< 10*	*< 10*	*< 50*	*< 50*	*< 50*	*< 10*	*< 5.0*	*< 5.0*	*< 120*	*< 50*	*< 50*	*< 100*	*< 5.0*	*< 5.0*	*< 5.0*
	Benzene	1	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 1.0*	*< 0.50*	*< 0.50*	*< 12*	*< 5.0*	*< 5.0*	*< 10*	*< 0.50*	*< 0.50*	*< 0.50*
	Bromodichloromethane	50	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 1.0*	*< 0.50*	*< 0.50*	*< 12*	*< 5.0*	*< 5.0*	*< 10*	*< 0.50*	*< 0.50*	*< 0.50*
	Bromoform	50	µg/L	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0 J*	*< 2.0 J*	*< 2.0*	*< 10*	*< 10*	*< 4.0*	*< 4.0*	*< 20*	*< 20*	*< 20*	*< 4.0*	*< 2.0*	*< 2.0*	*< 50*	*< 20*	*< 20*	*< 40*	*< 2.0*	*< 2.0*	*< 2.0*
	Bromomethane	5	µg/L	*< 2.5 J*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0 J*	*< 5.0*	*< 25*	*< 25 J*	*< 25*	*< 5.0*	*< 2.5 J*	*< 2.5*	*< 62*	*< 25 J*	*< 25 J*	*< 50*	*< 2.5*	*< 2.5 J*	*< 2.5*
	Carbon disulfide	60	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0 J*	*< 5.0 J*	*< 5.0*	*< 25*	*< 25*	*< 10*	*< 10*	*< 50*	*< 50*	*< 50*	*< 10*	*< 5.0*	*< 5.0*	*< 120*	*< 50*	*< 50*	*< 100*	*< 5.0*	*< 5.0*	*< 5.0*
	Carbon tetrachloride	5	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 1.0*	*< 0.50*	*< 0.50*	*< 12*	*< 5.0*	*< 5.0*	*< 10*	*< 0.50*	*< 0.50*	*< 0.50*
	Chlorobenzene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	Chlorobromomethane	5	µg/L	--	--	*< 2.5*	*< 2.5*	--	*< 2.5 J*	*< 2.5*	--	--	*< 5.0*	*< 5.0*	--	*< 25*	*< 25*	--	*< 2.5*	*< 2.5*	--	*< 25*	*< 25*	*< 50*	--	*< 2.5*	*< 2.5*
	Chloroethane	5	µg/L	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12 J*	*< 12 J*	*< 5.0*	*< 5.0*	*< 25 J*	*< 25*	*< 25*	*< 5.0 J*	*< 2.5*	*< 2.5*	*< 62 J*	*< 25*	*< 25*	*< 50*	*< 2.5 J*	*< 2.5*	*< 2.5*
	Chloroform	7	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	0.85 J	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	1.4	2.6
	Chloromethane	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	cis-1,2-Dichloroethene	**5**	µg/L	**22 J**	**58 J**	**100**	**35**	**6.5 J**	**7.5 J**	**9.2**	**130**	**130**	**55**	**83**	**280**	**280**	**240**	**7.4**	3.2	*< 2.5*	**48 J**	**40**	**43**	**38 J**	3.8	3.1	3.4
	cis-1,3-Dichloropropene	0.4	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 1.0*	*< 0.50*	*< 0.50*	*< 12*	*< 5.0*	*< 5.0*	*< 10*	*< 0.50*	*< 0.50*	*< 0.50*
	Cyclohexane	NS	µg/L	*< 10*	*< 10*	*< 10*	*< 10*	*< 10 J*	*< 10 J*	*< 10*	*< 50*	*< 50*	*< 20*	*< 20*	*< 100*	*< 100*	*< 100*	*< 20*	*< 10*	*< 10*	*< 250*	*< 100*	*< 100*	*< 200*	*< 10*	*< 10*	*< 10*
	Dibromochloromethane	50	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 1.0*	*< 0.50*	*< 0.50*	*< 12*	*< 5.0*	*< 5.0*	*< 10*	*< 0.50*	*< 0.50*	*< 0.50*
	Dichlorodifluoromethane (Freon 12)	**5**	µg/L	*< 5.0*	1.2 J	1.3	*< 5.0*	*< 5.0 J*	*< 5.0 J*	*< 5.0*	*< 25*	*< 25*	*< 10*	*< 10*	*< 50*	*< 50*	*< 50*	*< 10*	*< 5.0*	*< 5.0*	*< 120*	*< 50*	*< 50 J*	*< 100*	*< 5.0*	*< 5.0*	*< 5.0*
	Ethylbenzene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	Ethylene dibromide	0.0006	µg/L	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0 J*	*< 2.0 J*	*< 2.0*	*< 10*	*< 10*	*< 4.0*	*< 4.0*	*< 20*	*< 20*	*< 20*	*< 4.0*	*< 2.0*	*< 2.0*	*< 50*	*< 20*	*< 20*	*< 40*	*< 2.0*	*< 2.0*	*< 2.0*
	Isopropylbenzene (Cumene)	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	m,p-Xylenes	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	Methyl acetate	NS	µg/L	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0 J*	*< 2.0 J*	*< 2.0*	*< 10*	*< 10*	*< 4.0*	*< 4.0*	*< 20*	*< 20*	*< 20*	*< 4.0*	*< 2.0*	*< 2.0*	*< 50*	*< 20*	*< 20*	*< 40*	*< 2.0*	*< 2.0*	*< 2.0*
	Methyl tert-butyl ether	10	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	Methylcyclohexane	NS	µg/L	*< 10*	*< 10*	*< 10*	*< 10*	*< 10 J*	*< 10 J*	*< 10*	*< 50*	*< 50*	*< 20*	*< 20*	*< 100*	*< 100*	*< 100*	*< 20*	*< 10*	*< 10*	*< 250*	*< 100*	*< 100*	*< 200*	*< 10*	*< 10*	*< 10*
	Methylene chloride	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	Naphthalene	NS	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	n-Butylbenzene	5	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	n-Propylbenzene	5	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	o-Xylene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	sec-Butylbenzene	5	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	Styrene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	tert-Butylbenzene	5	µg/L	*< 2.5*	*< 2.5*	--	--	*< 2.5 J*	--	--	*< 12*	*< 12*	--	--	*< 25*	--	--	*< 5.0*	--	--	*< 62*	--	--	--	*< 2.5*	--	--
	Tetrachloroethene	**5**	µg/L	**6.4 J**	**17 J**	**23**	**12**	**21 J**	**34 J**	**42**	**69**	**66**	**24**	**130**	**68**	**43**	**72**	**16**	**6.1**	2.6	**580**	**190**	**200**	**250**	2.6	1.5	1.3
	Toluene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	trans-1,2-Dichloroethene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5*	*< 2.5*
	trans-1,3-Dichloropropene	0.4	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50 J*	*< 0.50 J*	*< 0.50 J*	*< 0.50 J*	*< 2.5*	*< 2.5*	*< 1.0*	*< 1.0 J*	*< 5.0*	*< 5.0*	*< 5.0 J*	*< 1.0*	*< 0.50*	*< 0.50 J*	*< 12*	*< 5.0*	*< 5.0*	*< 10 J*	*< 0.50*	*< 0.50*	*< 0.50 J*
	Trichloroethene	**5**	µg/L	**34 J**	**91 J**	**140**	**54**	**94 J**	**130 J**	**130**	**420**	**420**	**230**	**310**	**990**	**880**	**920**	**170**	**62**	**12**	**3,400**	**1,200**	**1,500**	**1,700**	**14**	3.5	4.3
	Trichlorofluoromethane (Freon 11)	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 2.5 J*	*< 2.5 J*	*< 2.5*	*< 12*	*< 12*	*< 5.0*	*< 5.0*	*< 25*	*< 25*	*< 25*	*< 5.0*	*< 2.5*	*< 2.5*	*< 62*	*< 25*	*< 25*	*< 50*	*< 2.5*	*< 2.5 J*	*< 2.5*
	Vinyl chloride	**2**	µg/L	*< 1.0*	*< 1.0*	0.24 J	*< 1.0*	*< 1.0 J*	*< 1.0 J*	*< 1.0*	*< 5.0 J*	*< 5.0 J*	0.26	*< 2.0*	*< 10 J*	*< 10*	*< 10*	*< 2.0 J*	*< 1.0*	*< 1.0*	*< 25 J*	*< 10*	*< 10*	*< 20*	*< 1.0 J*	*< 1.0 J*	*< 1.0*
	Xylene, Total	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	1.83 J	0	--	--	0	--	--	--	--	--	--	--	--	--	3.88 J	--	--	--	--	--	--	--	--	--
Dissolved Gases	Ethane	NS	µg/L	*< 0.500*	*< 0.500*	*< 0.500*	--	--	*< 0.500*	--	5.56	5.46	2.72	--	*< 0.500*	*< 0.500*	--	*< 0.500*	*< 0.500*	--	*< 0.500*	*< 0.500*	--	--	*< 0.500*	*< 0.500*	--
	Ethene	NS	µg/L	*< 0.500*	*< 0.500*	*< 0.500*	--	--	*< 0.500*	--	6.28	6.27	2.44	--	0.633	*< 0.500*	--	*< 0.500*	*< 0.500*	--	*< 0.500*	*< 0.500*	--	--	*< 0.500*	*< 0.500*	--
	Methane	NS	µg/L	*< 2.00*	*< 2.00*	*< 2.00*	--	--	*< 2.00*	--	4.52	4.78	5.28	--	3.06	2.46	--	*< 2.00*	*< 2.00*	--	2.28	*< 2.00*	--	--	*< 2.00*	*< 2.00*	--

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01S	G-MW-01S	G-MW-01S	G-MW-02D	G-MW-02D	G-MW-02D	G-MW-02D	G-MW-02S	G-MW-02S	G-MW-02S	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-04D	G-MW-04D	G-MW-04D
			Sample Date	6/24/2021	6/24/2021	8/30/2022	3/9/2023	6/24/2021	8/31/2022	3/9/2023	6/3/2021	6/3/2021	8/31/2022	3/9/2023	6/3/2021	8/31/2022	3/9/2023	6/4/2021	8/30/2022	3/9/2023	6/4/2021	8/31/2022	8/31/2022	3/9/2023	6/3/2021	8/30/2022	3/8/2023
			Sample Type	N	FD	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
			Unit																								
SVOCs	1,2,4,5-Tetrachlorobenzene	5	µg/L	*< 10*	*< 10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,2'-Oxybis(1-chloropropane)	5	µg/L	*< 2.0 J*	*< 2.0 J*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,3,4,6-Tetrachlorophenol	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,5-Trichlorophenol	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,6-Trichlorophenol	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dichlorophenol	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dimethylphenol	50	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrophenol	10	µg/L	*< 20 J*	*< 20 J*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrotoluene	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,6-Dinitrotoluene	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Chlorophenol	NS	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitroaniline	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitrophenol	NS	µg/L	*< 10*	*< 10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3,3'-Dichlorobenzidine	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3-Nitroaniline	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	NS	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chloro-3-methylphenol	NS	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorophenyl phenyl ether	NS	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Nitrophenol	NS	µg/L	*< 10*	*< 10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acetophenone	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Atrazine	7.5	µg/L	*< 10*	*< 10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzaldehyde	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzyl butyl phthalate	50	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Biphenyl	5	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-chloroethoxy)methane	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-ethylhexyl)phthalate	5	µg/L	*< 3.0*	*< 3.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Caprolactam	NS	µg/L	*< 10 J*	*< 10 J*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbazole	NS	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzofuran	NS	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibutyl phthalate	50	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dichloroethyl ether	1	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diethyl phthalate	50	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dimethyl phthalate	50	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dinitro-o-cresol	NS	µg/L	*< 10 J*	*< 10 J*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Di-n-octyl phthalate	50	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorocyclopentadiene	5	µg/L	*< 20*	*< 20*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Isophorone	50	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	m,p-cresol	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Nitrobenzene	0.4	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodi-n-propylamine	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodiphenylamine	50	µg/L	*< 2.0*	*< 2.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	o-Cresol	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Chloroaniline	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	NS	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Nitroaniline	5	µg/L	*< 5.0*	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	40.6 J	91.3 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAHs	2-Chloronaphthalene	NS	µg/L	*< 0.20*	*< 0.20*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Methylnaphthalene	NS	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthene	20	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthylene	NS	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Anthracene	50	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)anthracene	0.002	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)pyrene	0	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(b)fluoranthene	0.002	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(g,h,i)perylene	NS	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(k)fluoranthene	0.002	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chrysene	0.002	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzo(a,h)anthracene	NS	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluoranthene	50	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluorene	50	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobenzene	0.04	µg/L	*< 0.80*	*< 0.80*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobutadiene	0.5	µg/L	*< 0.50*	*< 0.50*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachloroethane	5	µg/L	*< 0.80*	*< 0.80*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	0.002	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Naphthalene	NS	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pentachlorophenol	NS	µg/L	*< 0.80*	*< 0.80*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenanthrene	50	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pyrene	50	µg/L	*< 0.10*	*< 0.10*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	1,4-Dioxane	0.35	µg/L	**0.515**	**1.46**	--	--	--	--	--	**2.73**	**2.58**	--	--	**1.46**	--	--	*< 0.156*	--	--	0.126 J	--	--	--	*< 0.139*	--	--
General Chemistry	Organic Carbon, Total	NS	mg/L	1.40	1.58	1.32	0.960	--	2.41	0.250 J	1.19	0.600	1.76	0.520	1.76 J	0.791	0.430 J	0.923	0.941	0.780 J	1.33	0.848	--	0.450 J	1.37	1.35	1.07
	pH, Lab	NS	pH units	7.0	7.3	--	--	--	--	--	7.6	7.4	--	--	7.8	--	--	8.8	--	--	7.5	--	--	--	7.8	--	--
CSIA	cis-1,2-Dichloroethene	NS	δ13C, VPDB (‰)	--	--	-27.9	--	--	--	--	--	--	--	--	--	--	--	--	-23.2	--	--	--	--	--	-22.3	--
	Tetrachloroethene	NS	δ13C, VPDB (‰)	--	--	-26.9	--	--	--	--	--	--	--	--	--	--	--	--	-27.2	--	--	--	--	--	-27	--
	Trichloroethene	NS	δ13C, VPDB (‰)	--	--	-24.4	--	--	--	--	--	--	--	--	--	--	--	--	-25.9	--	--	--	--	--	-21.5	--

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01S	G-MW-01S	G-MW-01S	G-MW-02D	G-MW-02D	G-MW-02D	G-MW-02D	G-MW-02S	G-MW-02S	G-MW-02S	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-04D	G-MW-04D	G-MW-04D
			Sample Date	6/24/2021	6/24/2021	8/30/2022	3/9/2023	6/24/2021	8/31/2022	3/9/2023	6/3/2021	6/3/2021	8/31/2022	3/9/2023	6/3/2021	8/31/2022	3/9/2023	6/4/2021	8/30/2022	3/9/2023	6/4/2021	8/31/2022	8/31/2022	3/9/2023	6/3/2021	8/30/2022	3/8/2023
			Sample Type	N	FD	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	FD	N	N	N	N
			Unit																								
Cations	Calcium	NS	mg/L	127	122	127	--	--	363	--	140	135	133	--	138	139	--	82.5	103	--	147	133	--	--	120	94.7	--
	Iron	NS	mg/L	*< 0.050*	*< 0.050*	--	--	--	--	--	0.254	0.278	--	--	*< 0.050*	--	--	*< 0.050*	--	--	*< 0.050*	--	--	--	*< 0.050*	--	--
	Magnesium	**35**	mg/L	22.4 J	24.0 J	25.3	--	--	**82.1**	--	**36.8**	**36.6**	**40.4**	--	32.4	**38.3**	--	9.69	18.6	--	34.0	34.1	--	--	24.7	19.8	--
	Manganese	NS	mg/L	*< 0.010*	0.006 J	--	--	--	--	--	0.242	0.248	--	--	0.072	--	--	0.004 J	--	--	0.022	--	--	--	0.008 J	--	--
	Potassium	NS	mg/L	2.19 J	2.31 J	2.46	--	--	10.9	--	7.86	7.40	6.52	--	7.01	6.05	--	4.87	3.62	--	5.47	4.42	--	--	6.57	5.54	--
	Sodium	**20**	mg/L	**138**	**142**	**171**	--	--	**3,990**	--	**324**	**328**	**396**	--	**403**	**462**	--	**297**	**300**	--	**366**	**396**	--	--	**204**	**145**	--
Anions	Alkalinity, Total as CaCO3	NS	mg/L	276	276	311	--	--	1,020	--	281 J	291 J	299	--	384 J	372	--	45.1 J	288	--	363 J	357	--	--	324 J	322	--
	Bicarbonate Alkalinity as CaCO3	NS	mg/L	276	276	--	--	--	--	--	281	291	--	--	384	--	--	*< 2.00*	--	--	363	--	--	--	324	--	--
	Carbonate Alkalinity as CaCO3	NS	mg/L	*< 2.00*	*< 2.00*	--	--	--	--	--	*< 2.00*	*< 2.00*	--	--	*< 2.00*	--	--	43.8	--	--	*< 2.00*	--	--	--	*< 2.00*	--	--
	Chloride	**250**	mg/L	**280**	**287**	**292**	--	--	**7,190**	--	--	--	**810**	--	--	**917**	--	--	**504**	--	--	**678**	--	--	--	150	--
	Sulfate	250	mg/L	31.8	32.6	31.1	--	--	173	--	60.1	60.2 J	37.7	--	58.3	63.5	--	47.1	35.0	--	55.0	49.9	--	--	39.6	32.0	--
	Nitrate (NO3)	**10**	mg/L	**17**	**14**	5.0	--	--	**16**	--	0.32	0.32	0.41	--	0.057 J	0.032 J	--	3.0	3.1	--	3.4	2.9	--	--	3.4	3.4	--
	Nitrogen oxide anion (NO2-)	1	mg/L	--	--	0.021 J	--	--	*< 0.050*	--	--	--	0.024 J	--	--	0.018 J	--	--	0.028 J	--	--	*< 0.050*	--	--	--	0.015 J	--
Metals	Aluminum	NS	mg/L	*< 0.100*	*< 0.100*	0.00334	--	--	1.68	--	--	--	0.111	--	--	*< 0.0100*	--	--	0.360	--	--	*< 0.0141*	*< 0.0192*	--	--	0.0120	--
	Antimony	0.003	mg/L	*< 0.050 J*	*< 0.050*	*< 0.00400*	--	--	*< 0.08000*	--	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	0.00055	--	--	*< 0.00400*	*< 0.00400*	--	--	*< 0.00400*	--
	Arsenic	0.025	mg/L	*< 0.005*	*< 0.005*	0.00021	--	--	0.00620	--	--	--	0.00098	--	--	0.00325	--	--	0.00042	--	--	0.00035	0.00031	--	--	0.00023	--
	Barium	1	mg/L	0.076	0.078	0.08302	--	--	0.6938	--	--	--	0.2807	--	--	0.2666	--	--	0.08879	--	--	0.1321	0.1324	--	--	0.06578	--
	Beryllium	0.003	mg/L	*< 0.005*	*< 0.005*	*< 0.00050*	--	--	*< 0.01000*	--	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	*< 0.00050*	--	--	*< 0.00050*	--
	Cadmium	0.005	mg/L	*< 0.005*	*< 0.005*	*< 0.00020*	--	--	*< 0.00400*	--	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	*< 0.00020*	--	--	*< 0.00020*	--
	Calcium	NS	mg/L	128	138	126	--	--	743 J	--	--	--	141	--	--	140	--	--	115	--	--	131	131	--	--	84.3	--
	Chromium	0.05	mg/L	*< 0.010*	*< 0.010*	*< 0.00100*	--	--	0.01064	--	--	--	0.00524	--	--	0.00028	--	--	0.00079	--	--	0.00032	0.00026	--	--	*< 0.00100*	--
	Cobalt	NS	mg/L	*< 0.020*	*< 0.020*	*< 0.00050*	--	--	0.00883	--	--	--	0.00110	--	--	0.00086	--	--	0.00055	--	--	*< 0.00050*	*< 0.00050*	--	--	*< 0.00050*	--
	Copper	0.2	mg/L	0.002 J	*< 0.010*	0.00082	--	--	0.01957	--	--	--	0.00241	--	--	*< 0.00100*	--	--	0.00242	--	--	0.00070	0.00075	--	--	0.00110	--
	Iron	NS	mg/L	*< 0.099*	0.174	*< 0.0794*	--	--	6.44	--	--	--	12.5	--	--	2.23	--	--	9.39	--	--	*< 0.0500*	*< 0.0777*	--	--	*< 0.541*	--
	Lead	0.025	mg/L	0.003 J	*< 0.010*	*< 0.00100*	--	--	0.00903	--	--	--	0.00037	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	*< 0.00100*	--	--	*< 0.00100*	--
	Magnesium	**35**	mg/L	24.3	23.7	25.8	--	--	**164**	--	--	--	**43.2**	--	--	**39.7**	--	--	21.8	--	--	**35.4**	**35.4**	--	--	18.2	--
	Manganese	NS	mg/L	0.002 J	0.005 J	*< 0.00100*	--	--	2.174	--	--	--	0.1906	--	--	0.07304	--	--	0.1633	--	--	0.02836	0.03100	--	--	*< 0.01048*	--
	Mercury	0.0007	mg/L	*< 0.00020*	*< 0.00020*	*< 0.00020*	--	--	0.00015	--	--	--	0.00014	--	--	0.00009	--	--	*< 0.00020*	--	--	0.00010	0.00010	--	--	*< 0.00020*	--
	Nickel	0.1	mg/L	0.003 J	*< 0.025*	*< 0.00200*	--	--	0.01671	--	--	--	0.00617	--	--	0.00101	--	--	0.00253	--	--	0.00172	0.00239	--	--	*< 0.00200*	--
	Potassium	NS	mg/L	2.40 J	2.46 J	2.53	--	--	12.3	--	--	--	7.15	--	--	6.30	--	--	3.81	--	--	4.67	4.71	--	--	5.40	--
	Selenium	0.01	mg/L	*< 0.010*	*< 0.010*	*< 0.00500*	--	--	*< 0.100*	--	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	*< 0.00500*	--	--	*< 0.00500*	--
	Silver	0.05	mg/L	*< 0.007*	*< 0.007*	*< 0.00040*	--	--	*< 0.00800*	--	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	*< 0.00040*	--	--	*< 0.00040*	--
	Sodium	**20**	mg/L	**151**	**150**	**156**	--	--	**4,130**	--	--	--	**381**	--	--	**476**	--	--	**278**	--	--	**372**	**374**	--	--	**122**	--
	Thallium	0.0005	mg/L	*< 0.020*	*< 0.020*	*< 0.00100*	--	--	*< 0.02000*	--	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	0.00014	--	--	*< 0.00100*	0.00019	--	--	*< 0.00100*	--
	Vanadium	NS	mg/L	*< 0.010*	*< 0.010*	*< 0.00500*	--	--	*< 0.1000*	--	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	*< 0.00500*	--	--	*< 0.00500*	--
	Zinc	2	mg/L	*< 0.050*	0.006 J	*< 0.01000*	--	--	*< 0.2000*	--	--	--	*< 0.01000*	--	--	*< 0.01000*	--	--	*< 0.01000*	--	--	*< 0.01000*	0.00406	--	--	*< 0.01000*	--
Microbial Census	1,1 DCA Reductase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	1,2 DCA Reductase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	BAV1 Vinyl Chloride Reductase	NS	cells/mL	--	--	*< 0.5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 0.5*	--	--	--	--	--	--	*< 0.5*	--
	cerA Reductase (CER)	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Chloroform Reductase (CFR)	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Dehalobacter DCM	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Dehalobacter spp.	NS	cells/mL	--	--	33.1	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	61.1	--
	Dehalobium chlorocoercia	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	142	--
	Dehaloccoides tceA Reductase (TCE)	NS	cells/mL	--	--	*< 0.5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 0.5*	--	--	--	--	--	--	*< 0.5*	--
	Dehaloccoides Vinyl chloride reductase	NS	cells/mL	--	--	*< 0.5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 0.5*	--	--	--	--	--	--	*< 0.5*	--
	Dehalococcoides spp.	NS	cells/mL	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	*< 0.5*	--	--	--	--	--	--	0.8	--
	Dehalogenimonas spp. (DHG)	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Desulfitobacterium spp.	NS	cells/mL	--	--	63.7	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	93.2	--
	Desulfuromonas spp.	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Dichloromethane Dehalogenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Epoxyalkane Transferase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Ethene Monooxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Eubacteria, Total	NS	cells/mL	--	--	5,100	--	--	--	--	--	--	--	--	--	--	--	--	113	--	--	--	--	--	--	63,500	--
	Methanogens	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	0.2 J	--
	PCE Reductase 1	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	PCE Reductase 2	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Phenol Hydroxylase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Soluble Methane Monooxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Sulfate Reducing Bacteria (APS)	NS	cells/mL	--	--	363	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	5,260	--
	Toluene Dioxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Toluene Monooxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Toluene Monooxygenase 2	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	62.8	--
	trans-1,2-Dichloroethene reductase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--
	Trichlorobenzene Dioxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	*< 5*	--	--	--	--	--	--	*< 5*	--

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/L = milligrams per liter
µg/L = micrograms per liter
ng/l = nanogram per liter
cells/mL = cells per milliliter
δ13C, VPDB (‰) = delta-13 C measured against the Vienna Pee Dee Belemnite (VPDB) standard, parts per thousand

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-04D	G-MW-04S	G-MW-04S	G-MW-06S2	G-MW-06S2	G-MW-06S2	G-MW-07D	G-MW-07D	G-MW-07D	G-MW-07D2	G-MW-07S	G-MW-07S	G-MW-07S	G-MW-08D	G-MW-08D	G-MW-08D	G-MW-09D	G-MW-09D	G-MW-09D
			Sample Date	3/8/2023	6/3/2021	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/3/2021	9/1/2022	3/9/2023	6/3/2021	6/4/2021	9/1/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/4/2021	6/4/2021	8/31/2022
			Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N
			Unit																			
VOCs	1,1,1-Trichloroethane	**5**	µg/L	0.95 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5**	µg/L	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	1.1 J	< 2.5	2.6 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	**6.7**	**6.7**	< 2.5
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
	1,1-Dichloroethane	**5**	µg/L	1.8 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	1.0 J	1.0 J	< 2.5
	1,1-Dichloroethene	**5**	µg/L	0.25 J	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	0.20 J	0.22 J	< 0.50
	1,2,3-Trichlorobenzene	5	µg/L	< 2.5	--	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--	< 2.5
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2,4-Trimethylbenzene	5	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	1,2-Dichloroethene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	1,3,5-Trimethylbenzene	5	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,3-Dichloropropene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,4-Dioxane	NS	µg/L	< 250	--	< 250	--	< 250	< 250	--	< 250	< 250	--	--	< 250	< 250	--	< 250	< 250	--	--	< 250
	2-Butanone (Methyl ethyl ketone)	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	2-Hexanone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	4-Isopropyltoluene	5	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--
	4-Methyl-2-pentanone	NS	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Acetone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.8	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Benzene	1	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.20 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromoform	50	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Bromomethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5
	Carbon disulfide	60	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chlorobromomethane	5	µg/L	< 2.5	--	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--	< 2.5
	Chloroethane	5	µg/L	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5
	Chloroform	7	µg/L	2.6	< 2.5	2.8	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	cis-1,2-Dichloroethene	**5**	µg/L	3.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	0.96 J	< 2.5	< 2.5	< 2.5	< 2.5	1.4 J	< 2.5	< 2.5	**26**	**26**	< 2.5
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Cyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Dichlorodifluoromethane (Freon 12)	**5**	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**24**	**23**	**17**	
	Ethylbenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Isopropylbenzene (Cumene)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	m,p-Xylenes	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methyl acetate	NS	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methylcyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Methylene chloride	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Naphthalene	NS	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--
	n-Butylbenzene	5	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--
	n-Propylbenzene	5	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--
	o-Xylene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	sec-Butylbenzene	5	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--
	Styrene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	tert-Butylbenzene	5	µg/L	--	< 2.5	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	--
	Tetrachloroethene	**5**	µg/L	1.6	0.77	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	**5.6**	**5.4**	0.78	
	Toluene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50 J	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50
	Trichloroethene	**5**	µg/L	**5.1**	1.0	0.31 J	< 0.50	< 0.50	< 0.50	1.0	0.35	1.3	< 0.50	< 0.50	< 0.50	< 0.50	**32**	**18**	**14**	< 0.50	**53**	**51**	**11**
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Vinyl chloride	**2**	µg/L	< 1.0	< 1.0 J	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0 J	< 1.0 J	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0 J	0.09 J	< 1.0	
	Xylene, Total	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Gases	Ethane	NS	µg/L	--	0.921	--	< 0.500	< 0.500	--	< 0.500 J	< 0.500	--	2.05	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	--	< 0.500
	Ethene	NS	µg/L	--	< 0.500	--	< 0.500	< 0.500	--	< 0.500 J	< 0.500	--	< 0.500	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	--	< 0.500	
	Methane	NS	µg/L	--	6.50	--	< 2.00	< 2.00	--	< 2.00	< 2.00	--	46.0	< 2.00	< 2.00	--	< 2.00	< 2.00	--	3.13	--	< 2.00	

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-04D	G-MW-04S	G-MW-04S	G-MW-06S2	G-MW-06S2	G-MW-06S2	G-MW-07D	G-MW-07D	G-MW-07D	G-MW-07D2	G-MW-07S	G-MW-07S	G-MW-07S	G-MW-08D	G-MW-08D	G-MW-08D	G-MW-09D	G-MW-09D	G-MW-09D
			Sample Date	3/8/2023	6/3/2021	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/3/2021	9/1/2022	3/9/2023	6/3/2021	6/4/2021	9/1/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/4/2021	6/4/2021	8/31/2022
			Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N
			Unit																			
SVOCs	1,2,4,5-Tetrachlorobenzene	5	µg/L	--	--	--	< 10	--	--	< 10	--	--	< 10	< 10	--	--	--	--	--	--	< 10	--
	2,2'-Oxybis(1-chloropropane)	5	µg/L	--	--	--	< 2.0 J	--	--	< 2.0 J	--	--	< 2.0 J	< 2.0 J	--	--	--	--	--	--	< 2.0 J	--
	2,3,4,6-Tetrachlorophenol	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0 J	--	--	--	--	--	--	< 5.0	--
	2,4,5-Trichlorophenol	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	2,4,6-Trichlorophenol	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	2,4-Dichlorophenol	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	2,4-Dimethylphenol	50	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	2,4-Dinitrophenol	10	µg/L	--	--	--	< 20 J	--	--	< 20 J	--	--	< 20 J	< 20	--	--	--	--	--	--	< 20 J	--
	2,4-Dinitrotoluene	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	2,6-Dinitrotoluene	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	2-Chlorophenol	NS	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	2-Nitroaniline	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	2-Nitrophenol	NS	µg/L	--	--	--	< 10	--	--	< 10	--	--	< 10	< 10 J	--	--	--	--	--	--	< 10	--
	3,3'-Dichlorobenzidine	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	3-Nitroaniline	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	4-Bromophenyl phenyl ether	NS	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	4-Chloro-3-methylphenol	NS	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	4-Chlorophenyl phenyl ether	NS	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	4-Nitrophenol	NS	µg/L	--	--	--	< 10	--	--	< 10	--	--	< 10	< 10	--	--	--	--	--	--	< 10	--
	Acetophenone	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Atrazine	7.5	µg/L	--	--	--	< 10	--	--	< 10	--	--	< 10	< 10	--	--	--	--	--	--	< 10	--
	Benzaldehyde	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Benzyl butyl phthalate	50	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Biphenyl	5	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	Bis(2-chloroethoxy)methane	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Bis(2-ethylhexyl)phthalate	5	µg/L	--	--	--	< 3.0	--	--	< 3.0	--	--	< 3.0	< 3.0	--	--	--	--	--	--	< 3.0	--
	Caprolactam	NS	µg/L	--	--	--	< 10	--	--	< 10	--	--	< 10	< 10	--	--	--	--	--	--	< 10	--
	Carbazole	NS	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	Dibenzofuran	NS	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	Dibutyl phthalate	50	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Dichloroethyl ether	1	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	Diethyl phthalate	50	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Dimethyl phthalate	50	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Dinitro-o-cresol	NS	µg/L	--	--	--	< 10 J	--	--	< 10 J	--	--	< 10 J	< 10 J	--	--	--	--	--	--	< 10 J	--
	Di-n-octyl phthalate	50	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Hexachlorocyclopentadiene	5	µg/L	--	--	--	< 20	--	--	< 20	--	--	< 20	< 20	--	--	--	--	--	--	< 20	--
	Isophorone	50	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	m,p-cresol	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Nitrobenzene	0.4	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	n-Nitrosodi-n-propylamine	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	n-Nitrosodiphenylamine	50	µg/L	--	--	--	< 2.0	--	--	< 2.0	--	--	< 2.0	< 2.0	--	--	--	--	--	--	< 2.0	--
	o-Cresol	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	p-Chloroaniline	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	Phenol	NS	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	< 5.0	< 5.0	--
	p-Nitroaniline	5	µg/L	--	--	--	< 5.0	--	--	< 5.0	--	--	< 5.0	< 5.0	--	--	--	--	--	--	< 5.0	--
	TICs (Calculated), Total	NS	µg/L	--	--	--	97.0 J	--	--	22.0 J	--	--	623 J	22.4 J	--	--	--	--	--	--	36.5 J	--
PAHs	2-Chloronaphthalene	NS	µg/L	--	--	--	< 0.20	--	--	< 0.20	--	--	< 0.20	< 0.20	--	--	--	--	--	--	< 0.20	--
	2-Methylnaphthalene	NS	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Acenaphthene	20	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Acenaphthylene	NS	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Anthracene	50	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	0.02 J	--	--	--	--	--	--	< 0.10	--
	Benzo(a)anthracene	0.002	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Benzo(a)pyrene	0	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Benzo(b)fluoranthene	0.002	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Benzo(g,h,i)perylene	NS	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Benzo(k)fluoranthene	0.002	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Chrysene	0.002	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Dibenzo(a,h)anthracene	NS	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Fluoranthene	50	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Fluorene	50	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Hexachlorobenzene	0.04	µg/L	--	--	--	< 0.80	--	--	< 0.80	--	--	< 0.80	< 0.80	--	--	--	--	--	--	< 0.80	--
	Hexachlorobutadiene	0.5	µg/L	--	--	--	< 0.50	--	--	< 0.50	--	--	< 0.50	< 0.50	--	--	--	--	--	--	< 0.50	--
	Hexachloroethane	5	µg/L	--	--	--	< 0.80	--	--	< 0.80	--	--	< 0.80	< 0.80	--	--	--	--	--	--	< 0.80	--
	Indeno(1,2,3-cd)pyrene	0.002	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Naphthalene	NS	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Pentachlorophenol	NS	µg/L	--	--	--	< 0.80	--	--	< 0.80	--	--	< 0.80	< 0.80	--	--	--	--	--	--	< 0.80	--
	Phenanthrene	50	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
	Pyrene	50	µg/L	--	--	--	< 0.10	--	--	< 0.10	--	--	< 0.10	< 0.10	--	--	--	--	--	--	< 0.10	--
1,4-Dioxane	1,4-Dioxane	0.35	µg/L	--	< 0.144	--	< 0.150	--	--	0.191	--	--	< 0.139	< 0.150	--	--	< 0.150	--	--	0.257	0.203	--
General Chemistry	Organic Carbon, Total	NS	mg/L	1.02	1.32	0.980	1.13	1.14	--	1.72	1.41	0.990	1.05	6.53	2.98	1.19 J	1.97	1.14	--	2.02	1.36	1.46
	pH, Lab	NS	pH units	--	7.8	--	7.6	--	--	7.6	--	--	8.3	7.3	--	--	7.6	--	--	7.7	7.4	--
CSIA	cis-1,2-Dichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tetrachloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-23

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-04D	G-MW-04S	G-MW-04S	G-MW-06S2	G-MW-06S2	G-MW-06S2	G-MW-07D	G-MW-07D	G-MW-07D	G-MW-07D2	G-MW-07S	G-MW-07S	G-MW-07S	G-MW-08D	G-MW-08D	G-MW-08D	G-MW-09D	G-MW-09D	G-MW-09D
			Sample Date	3/8/2023	6/3/2021	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/3/2021	9/1/2022	3/9/2023	6/3/2021	6/4/2021	9/1/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/4/2021	6/4/2021	8/31/2022
			Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N
			Unit																			
Cations	Calcium	NS	mg/L	--	111	--	106	107	--	121	123	--	48.0	368	414	--	163	133	--	105	106	105
	Iron	NS	mg/L	--	< 0.050	--	< 0.050	--	--	< 0.050	--	--	< 0.050	0.014 J	--	--	< 0.050	--	--	0.013 J	0.014 J	--
	Magnesium	**35**	mg/L	--	21.9	--	21.2	21.6	--	17.6	19.2	--	24.2	**74.0**	**120**	--	29.7	28.4	--	22.0	22.0	21.6
	Manganese	NS	mg/L	--	< 0.010	--	0.010 J	--	--	0.002 J	--	--	0.010 J	0.069	--	--	< 0.010	--	--	0.019	0.020	--
	Potassium	NS	mg/L	--	5.73	--	1.20 J	1.03	--	2.72	2.13	--	15.9	19.6	13.2	--	5.25	4.31	--	5.09	4.86	4.52
	Sodium	**20**	mg/L	--	**175**	--	7.45	9.62	--	**88.0**	**70.3**	--	19.6	**2,710**	**3,700**	--	**592**	**550**	--	**174**	**176**	**270**
Anions	Alkalinity, Total as CaCO3	NS	mg/L	--	346 J	--	318 J	281	--	279 J	302	--	142 J	678 J	648	--	371 J	374	--	301 J	306 J	324
	Bicarbonate Alkalinity as CaCO3	NS	mg/L	--	346	--	318	--	--	279	--	--	142	678	--	--	371	--	--	301	306	--
	Carbonate Alkalinity as CaCO3	NS	mg/L	--	< 2.00	--	< 2.00	--	--	< 2.00	--	--	< 2.00	< 10.0	--	--	< 2.00	--	--	< 2.00	< 2.00	--
	Chloride	**250**	mg/L	--	--	--	17.5	22.9	--	--	144	--	34.6	--	**7,410**	--	--	**903**	--	--	--	**441**
	Sulfate	250	mg/L	--	34.3	--	17.2	24.1	--	19.5	22.7	--	136	190	207	--	52.3	45.7	--	36.5	37.7 J	28.8
	Nitrate (NO3)	**10**	mg/L	--	3.6	--	5.8	**11**	--	**17**	6.1	--	0.10	**10**	**11**	--	6.6	3.0	--	4.3	4.3	2.1
	Nitrogen oxide anion (NO2-)	1	mg/L	--	--	--	--	< 0.050	--	--	< 0.050	--	--	--	< 0.050	--	--	< 0.050	--	--	--	0.017 J
Metals	Aluminum	NS	mg/L	--	--	--	< 0.100	< 0.0100	--	< 0.100	< 0.0250	--	0.195	< 0.100	< 0.200	--	< 0.100	< 0.0100	--	--	--	< 0.0100
	Antimony	0.003	mg/L	--	--	--	< 0.050	< 0.00400	--	< 0.050	< 0.00400	--	< 0.050	< 0.050	< 0.08000	--	< 0.050	< 0.00400	--	--	--	< 0.00400
	Arsenic	0.025	mg/L	--	--	--	< 0.005	0.00027	--	< 0.005	0.00026	--	< 0.005	0.004 J	< 0.01000	--	< 0.005	0.00030	--	--	--	0.00050
	Barium	1	mg/L	--	--	--	0.016	0.01434	--	0.072	0.06318	--	0.046	0.476	0.6205	--	0.202	0.1692	--	--	--	0.07389
	Beryllium	0.003	mg/L	--	--	--	< 0.005	< 0.00050	--	< 0.005	< 0.00050	--	< 0.005	< 0.005	< 0.01000	--	< 0.005	< 0.00050	--	--	--	< 0.00050
	Cadmium	0.005	mg/L	--	--	--	< 0.005	< 0.00020	--	< 0.005	< 0.00020	--	< 0.005	< 0.005	< 0.00400	--	< 0.005	< 0.00020	--	--	--	0.00007
	Calcium	NS	mg/L	--	--	--	104	111 J	--	119	126 J	--	54.1	369	448 J	--	162	146 J	--	--	--	106
	Chromium	0.05	mg/L	--	--	--	< 0.010	0.00172	--	0.004 J	0.00354	--	0.011	< 0.010	< 0.02000	--	< 0.010	0.00076	--	--	--	0.00036
	Cobalt	NS	mg/L	--	--	--	< 0.020	< 0.00050	--	< 0.020	0.00022	--	0.004 J	< 0.020	< 0.01000	--	< 0.020	< 0.00050	--	--	--	< 0.00050
	Copper	0.2	mg/L	--	--	--	< 0.010	0.00078	--	< 0.010	0.00535	--	< 0.010	0.008 J	0.00797	--	< 0.010	0.00101	--	--	--	0.00198
	Iron	NS	mg/L	--	--	--	< 0.050	< 0.0500	--	0.259	1.86	--	5.32	0.011 J	< 1.00	--	0.087	< 0.0519	--	--	--	< 0.0500
	Lead	0.025	mg/L	--	--	--	< 0.010	< 0.00100	--	< 0.010	< 0.00100	--	< 0.010	< 0.010	< 0.02000	--	< 0.010	< 0.00100	--	--	--	< 0.00100
	Magnesium	**35**	mg/L	--	--	--	21.9	21.7	--	18.2	19.4	--	26.3	**76.8**	**123**	--	31.5	29.0	--	--	--	22.5
	Manganese	NS	mg/L	--	--	--	0.0090 J	< 0.00100	--	0.003 J	0.01948	--	0.026	0.073	< 0.02000	--	0.002 J	0.00082	--	--	--	0.00158
	Mercury	0.0007	mg/L	--	--	--	< 0.00020	0.00009	--	< 0.00020	< 0.00020	--	< 0.00020	< 0.00020	< 0.00020	--	< 0.00020	0.00009	--	--	--	0.00011
	Nickel	0.1	mg/L	--	--	--	< 0.025	< 0.00200	--	0.003 J	0.00158	--	0.004 J	0.003 J	< 0.04000	--	< 0.025	0.00147	--	--	--	0.00179
	Potassium	NS	mg/L	--	--	--	1.29 J	1.04	--	3.43	2.28	--	17.5	23.5	13.0	--	5.75	4.33	--	--	--	4.68
	Selenium	0.01	mg/L	--	--	--	< 0.010	< 0.00500	--	< 0.010	< 0.00500	--	< 0.010	0.009 J	< 0.100	--	< 0.010	< 0.00500	--	--	--	< 0.00500
	Silver	0.05	mg/L	--	--	--	< 0.007	< 0.00040	--	< 0.007	< 0.00040	--	< 0.007	< 0.007	< 0.00800	--	< 0.007	< 0.00040	--	--	--	< 0.00040
	Sodium	**20**	mg/L	--	--	--	7.22	10.2	--	**88.7**	**73.0**	--	**20.2**	**2,680**	**3,880**	--	**680**	**534**	--	--	--	**250**
	Thallium	0.0005	mg/L	--	--	--	< 0.020	< 0.00100	--	< 0.020	< 0.00100	--	< 0.020	< 0.020	< 0.02000	--	< 0.020	< 0.00100	--	--	--	< 0.00100
	Vanadium	NS	mg/L	--	--	--	< 0.010	< 0.00500	--	< 0.010	< 0.00500	--	< 0.010	< 0.010	< 0.1000	--	< 0.010	< 0.00500	--	--	--	< 0.00500
	Zinc	2	mg/L	--	--	--	< 0.050	0.1084	--	0.004 J	< 0.01000	--	< 0.050	0.014 J	0.2464	--	< 0.050	< 0.01000	--	--	--	< 0.01000
Microbial Census	1,1 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	1,2 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	BAV1 Vinyl Chloride Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
	cerA Reductase (CER)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Chloroform Reductase (CFR)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Dehalobacter DCM	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Dehalobacter spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Dehalobium chlorocoercia	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16.9
	Dehaloccoides tceA Reductase (TCE)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
	Dehaloccoides Vinyl chloride reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
	Dehalococcoides spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5
	Dehalogenimonas spp. (DHG)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Desulfitobacterium spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Desulfuromonas spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Dichloromethane Dehalogenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Epoxyalkane Transferase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Ethene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Eubacteria, Total	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	97,800
	Methanogens	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	PCE Reductase 1	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	PCE Reductase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Phenol Hydroxylase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	64.4
	Soluble Methane Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Sulfate Reducing Bacteria (APS)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,300
	Toluene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Toluene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,960
	Toluene Monooxygenase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73.8
	trans-1,2-Dichloroethene reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5
	Trichlorobenzene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/L = milligrams per liter
µg/L = micrograms per liter
ng/l = nanogram per liter
cells/mL = cells per milliliter
δ13C, VPDB (‰) = delta-13 C measured against the Vienna Pee Dee Belemnite (VPDB) standard, parts per thousand

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-09D	G-MW-09D	G-MW-09D2	G-MW-09S	G-MW-09S	G-MW-09S	G-MW-10D	G-MW-10D	G-MW-10D	G-MW-11D	G-MW-11D	G-MW-11D	G-MW-12D	G-MW-12D	G-MW-12D	G-MW-12S	G-MW-12S	G-MW-12S	G-TW-17	G-TW-17	G-TW-20	G-TW-20	G-TW-21	G-TW-21
			Sample Date	8/31/2022	3/8/2023	6/3/2021	6/4/2021	8/31/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/2/2021	8/31/2022	3/8/2023	6/2/2021	8/31/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	9/1/2022	3/8/2023	9/1/2022	3/8/2023	8/31/2022	3/9/2023
			Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
VOCs	1,1,1-Trichloroethane	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	**44**	**73**	**6.5**	**8.3**
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 12	< 10	< 0.50	< 0.50
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5**	µg/L	< 2.5	3.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5 J	< 62	**140 J**	**7.8**	**7.4 J**
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5 J	< 1.5	< 1.5	< 1.5	< 38	< 30	< 1.5	< 1.5
	1,1-Dichloroethane	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	**240**	**220**	**12**	**11**
	1,1-Dichloroethene	**5**	µg/L	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50 J	< 0.50 J	< 0.50	< 0.50 J	**74**	**130 J**	**5.9**	**5.4 J**
	1,2,3-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	1,2,4-Trimethylbenzene	5	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	--
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62 J	< 50	< 2.5	< 2.5
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 12	< 10	< 0.50	< 0.50
	1,2-Dichloroethene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0	< 25	< 20	< 1.0	< 1.0
	1,3,5-Trimethylbenzene	5	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	--
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	1,3-Dichloropropene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	1,4-Dioxane	NS	µg/L	< 250	< 250	--	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	--	< 250 J	< 250	< 250	< 250	< 6,200	< 5,000	< 250	< 250
	2-Butanone (Methyl ethyl ketone)	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0
	2-Hexanone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0
	4-Isopropyltoluene	5	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	--
	4-Methyl-2-pentanone	NS	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0
	Acetone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	2.1 J	< 5.0	3.9	< 5.0	< 120	< 100	1.6	< 5.0
	Benzene	1	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.20 J	< 0.50 J	< 0.50	< 0.50	< 0.50	< 12	< 10	0.49	0.25 J
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	1.0	0.51	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 12	< 10	< 0.50	< 0.50
	Bromoform	50	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0	< 50	< 40	< 2.0	< 2.0
	Bromomethane	5	µg/L	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 62	< 50	< 2.5 J	< 2.5
	Carbon disulfide	60	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 120	< 100	< 5.0	< 5.0
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 12	< 10	< 0.50	< 0.50
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	Chlorobromomethane	5	µg/L	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	Chloroethane	5	µg/L	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	Chloroform	7	µg/L	< 2.5	0.90 J	< 2.5	< 2.5	< 2.5	0.82 J	< 2.5	9.9	3.6	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	0.73	0.80 J
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	cis-1,2-Dichloroethene	**5**	µg/L	< 2.5	4.2	**8.4**	< 2.5	< 2.5	0.82 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	**380**	**380**	**19**	**16**
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 12	< 10	< 0.50	< 0.50
	Cyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	< 10	< 10	< 10	< 250	< 200	< 10	< 10
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 12	< 10	< 0.50	< 0.50
	Dichlorodifluoromethane (Freon 12)	**5**	µg/L	**18**	**13**	< 5.0	**33**	1.3	**23**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 120	< 100	< 5.0 J	< 5.0
	Ethylbenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0	< 50	< 40	< 2.0	< 2.0
	Isopropylbenzene (Cumene)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	m,p-Xylenes	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	Methyl acetate	NS	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0	< 50	< 40	< 2.0	< 2.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	1.0	0.81 J
	Methylcyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	< 10	< 10	< 10	< 250	< 200	< 10	< 10
	Methylene chloride	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	Naphthalene	NS	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5 J	--	--	< 2.5 J	--	--	< 2.5	--	--	--	--	--	--	--	--
	n-Butylbenzene	5	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	--
	n-Propylbenzene	5	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	--
	o-Xylene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	sec-Butylbenzene	5	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	--
	Styrene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	tert-Butylbenzene	5	µg/L	--	--	< 2.5	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	--
	Tetrachloroethene	**5**	µg/L	0.85	2.0	< 0.50	0.54	0.36	0.63	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	0.18	< 0.50	**150**	**270**	**40**	**28**
	Toluene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50 J	< 0.50 J	< 0.50	< 0.50 J	< 12	< 10 J	< 0.50	< 0.50 J
	Trichloroethene	**5**	µg/L	**11**	**30**	< 0.50	**16**	**6.6**	**19**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	0.54	< 0.50	**2,200**	**2,700**	**150**	**160**
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 62	< 50	< 2.5	< 2.5
	Vinyl chloride	**2**	µg/L	< 1.0	< 1.0	1.7 J	< 1.0 J	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J	< 1.0 J	< 1.0	< 1.0	< 1.0	**2.3**	**4.4 J**	0.28	0.10 J
	Xylene, Total	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dissolved Gases	Ethane	NS	µg/L	--	--	1.97	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	3.93	--	--	--	--	--	--	--	--
	Ethene	NS	µg/L	--	--	0.748	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	--	--	--	--	--	--	--	--
	Methane	NS	µg/L	--	--	63.6	< 2.00	< 2.00	--	< 2.00	< 2.00	--	< 2.00	< 2.00	--	12.1	6.17	--	21.0	--	--	--	--	--	--	--	--

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-09D	G-MW-09D	G-MW-09D2	G-MW-09S	G-MW-09S	G-MW-09S	G-MW-10D	G-MW-10D	G-MW-10D	G-MW-11D	G-MW-11D	G-MW-11D	G-MW-12D	G-MW-12D	G-MW-12D	G-MW-12S	G-MW-12S	G-MW-12S	G-TW-17	G-TW-17	G-TW-20	G-TW-20	G-TW-21	G-TW-21
			Sample Date	8/31/2022	3/8/2023	6/3/2021	6/4/2021	8/31/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/2/2021	8/31/2022	3/8/2023	6/2/2021	8/31/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	9/1/2022	3/8/2023	9/1/2022	3/8/2023	8/31/2022	3/9/2023
			Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
SVOCs	1,2,4,5-Tetrachlorobenzene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,2'-Oxybis(1-chloropropane)	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,3,4,6-Tetrachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,5-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,6-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dichlorophenol	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dimethylphenol	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrophenol	10	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,6-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Chlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3,3'-Dichlorobenzidine	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chloro-3-methylphenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acetophenone	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Atrazine	7.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzaldehyde	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzyl butyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Biphenyl	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-chloroethoxy)methane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-ethylhexyl)phthalate	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Caprolactam	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbazole	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzofuran	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibutyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dichloroethyl ether	1	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dimethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dinitro-o-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Di-n-octyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorocyclopentadiene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Isophorone	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	m,p-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Nitrobenzene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodi-n-propylamine	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodiphenylamine	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	o-Cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Chloroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	NS	µg/L	--	--	*< 5.0*	*< 5.0*	--	--	*< 5.0*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAHs	2-Chloronaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Methylnaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthene	20	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Anthracene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)anthracene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)pyrene	0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(b)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(g,h,i)perylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(k)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chrysene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzo(a,h)anthracene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluoranthene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluorene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobenzene	0.04	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobutadiene	0.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachloroethane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Naphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pentachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenanthrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pyrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	1,4-Dioxane	0.35	µg/L	--	--	*< 0.134*	*< 0.134*	--	--	*< 0.150*	--	--	*< 0.139*	--	--	*< 0.139*	--	--	*< 0.150*	--	--	--	--	--	--	--	--
General Chemistry	Organic Carbon, Total	NS	mg/L	--	0.820	1.17	2.08	1.54	0.780	1.41	1.40	--	1.33	1.49	--	1.54	1.64	--	1.92	--	--	--	0.980 J	--	0.690	--	1.34
	pH, Lab	NS	pH units	--	--	7.6	7.8	--	--	7.5	--	--	7.4	--	--	7.6	--	--	--	--	--	--	--	--	--	--	--	--
CSIA	cis-1,2-Dichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tetrachloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 14
Groundwater Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	G-MW-09D	G-MW-09D	G-MW-09D2	G-MW-09S	G-MW-09S	G-MW-09S	G-MW-10D	G-MW-10D	G-MW-10D	G-MW-11D	G-MW-11D	G-MW-11D	G-MW-12D	G-MW-12D	G-MW-12D	G-MW-12S	G-MW-12S	G-MW-12S	G-TW-17	G-TW-17	G-TW-20	G-TW-20	G-TW-21	G-TW-21
			Sample Date	8/31/2022	3/8/2023	6/3/2021	6/4/2021	8/31/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	6/2/2021	8/31/2022	3/8/2023	6/2/2021	8/31/2022	3/8/2023	6/3/2021	9/1/2022	3/8/2023	9/1/2022	3/8/2023	9/1/2022	3/8/2023	8/31/2022	3/9/2023
			Sample Type	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
Cations	Calcium	NS	mg/L	--	--	128	97.2	103	--	107	72.5	--	129	141	--	148	137	--	--	--	--	--	--	--	--	--	--
	Iron	NS	mg/L	--	--	0.211	*< 0.050*	--	--	*< 0.050*	--	--	*< 0.050*	--	--	*< 0.050*	--	--	--	--	--	--	--	--	--	--	--
	Magnesium	**35**	mg/L	--	--	**39.6**	18.9	22.0	--	22.1	16.2	--	34.8	**40.7**	--	34.6	**37.1**	--	--	--	--	--	--	--	--	--	--
	Manganese	NS	mg/L	--	--	0.021	*< 0.010*	--	--	*< 0.010*	--	--	0.009 J	--	--	0.008 J	--	--	--	--	--	--	--	--	--	--	--
	Potassium	NS	mg/L	--	--	6.98	4.63	4.02	--	5.60	3.97	--	2.95	2.75	--	3.77	3.05	--	--	--	--	--	--	--	--	--	--
	Sodium	**20**	mg/L	--	--	**76.1**	**135**	**268**	--	**173**	**86.7**	--	**68.1**	**88.7**	--	**75.9**	**75.6**	--	--	--	--	--	--	--	--	--	--
Anions	Alkalinity, Total as CaCO3	NS	mg/L	--	--	310 J	293 J	318	--	340 J	264	--	350	393	--	279	338	--	478 J	--	--	--	--	--	--	--	--
	Bicarbonate Alkalinity as CaCO3	NS	mg/L	--	--	310	293	--	--	340	--	--	378	--	--	312	--	--	478	--	--	--	--	--	--	--	--
	Carbonate Alkalinity as CaCO3	NS	mg/L	--	--	*< 2.00*	*< 2.00*	--	--	*< 2.00*	--	--	*< 2.00*	--	--	*< 2.00*	--	--	*< 4.00*	--	--	--	--	--	--	--	--
	Chloride	**250**	mg/L	--	--	159	--	**427**	--	--	110	--	142	200	--	164	163	--	--	--	--	--	--	--	--	--	--
	Sulfate	250	mg/L	--	--	234	28.6	28.5	--	32.4	25.7	--	53.9	57.0	--	241	144	--	--	--	--	--	--	--	--	--	--
	Nitrate (NO3)	**10**	mg/L	--	--	0.062 J	5.8	2.2	--	4.4	2.7	--	5.5	3.4	--	*< 0.10*	0.027 J	--	--	--	--	--	--	--	--	--	--
	Nitrogen oxide anion (NO2-)	1	mg/L	--	--	--	--	0.023 J	--	--	*< 0.050*	--	--	*< 0.050*	--	--	0.017 J	--	--	--	--	--	--	--	--	--	--
Metals	Aluminum	NS	mg/L	*< 0.0100*	--	--	--	*< 0.0100*	--	--	*< 0.0100*	--	--	*< 0.0100*	--	--	*< 0.0359*	--	--	--	--	--	--	--	--	--	--
	Antimony	0.003	mg/L	*< 0.00400*	--	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	0.00049	--	--	0.00095	--	--	--	--	--	--	--	--	--	--
	Arsenic	0.025	mg/L	0.00052	--	--	--	0.00048	--	--	0.00017	--	--	0.00025	--	--	0.00031	--	--	--	--	--	--	--	--	--	--
	Barium	1	mg/L	0.07568	--	--	--	0.07932	--	--	0.02376	--	--	0.1084	--	--	0.07206	--	--	--	--	--	--	--	--	--	--
	Beryllium	0.003	mg/L	*< 0.00050*	--	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	--	--	--	--	--	--	--	--
	Cadmium	0.005	mg/L	0.00007	--	--	--	0.00006	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	--	--	--	--	--	--	--	--
	Calcium	NS	mg/L	106	--	--	--	105	--	--	76.3 J	--	--	138	--	--	148	--	--	--	--	--	--	--	--	--	--
	Chromium	0.05	mg/L	0.00038	--	--	--	0.00064	--	--	0.00032	--	--	0.00021	--	--	0.00034	--	--	--	--	--	--	--	--	--	--
	Cobalt	NS	mg/L	*< 0.00050*	--	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	0.00031	--	--	0.00318	--	--	--	--	--	--	--	--	--	--
	Copper	0.2	mg/L	0.00157	--	--	--	0.00162	--	--	0.00056	--	--	0.00068	--	--	0.00048	--	--	--	--	--	--	--	--	--	--
	Iron	NS	mg/L	*< 0.0535*	--	--	--	*< 0.0500*	--	--	*< 0.0500*	--	--	*< 0.0500*	--	--	0.548	--	--	--	--	--	--	--	--	--	--
	Lead	0.025	mg/L	*< 0.00100*	--	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	0.00036	--	--	--	--	--	--	--	--	--	--
	Magnesium	**35**	mg/L	22.5	--	--	--	22.6	--	--	16.8	--	--	**39.4**	--	--	**38.1**	--	--	--	--	--	--	--	--	--	--
	Manganese	NS	mg/L	0.00160	--	--	--	0.01701	--	--	0.00113	--	--	0.00489	--	--	0.03039	--	--	--	--	--	--	--	--	--	--
	Mercury	0.0007	mg/L	0.00010	--	--	--	0.00013	--	--	*< 0.00020*	--	--	0.00010	--	--	0.00009	--	--	--	--	--	--	--	--	--	--
	Nickel	0.1	mg/L	0.00180	--	--	--	0.00292	--	--	0.00093	--	--	0.00373	--	--	0.01634	--	--	--	--	--	--	--	--	--	--
	Potassium	NS	mg/L	4.81	--	--	--	4.41	--	--	4.25	--	--	2.68	--	--	3.09	--	--	--	--	--	--	--	--	--	--
	Selenium	0.01	mg/L	*< 0.00500*	--	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	--	--	--	--	--	--	--	--
	Silver	0.05	mg/L	*< 0.00040*	--	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	--	--	--	--	--	--	--	--
	Sodium	**20**	mg/L	**250**	--	--	--	**252**	--	--	**91.6**	--	--	**80.7**	--	--	**71.1**	--	--	--	--	--	--	--	--	--	--
	Thallium	0.0005	mg/L	*< 0.00100*	--	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	0.00026	--	--	0.00026	--	--	--	--	--	--	--	--	--	--
	Vanadium	NS	mg/L	*< 0.00500*	--	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	--	--	--	--	--	--	--	--
	Zinc	2	mg/L	*< 0.01000*	--	--	--	*< 0.01000*	--	--	*< 0.01000*	--	--	*< 0.01000*	--	--	*< 0.01000*	--	--	--	--	--	--	--	--	--	--
Microbial Census	1,1 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BAV1 Vinyl Chloride Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	cerA Reductase (CER)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chloroform Reductase (CFR)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobacter DCM	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobacter spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobium chlorocoercia	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehaloccoides tceA Reductase (TCE)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehaloccoides Vinyl chloride reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalococcoides spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalogenimonas spp. (DHG)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Desulfitobacterium spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Desulfuromonas spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dichloromethane Dehalogenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Epoxyalkane Transferase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ethene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eubacteria, Total	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Methanogens	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCE Reductase 1	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCE Reductase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol Hydroxylase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Soluble Methane Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Sulfate Reducing Bacteria (APS)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Monooxygenase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	trans-1,2-Dichloroethene reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichlorobenzene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/L = milligrams per liter
µg/L = micrograms per liter
ng/l = nanogram per liter
cells/mL = cells per milliliter
δ13C, VPDB (‰) = delta-13 C measured against the Vienna Pee Dee Belemnite (VPDB) standard, parts per thousand

Table 14A
Groundwater PFAS Analytical Results - G.W. Lisk Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte	NYSDEC Ambient Water Quality Guidance	Location ID	G-MW-01D	G-MW-01S	G-MW-02D	G-MW-02S	G-MW-03D	G-MW-03S	G-MW-04D	G-MW-04S	G-PW-A	G-PW-B
		Sample Date	11/20/2017	11/20/2017	11/20/2017	11/20/2017	11/20/2017	11/20/2017	11/20/2017	11/20/2017	5/9/2017	5/8/2017
		Sample Type	N	N	N	N	N	N	N	N	N	N
		Unit										
Perfluorohexanoic acid (PFHxA)	NS	ng/l	*< 2.08*	1.77 J	0.529 J	*< 2.08*	1.91	1.36 J	1.84 J	0.621 J	*< 2.01*	*< 1.93*
Perfluoroheptanoic acid (PFHpA)	NS	ng/l	*< 2.08*	1.35 J	0.433 J	*< 2.08*	1.48 J	0.500 J	0.769 J	0.310 J	*< 2.01*	*< 1.93*
Perfluorooctanoic acid (PFOA)	6.7	ng/l	*< 2.08*	*< 3.16*	*< 2.08*	*< 2.08*	5.31 J	*< 1.72*	*< 3.32*	*< 1.72*	*< 2.01*	*< 1.93*
Perfluorononanoic acid (PFNA)	NS	ng/l	*< 2.08*	*< 2.08*	*< 2.08*	*< 2.08*	0.634 J	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*
Perfluorodecanoic acid (PFDA)	NS	ng/l	*< 2.08*	*< 2.08*	*< 2.08*	*< 2.08*	0.248 J	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*
Perfluoroundecanoic acid (PFUnDA)	NS	ng/l	*< 2.08*	*< 2.08*	*< 2.08*	*< 2.08*	*< 1.72*	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*
Perfluorododecanoic acid (PFDoDA)	NS	ng/l	*< 2.08*	*< 2.08*	0.333 J	*< 2.08*	*< 1.72*	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*
Perfluorotridecanoic acid (PFTrDA)	NS	ng/l	*< 2.08*	*< 2.08*	*< 2.08*	*< 2.08*	*< 1.72*	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*
Perfluorotetradecanoic acid (PFTeDA)	NS	ng/l	*< 2.08*	*< 2.08*	*< 2.08*	*< 2.08*	*< 1.72*	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*
Perfluorobutane sulfonic acid (PFBS)	NS	ng/l	*< 2.08*	1.21 J	0.808 J	*< 2.08*	2.49	0.683 J	4.89	5.88	*< 2.01*	*< 1.93*
Perfluorohexane sulfonic acid (PFHxS)	NS	ng/l	*< 2.08*	0.767 J	*< 2.08*	*< 2.08*	0.762 J	*< 1.72*	1.47 J	1.23 J	*< 2.01*	*< 1.93*
Perfluorooctane sulfonic acid (PFOS)	**2.7**	ng/l	0.312 J	*< 2.08*	0.238 J	*< 2.08*	**3.13 J**	*< 1.72*	1.92 J	1.43 J	*< 2.01*	*< 1.93*
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtPFOSAA)	NS	ng/l	*< 2.08*	*< 2.08*	*< 2.08*	*< 2.08*	*< 1.72*	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*
N-Methyl perfluorooctanesulfonamidoacetic acid (NMePFOSAA)	NS	ng/l	*< 2.08*	*< 2.08*	*< 2.08*	*< 2.08*	*< 1.72*	*< 1.72*	*< 1.92*	*< 1.72*	*< 2.01*	*< 1.93*

Notes:

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL)
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
ng/l = nanogram per liter

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-08D	H-MW-08D	H-MW-08D	H-MW-08D2	H-MW-09D	H-MW-09D	H-MW-09D	H-MW-09D	H-MW-09S	H-MW-09S	H-MW-09S	H-MW-1	H-MW-1	H-MW-1	H-MW-1 SR	H-MW-1 SR	H-MW-1 SR	H-MW-10D	H-MW-10D	H-MW-10D	H-MW-10D2	H-MW-11D	H-MW-11D	H-MW-11D
			Sample Date	6/3/2021	8/31/2022	3/7/2023	6/2/2021	6/2/2021	6/2/2021	8/30/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/3/2021	8/30/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/1/2021	9/1/2022	3/7/2023	6/1/2021	6/1/2021	8/29/2022	3/6/2023
			Sample Type	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
VOCs	1,1,1-Trichloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--	0.87 J	1.0	< 2.5	0.94 J	1.3	0.76 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50 J	< 0.50	< 0.50
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 0.50	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
	1,1-Dichloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1-Dichloroethene	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 1.5	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	1,2,3-Trichlorobenzene	5	µg/L	--	< 2.5	< 2.5	--	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 0.50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2,4-Trimethylbenzene	**5**	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	1,2-Dichloroethene	NS	µg/L	--	--	--	--	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	1.1	--	
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	1,3,5-Trimethylbenzene	**5**	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 1.0	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,3-Dichloropropene	0.4	µg/L	--	--	--	--	--	--	< 0.50	--	--	< 0.50	--	--	< 0.50	--	--	< 0.50	--	--	--	--	--	--	< 0.50	--	
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,4-Dioxane	NS	µg/L	--	< 250	< 250	--	--	--	< 250	< 250	--	< 250	--	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	--	--	< 250	< 250	
	2-Butanone (Methyl ethyl ketone)	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	2-Hexanone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 250	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0 J	< 5.0	< 5.0	< 5.0
	4-Isopropyltoluene	5	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	4-Methyl-2-pentanone	NS	µg/L	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0 J	< 5.0	< 5.0 J	< 5.0 J	< 5.0 J	< 5.0	< 5.0 J
	Acetone	**50**	µg/L	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Benzene	**1**	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 5.0	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromoform	50	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0	< 2.0	< 0.50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Bromomethane	5	µg/L	< 2.5	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 0.50	< 2.5	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J
	Carbon disulfide	60	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 2.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 5.0	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chlorobromomethane	5	µg/L	--	< 2.5	< 2.5	--	--	--	< 2.5	< 2.5	--	< 2.5	< 0.50	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5
	Chloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chloroform	7	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	cis-1,2-Dichloroethene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	1.1	< 2.5	
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Cyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.5	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Dichlorodifluoromethane (Freon 12)	5	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Ethylbenzene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 0.50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Isopropylbenzene (Cumene)	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	m,p-Xylenes	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.0	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methyl acetate	NS	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.5	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methylcyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 2.0	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Methylene chloride	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Naphthalene	NS	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5 J	< 2.5	--	< 2.5	< 2.5	< 10	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	n-Butylbenzene	5	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	n-Propylbenzene	**5**	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	o-Xylene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	sec-Butylbenzene	5	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	Styrene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	tert-Butylbenzene	5	µg/L	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	< 2.5	< 2.5	< 2.5	--
	Tetrachloroethene	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	0.58	0.68	< 0.50	0.85	1.2	0.77	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Toluene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 0.50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.5	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Trichloroethene	**5**	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.20	< 0.50	< 0.50	< 0.50	< 2.5	1.2	1.5	< 0.50	1.6	2.1	1.4	< 0.50	< 0.50	< 0.50	< 0.50	0.36 J	0.46	< 0.50
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 0.50	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Vinyl chloride	2	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Xylene, Total	5	µg/L	--	--	--	--	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	--	--	< 2.5	--	--	--	--	--	--	--	< 2.5	--
	TICs (Calculated), Total	NS	µg/L	1.33 J	--	--	11.2 J	20.3 J	--	--	--	6.60 J	--	< 1.0	1.22 J	--	--	5.09 J	--	--	4.89 J	--	--	6.45 J	2.07 J	--	--
Dissolved Gases	Ethane	NS	µg/L	< 0.500	< 0.500	--	< 0.500	1.18	1.24	1.04	--	1.60	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	1.03	0.690	0.672	--
	Ethene	NS	µg/L	< 0.500	< 0.500	--	< 0.500	< 0.500	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	< 0.500	--
	Methane	NS	µg/L	2.22	< 2.00	--	20.8	61.4	63.8	58.1	--	34.7	127	--	2.32	9.73	--	2.37	7.30	--	< 2.00	8.12	--	70.4	47.0	47.4	--

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-08D	H-MW-08D	H-MW-08D	H-MW-08D2	H-MW-09D	H-MW-09D	H-MW-09D	H-MW-09D	H-MW-09S	H-MW-09S	H-MW-09S	H-MW-1	H-MW-1	H-MW-1	H-MW-1 SR	H-MW-1 SR	H-MW-1 SR	H-MW-10D	H-MW-10D	H-MW-10D	H-MW-10D2	H-MW-11D	H-MW-11D	H-MW-11D
			Sample Date	6/3/2021	8/31/2022	3/7/2023	6/2/2021	6/2/2021	6/2/2021	8/30/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/3/2021	8/30/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/1/2021	9/1/2022	3/7/2023	6/1/2021	6/1/2021	8/29/2022	3/6/2023
			Sample Type	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																							
SVOCs	1,2,4,5-Tetrachlorobenzene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	--	--	--	--	--	--	--	--	--
	2,2'-Oxybis(1-chloropropane)	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0 J	--	--	--	--	--	--	--	--	--
	2,3,4,6-Tetrachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2,4,5-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2,4,6-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2,4-Dichlorophenol	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2,4-Dimethylphenol	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2,4-Dinitrophenol	10	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	--	--	--	--	--	--	--	--	--
	2,4-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2,6-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2-Chlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	2-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	2-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	--	--	--	--	--	--	--	--	--
	3,3'-Dichlorobenzidine	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	3-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	4-Chloro-3-methylphenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	4-Chlorophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	4-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	--	--	--	--	--	--	--	--	--
	Acetophenone	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Atrazine	7.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	--	--	--	--	--	--	--	--	--
	Benzaldehyde	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Benzyl butyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Biphenyl	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	Bis(2-chloroethoxy)methane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Bis(2-ethylhexyl)phthalate	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 3.0	--	--	--	--	--	--	--	--	--
	Caprolactam	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	--	--	--	--	--	--	--	--	--
	Carbazole	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	Dibenzofuran	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	Dibutyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Dichloroethyl ether	1	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	Diethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Dimethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Dinitro-o-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 10	--	--	--	--	--	--	--	--	--
	Di-n-octyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Hexachlorocyclopentadiene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 20	--	--	--	--	--	--	--	--	--
	Isophorone	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	m,p-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Nitrobenzene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	n-Nitrosodi-n-propylamine	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0 J	--	--	--	--	--	--	--	--	--
	n-Nitrosodiphenylamine	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	--	--	--	--	--	--	--	--
	o-Cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	p-Chloroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	Phenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	p-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 5.0	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	51.4 J	--	--	--	--	--	--	--	--	--
PAHs	2-Chloronaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.20	--	--	--	--	--	--	--	--	--
	2-Methylnaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Acenaphthene	20	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Acenaphthylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Anthracene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Benzo(a)anthracene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Benzo(a)pyrene	0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Benzo(b)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Benzo(g,h,i)perylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Benzo(k)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Chrysene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Dibenzo(a,h)anthracene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Fluoranthene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Fluorene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Hexachlorobenzene	0.04	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--
	Hexachlorobutadiene	0.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.50	--	--	--	--	--	--	--	--	--
	Hexachloroethane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Naphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
	Pentachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.46 J	--	--	--	--	--	--	--	--	--
	Phenanthrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.02 J	--	--	--	--	--	--	--	--	--
	Pyrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	--	--	--	--	--	--	--	--
1,4-Dioxane	1,4-Dioxane	0.35	µg/L	< 0.156	--	--	< 0.150	< 0.150	< 0.139	--	--	< 0.144	--	--	< 0.150	--	--	< 0.139	--	--	< 0.134	--	--	< 0.134	< 0.139	--	--
General Chemistry	Organic Carbon, Total	NS	mg/L	0.910	1.46	--	1.57	1.30	1.38	1.45	--	1.41	1.99	--	2.38	2.66	--	2.07	2.75	--	0.860	1.26	--	1.52	1.76	1.59	--
	pH, Lab	NS	pH units	7.5	--	--	7.7	7.5	7.6	--	--	7.9	--	--	7.6	--	--	7.5	--	--	7.1	--	--	7.2	7.3	--	--
CSIA	cis-1,2-Dichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tetrachloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-08D	H-MW-08D	H-MW-08D	H-MW-08D2	H-MW-09D	H-MW-09D	H-MW-09D	H-MW-09D	H-MW-09S	H-MW-09S	H-MW-09S	H-MW-1	H-MW-1	H-MW-1	H-MW-1 SR	H-MW-1 SR	H-MW-1 SR	H-MW-10D	H-MW-10D	H-MW-10D	H-MW-10D2	H-MW-11D	H-MW-11D	H-MW-11D
			Sample Date	6/3/2021	8/31/2022	3/7/2023	6/2/2021	6/2/2021	6/2/2021	8/30/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/3/2021	8/30/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/1/2021	9/1/2022	3/7/2023	6/1/2021	6/1/2021	8/29/2022	3/6/2023
			Sample Type	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
Metals	Aluminum	NS	mg/L	--	< 0.0100	--	--	--	--	< 0.0150	--	--	< 0.0410	--	--	< 0.0200	--	--	< 0.0100	--	--	0.192	--	--	--	< 0.0100	--
	Antimony	0.003	mg/L	--	0.00075	--	--	--	--	< 0.00400	--	--	< 0.00400	--	--	< 0.00800	--	--	< 0.00400	--	--	< 0.00400	--	--	--	< 0.00400	--
	Arsenic	0.025	mg/L	--	0.00073	--	--	--	--	0.00030	--	--	0.00177	--	--	0.00074	--	--	0.00046	--	--	0.00073	--	--	--	0.00034	--
	Barium	1	mg/L	--	0.08527	--	--	--	--	0.04071	--	--	0.06606	--	--	0.2495	--	--	0.2567	--	--	0.07080	--	--	--	0.05206	--
	Beryllium	0.003	mg/L	--	< 0.00050	--	--	--	--	< 0.00050	--	--	< 0.00050	--	--	< 0.00100	--	--	< 0.00050	--	--	< 0.00050	--	--	--	< 0.00050	--
	Cadmium	0.005	mg/L	--	< 0.00020	--	--	--	--	< 0.00020	--	--	< 0.00020	--	--	< 0.00040	--	--	0.00006	--	--	< 0.00020	--	--	--	< 0.00020	--
	Calcium	NS	mg/L	--	118	--	--	--	--	331	--	--	275	--	--	178	--	--	158	--	--	178	--	--	--	349	--
	Chromium	0.05	mg/L	--	< 0.00100	--	--	--	--	< 0.00100	--	--	< 0.00100	--	--	< 0.00200	--	--	< 0.00100	--	--	0.00134	--	--	--	< 0.00100	--
	Cobalt	NS	mg/L	--	0.00156	--	--	--	--	< 0.00050	--	--	0.00107	--	--	0.00033	--	--	0.00061	--	--	0.00273	--	--	--	< 0.00050	--
	Copper	0.2	mg/L	--	0.00150	--	--	--	--	< 0.00100	--	--	< 0.00100	--	--	0.01062	--	--	0.00450	--	--	0.00484	--	--	--	0.00086	--
	Iron	NS	mg/L	--	0.658	--	--	--	--	0.536	--	--	1.79	--	--	< 0.100	--	--	1.11	--	--	0.604	--	--	--	< 0.0722	--
	Lead	0.025	mg/L	--	< 0.00100	--	--	--	--	< 0.00100	--	--	0.00039	--	--	< 0.00200	--	--	< 0.00100	--	--	0.00087	--	--	--	< 0.00100	--
	Magnesium	**35**	mg/L	--	**36.9 J**	--	--	--	--	**51.9**	--	--	**46.4**	--	--	28.8	--	--	28.2	--	--	30.2	--	--	--	**48.5**	--
	Manganese	NS	mg/L	--	0.01204	--	--	--	--	0.00935	--	--	0.1521	--	--	0.4942	--	--	1.636	--	--	0.06009	--	--	--	0.00781	--
	Mercury	0.0007	mg/L	--	< 0.00020	--	--	--	--	< 0.00020	--	--	< 0.00020	--	--	< 0.00020	--	--	< 0.00020	--	--	< 0.00020	--	--	--	< 0.00020	--
	Nickel	0.1	mg/L	--	0.00715	--	--	--	--	< 0.00200	--	--	0.00106	--	--	0.00401	--	--	0.00676	--	--	0.01059	--	--	--	< 0.00200	--
	Potassium	NS	mg/L	--	4.87	--	--	--	--	3.31	--	--	5.18	--	--	8.78	--	--	7.89	--	--	8.98	--	--	--	3.53	--
	Selenium	0.01	mg/L	--	< 0.00500	--	--	--	--	< 0.00500 J	--	--	< 0.00500 J	--	--	< 0.0100 J	--	--	< 0.00500 J	--	--	0.00235	--	--	--	< 0.00500 J	--
	Silver	0.05	mg/L	--	< 0.00040	--	--	--	--	< 0.00040	--	--	< 0.00040	--	--	< 0.00080	--	--	< 0.00040	--	--	< 0.00040	--	--	--	< 0.00040	--
	Sodium	**20**	mg/L	--	**242**	--	--	--	--	**86.8**	--	--	**217**	--	--	**446**	--	--	**332**	--	--	**336**	--	--	--	**59.5**	--
	Thallium	0.0005	mg/L	--	< 0.00100	--	--	--	--	< 0.00100	--	--	< 0.00100	--	--	< 0.00200	--	--	0.00021	--	--	< 0.00100	--	--	--	< 0.00100	--
	Vanadium	NS	mg/L	--	< 0.00500	--	--	--	--	< 0.00500	--	--	< 0.00500	--	--	< 0.01000	--	--	< 0.00500	--	--	< 0.00500	--	--	--	< 0.00500	--
	Zinc	2	mg/L	--	0.00610	--	--	--	--	< 0.01000	--	--	0.00635	--	--	0.05231	--	--	0.00409	--	--	0.05456	--	--	--	0.00634	--
Cations	Calcium	NS	mg/L	145	106	--	142	335	333	320	--	264	274	--	130	173	--	145	143	--	164	133	--	296	296	364	--
	Iron	NS	mg/L	< 0.073	--	--	< 0.050	< 0.050	< 0.050	--	--	< 0.050	--	--	< 0.050	--	--	< 0.050	--	--	< 0.050	--	--	0.041 J	0.035 J	--	--
	Magnesium	**35**	mg/L	**41.4**	34.4	--	**35.2**	**51.2**	**51.4**	**49.7**	--	**41.6**	**44.9**	--	20.5	28.7	--	24.9	25.4	--	28.6	29.1	--	**41.7**	**41.7**	**52.6**	--
	Manganese	NS	mg/L	0.011	--	--	0.006 J	0.005 J	0.005 J	--	--	0.131	--	--	0.242	--	--	1.20	--	--	0.005 J	--	--	0.006 J	0.006 J	--	--
	Potassium	NS	mg/L	6.58	4.61	--	4.38	2.81	2.75	3.23	--	5.30	5.10	--	5.79	8.48	--	5.61	7.23	--	10.7	8.84	--	3.41	3.23	3.62	--
	Sodium	**20**	mg/L	**310**	**253**	--	**93.4**	**38.0**	**37.3**	**82.7**	--	**334**	**199**	--	**178**	**440**	--	**153**	**306**	--	**417**	**337**	--	**58.6**	**60.9**	**64.1**	--
Anions	Alkalinity, Total as CaCO3	NS	mg/L	353 J	334	--	268	242	253 J	270	--	312	296	--	397 J	402	--	364	386	--	355 J	389	--	269 J	267 J	265	--
	Bicarbonate Alkalinity as CaCO3	NS	mg/L	353	--	--	268	242	253	--	--	312	--	--	397	--	--	364	--	--	355	--	--	269	267	--	--
	Carbonate Alkalinity as CaCO3	NS	mg/L	< 2.00	--	--	< 2.00	< 2.00	< 2.00	--	--	< 2.00	--	--	< 2.00	--	--	< 2.00	--	--	< 2.00	--	--	< 2.00	< 2.00	--	--
	Chloride	**250**	mg/L	--	**418**	--	201	77.5	76.1	132	--	--	**282**	--	--	**590**	--	**297**	**436**	--	--	**634**	--	97.6	115	99.4	--
	Sulfate	**250**	mg/L	105	82.2	--	225	**977**	**928**	**641**	--	**587**	**552**	--	60.2 J	57.9	--	62.4	60.6	--	95.1	69.0	--	**720**	**722**	**715**	--
	Nitrate (NO3)	10	mg/L	0.26	0.17	--	< 0.10	< 0.10	< 0.10	< 0.10	--	0.090 J	0.026 J	--	1.4	0.17	--	2.4	0.76	--	3.5	3.0	--	0.16	1.1	0.26	--
	Nitrogen oxide anion (NO2-)	1	mg/L	--	0.021 J	--	--	--	--	0.015 J	--	--	0.015 J	--	--	< 0.050	--	--	0.017 J	--	--	0.016 J	--	--	--	< 0.050	--
Microbial Census	1,1 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BAV1 Vinyl Chloride Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	cerA Reductase (CER)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chloroform Reductase (CFR)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobacter DCM	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobacter spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobium chlorocoercia	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehaloccoides tceA Reductase (TCE)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehaloccoides Vinyl chloride reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalococcoides spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalogenimonas spp. (DHG)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Desulfitobacterium spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Desulfuromonas spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dichloromethane Dehalogenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Epoxyalkane Transferase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ethene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eubacteria, Total	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Methanogens	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCE Reductase 1	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCE Reductase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol Hydroxylase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Soluble Methane Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Sulfate Reducing Bacteria (APS)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Monooxygenase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	trans-1,2-Dichloroethene reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichlorobenzene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/L = milligrams per liter
µg/L = micrograms per liter
ng/l = nanogram per liter
cells/mL = cells per milliliter
δ13C, VPDB (‰) = delta-13 C measured against the Vienna Pee Dee Belemnite (VPDB) standard, parts per thousanc

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-11D2	H-MW-12D	H-MW-12D	H-MW-12D	H-MW-12D	H-MW-12D2	H-MW-12S	H-MW-12S	H-MW-2	H-MW-2	H-MW-3	H-MW-3	H-MW-3	H-MW-3 SR	H-MW-3 SR	H-MW-3 SR	H-MW-4 SR	H-MW-4 SR	H-MW-4 SR	H-MW-5	H-MW-5	H-MW-5	H-MW-5 SR	H-MW-5 SR
			Sample Date	6/1/2021	6/3/2021	8/30/2022	3/8/2023	3/8/2023	6/2/2021	6/3/2021	3/8/2023	6/3/2021	3/7/2023	6/2/2021	9/1/2022	3/8/2023	6/2/2021	8/31/2022	3/7/2023	6/2/2021	8/31/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/1/2021	8/29/2022
			Sample Type	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
VOCs	1,1,1-Trichloroethane	5	µg/L	< 2.5	< 2.5	1.4	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5**	µg/L	< 2.5	< 2.5	**9.8**	2.4 J	2.1 J	< 2.5	< 2.5	< 2.5 J	< 100	--	< 2.5	< 2.5	< 2.5 J	< 2.5	0.80	< 2.5	1.6 J	4.0	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 60	--	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
	1,1-Dichloroethane	5	µg/L	< 2.5	< 2.5	1.2	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1-Dichloroethene	5	µg/L	< 0.50	< 0.50	0.64	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50	< 0.50 J	< 20	--	< 0.50 J	< 0.50	< 0.50 J	< 0.50 J	< 0.50	< 0.50	0.17 J	0.25	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50
	1,2,3-Trichlorobenzene	5	µg/L	--	--	< 2.5	< 2.5	< 2.5	--	--	< 2.5	--	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2,4-Trimethylbenzene	**5**	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	**510**	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	1,2-Dichloroethene	NS	µg/L	--	--	15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.5	--	< 2.5
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 40	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	1,3,5-Trimethylbenzene	**5**	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	**100**	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,3-Dichloropropene	0.4	µg/L	--	--	< 0.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.50	--	--	< 0.50
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,4-Dioxane	NS	µg/L	--	--	< 250	< 250	< 250	--	--	< 250	--	--	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	--	< 250
	2-Butanone (Methyl ethyl ketone)	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	--	13	7.8	6.9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	2-Hexanone	50	µg/L	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0
	4-Isopropyltoluene	5	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 100	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	4-Methyl-2-pentanone	NS	µg/L	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0 J	< 200	--	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0 J	< 5.0
	Acetone	**50**	µg/L	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	4.2 J	2.2 J	< 200 J	--	**86**	44	**56**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.5	< 5.0	< 5.0	< 5.0	< 5.0
	Benzene	**1**	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.28 J	< 0.50	**18 J**	--	0.37 J	0.53	0.35 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromoform	50	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 80	--	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Bromomethane	5	µg/L	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 100	--	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J
	Carbon disulfide	60	µg/L	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0 J	< 200	--	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chlorobromomethane	5	µg/L	--	--	< 2.5	< 2.5	< 2.5	--	--	< 2.5	--	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5
	Chloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 100	--	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5
	Chloroform	7	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	cis-1,2-Dichloroethene	**5**	µg/L	< 2.5	1.5 J	**15**	4.4	4.4	< 2.5	**14**	**8.5**	< 100	--	< 2.5	0.72	< 2.5	< 2.5	1.8	< 2.5	1.7 J	**5.0**	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Cyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 400	--	< 10	0.32	0.34 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 20	--	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Dichlorodifluoromethane (Freon 12)	5	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 200	--	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Ethylbenzene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	**340**	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 80	--	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Isopropylbenzene (Cumene)	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	**46 J**	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	m,p-Xylenes	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	**850**	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methyl acetate	NS	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 80	--	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methylcyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 400	--	< 10	0.42	0.44 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Methylene chloride	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Naphthalene	NS	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	4,700	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	n-Butylbenzene	5	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 100	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	n-Propylbenzene	**5**	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 100	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	o-Xylene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	**790**	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	sec-Butylbenzene	5	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 100	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	Styrene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	tert-Butylbenzene	5	µg/L	< 2.5	< 2.5	< 2.5	--	--	< 2.5	< 2.5	--	< 100	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5
	Tetrachloroethene	5	µg/L	< 0.50	0.24 J	4.1	1.1	1.2	< 0.50	0.73	0.30 J	< 20	--	< 0.50	0.26	0.22 J	< 0.50	0.47	< 0.50	0.68	1.9	0.20 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Toluene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	**460**	--	< 2.5	0.83	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 100	--	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 20	--	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Trichloroethene	**5**	µg/L	< 0.50	0.72	**23**	4.7	4.9	< 0.50	4.6	2.5	< 20	--	0.42 J	0.76	0.56	0.30 J	2.3	< 0.50	4.1	**8.8**	1.3	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 100	--	< 2.5 J	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5
	Vinyl chloride	2	µg/L	< 1.0	0.10 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 40	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	Xylene, Total	5	µg/L	--	--	< 2.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.5	--	--	< 2.5
	TICs (Calculated), Total	NS	µg/L	--	2.47 J	--	--	--	20.2 J	1.40 J	--	1,310 J	--	7.02 J	--	--	24.1 J	--	--	3.69 J	--	--	8.09 J	--	--	4.36 J	--
Dissolved Gases	Ethane	NS	µg/L	1.22	< 0.500 J	< 0.500	--	--	0.581	4.75	--	< 0.500	--	7.64	8.88	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	1.13	0.982
	Ethene	NS	µg/L	< 0.500	< 0.500 J	< 0.500	--	--	< 0.500	0.995	--	< 0.500	--	1.10	1.16	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500
	Methane	NS	µg/L	78.7	13.3 J	< 2.00	--	--	45.2	21.6	--	43.2	--	93.1	77.6	--	10.2	9.82	--	< 2.00	< 2.00	--	2.56	20.1	--	85.2	68.5

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-11D2	H-MW-12D	H-MW-12D	H-MW-12D	H-MW-12D	H-MW-12D2	H-MW-12S	H-MW-12S	H-MW-2	H-MW-2	H-MW-3	H-MW-3	H-MW-3	H-MW-3 SR	H-MW-3 SR	H-MW-3 SR	H-MW-4 SR	H-MW-4 SR	H-MW-4 SR	H-MW-5	H-MW-5	H-MW-5	H-MW-5 SR	H-MW-5 SR
			Sample Date	6/1/2021	6/3/2021	8/30/2022	3/8/2023	3/8/2023	6/2/2021	6/3/2021	3/8/2023	6/3/2021	3/7/2023	6/2/2021	9/1/2022	3/8/2023	6/2/2021	8/31/2022	3/7/2023	6/2/2021	8/31/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/1/2021	8/29/2022
			Sample Type	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
SVOCs	1,2,4,5-Tetrachlorobenzene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,2'-Oxybis(1-chloropropane)	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,3,4,6-Tetrachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,5-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,6-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dichlorophenol	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dimethylphenol	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrophenol	10	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,6-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Chlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3,3'-Dichlorobenzidine	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chloro-3-methylphenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acetophenone	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Atrazine	7.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzaldehyde	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzyl butyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Biphenyl	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-chloroethoxy)methane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-ethylhexyl)phthalate	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Caprolactam	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbazole	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzofuran	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibutyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dichloroethyl ether	1	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dimethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dinitro-o-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Di-n-octyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorocyclopentadiene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Isophorone	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	m,p-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Nitrobenzene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodi-n-propylamine	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodiphenylamine	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	o-Cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Chloroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAHs	2-Chloronaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Methylnaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthene	20	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Anthracene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)anthracene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)pyrene	0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(b)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(g,h,i)perylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(k)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chrysene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzo(a,h)anthracene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluoranthene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluorene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobenzene	0.04	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobutadiene	0.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachloroethane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Naphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pentachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenanthrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pyrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	1,4-Dioxane	0.35	µg/L	*< 0.144*	*< 0.150*	--	--	--	*< 0.139*	*< 0.150*	--	*< 0.134*	--	0.0825 J	--	--	*< 0.139*	--	--	0.113 J	--	--	0.192 J	--	--	*< 0.0132*	--
General Chemistry	Organic Carbon, Total	NS	mg/L	1.39	1.52	1.46	--	--	1.71	2.53	--	11.0	--	9.84	7.17	--	1.63	1.59	--	0.980	1.66	--	13.6	4.87	--	1.45	1.45
	pH, Lab	NS	pH units	7.3	7.4	--	--	--	7.7	--	--	7.2	--	11.9	--	--	7.4	--	--	7.8	--	--	7.6	--	--	7.3	--
CSIA	cis-1,2-Dichloroethene	NS	δ13C, VPDB (‰)	--	--	-27.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Tetrachloroethene	NS	δ13C, VPDB (‰)	--	--	-26.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichloroethene	NS	δ13C, VPDB (‰)	--	--	-23.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-11D2	H-MW-12D	H-MW-12D	H-MW-12D	H-MW-12D	H-MW-12D2	H-MW-12S	H-MW-12S	H-MW-2	H-MW-2	H-MW-3	H-MW-3	H-MW-3	H-MW-3 SR	H-MW-3 SR	H-MW-3 SR	H-MW-4 SR	H-MW-4 SR	H-MW-4 SR	H-MW-5	H-MW-5	H-MW-5	H-MW-5 SR	H-MW-5 SR
			Sample Date	6/1/2021	6/3/2021	8/30/2022	3/8/2023	3/8/2023	6/2/2021	6/3/2021	3/8/2023	6/3/2021	3/7/2023	6/2/2021	9/1/2022	3/8/2023	6/2/2021	8/31/2022	3/7/2023	6/2/2021	8/31/2022	3/7/2023	6/2/2021	8/30/2022	3/7/2023	6/1/2021	8/29/2022
			Sample Type	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
Metals	Aluminum	NS	mg/L	--	--	*< 0.0100*	--	--	--	--	--	--	--	--	0.486	--	--	*< 0.0100*	--	--	*< 0.0100*	--	--	0.169	--	--	*< 0.0100*
	Antimony	0.003	mg/L	--	--	*< 0.00400*	--	--	--	--	--	--	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	0.00057
	Arsenic	0.025	mg/L	--	--	0.00045	--	--	--	--	--	--	--	--	0.00071	--	--	0.00030	--	--	0.00029	--	--	0.00415	--	--	0.00030
	Barium	1	mg/L	--	--	0.1081	--	--	--	--	--	--	--	--	0.8395	--	--	0.07398	--	--	0.08728	--	--	0.05175	--	--	0.04386
	Beryllium	0.003	mg/L	--	--	*< 0.00050*	--	--	--	--	--	--	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*
	Cadmium	0.005	mg/L	--	--	*< 0.00020*	--	--	--	--	--	--	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	0.00014	--	--	*< 0.00020*
	Calcium	NS	mg/L	--	--	133	--	--	--	--	--	--	--	--	487	--	--	160	--	--	112	--	--	159	--	--	407
	Chromium	0.05	mg/L	--	--	*< 0.00100*	--	--	--	--	--	--	--	--	0.00082	--	--	*< 0.00100*	--	--	0.00022	--	--	0.00101	--	--	*< 0.00100*
	Cobalt	NS	mg/L	--	--	0.00043	--	--	--	--	--	--	--	--	0.00016	--	--	0.00133	--	--	*< 0.00050*	--	--	0.00325	--	--	*< 0.00050*
	Copper	0.2	mg/L	--	--	0.00085	--	--	--	--	--	--	--	--	0.00073	--	--	*< 0.00100*	--	--	0.00110	--	--	0.00522	--	--	*< 0.00100*
	Iron	NS	mg/L	--	--	*< 0.122*	--	--	--	--	--	--	--	--	*< 0.154*	--	--	0.900	--	--	*< 0.0600*	--	--	7.12	--	--	*< 0.0500*
	Lead	0.025	mg/L	--	--	*< 0.00100*	--	--	--	--	--	--	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	0.00084	--	--	*< 0.00100*
	Magnesium	**35**	mg/L	--	--	27.6	--	--	--	--	--	--	--	--	0.143	--	--	**35.6 J**	--	--	22.8 J	--	--	23.2	--	--	**57.6**
	Manganese	NS	mg/L	--	--	0.00282	--	--	--	--	--	--	--	--	0.00250	--	--	0.01984	--	--	*< 0.00100*	--	--	0.2369	--	--	0.00686
	Mercury	0.0007	mg/L	--	--	*< 0.00020*	--	--	--	--	--	--	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*
	Nickel	0.1	mg/L	--	--	0.00420	--	--	--	--	--	--	--	--	0.02902	--	--	0.00665	--	--	*< 0.00200*	--	--	0.00541	--	--	*< 0.00200*
	Potassium	NS	mg/L	--	--	3.48	--	--	--	--	--	--	--	--	53.2	--	--	3.39	--	--	3.34	--	--	3.48	--	--	3.72
	Selenium	0.01	mg/L	--	--	*< 0.00500 J*	--	--	--	--	--	--	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500 J*	--	--	*< 0.00500 J*
	Silver	0.05	mg/L	--	--	*< 0.00040*	--	--	--	--	--	--	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*
	Sodium	**20**	mg/L	--	--	**173**	--	--	--	--	--	--	--	--	**300**	--	--	**76.9**	--	--	**212**	--	--	6.51	--	--	**45.9**
	Thallium	0.0005	mg/L	--	--	*< 0.00100*	--	--	--	--	--	--	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	0.00016
	Vanadium	NS	mg/L	--	--	*< 0.00500*	--	--	--	--	--	--	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	0.00429	--	--	*< 0.00500*
	Zinc	2	mg/L	--	--	*< 0.01000*	--	--	--	--	--	--	--	--	*< 0.01000*	--	--	*< 0.01000*	--	--	*< 0.01000*	--	--	0.00819	--	--	*< 0.01000*
Cations	Calcium	NS	mg/L	354	158	153	--	--	246	--	--	126	--	515	426	--	165	144	--	138	106	--	77.0	143	--	359	351
	Iron	NS	mg/L	0.078	*< 0.050*	--	--	--	*< 0.050*	--	--	*< 0.050*	--	0.077	--	--	*< 0.050*	--	--	*< 0.050*	--	--	0.099	--	--	0.036 J	--
	Magnesium	**35**	mg/L	**50.8**	34.6	28.7	--	--	**42.2**	--	--	13.8	--	*< 0.100*	0.0630 J	--	34.4	33.3	--	27.8	21.4	--	8.85	21.7	--	**48.0**	**49.5**
	Manganese	NS	mg/L	0.011	0.009 J	--	--	--	0.010	--	--	0.448	--	*< 0.010*	--	--	0.015	--	--	*< 0.010*	--	--	0.315	--	--	0.005 J	--
	Potassium	NS	mg/L	3.29	4.32	3.62	--	--	3.46	--	--	7.69	--	58.1	48.9	--	3.46	3.32	--	3.30	3.09	--	1.99 J	3.28	--	3.20	3.13
	Sodium	**20**	mg/L	**49.8**	**94.9**	**181**	--	--	**56.6**	--	--	**660**	--	**390**	**316**	--	**72.2**	**79.8**	--	**338**	**221**	--	2.67	6.12	--	**36.6**	**40.1**
Anions	Alkalinity, Total as CaCO3	NS	mg/L	270 J	284 J	289	--	--	249	482 J	--	473 J	--	412	638	--	241	258	--	327	299	--	234	310	--	268 J	252
	Bicarbonate Alkalinity as CaCO3	NS	mg/L	270	284	--	--	--	249	482	--	473	--	*< 20.0*	--	--	241	--	--	327	--	--	234	--	--	268	--
	Carbonate Alkalinity as CaCO3	NS	mg/L	*< 2.00*	*< 2.00*	--	--	--	*< 2.00*	*< 2.00*	--	*< 2.00*	--	60.0	--	--	*< 2.00*	--	--	*< 2.00*	--	--	*< 2.00*	--	--	*< 2.00*	--
	Chloride	**250**	mg/L	88.5	202	**265**	--	--	115	--	--	--	--	--	**1,080**	--	--	146	--	--	**367**	--	--	0.991	9.38	--	68.5	67.1
	Sulfate	**250**	mg/L	**899**	**288 J**	58.3	--	--	**613**	--	--	14.2 J	--	5.03	9.07	--	39.4	**279**	--	39.7	31.1	--	5.98	115	--	**916**	**787**
	Nitrate (NO3)	10	mg/L	0.069 J	0.20	3.6	--	--	*< 0.10*	--	--	0.044 J	--	0.028 J	0.089 J	--	0.068 J	0.17	--	6.3	3.0	--	0.11	0.098 J	--	0.065 J	0.028 J
	Nitrogen oxide anion (NO2-)	1	mg/L	--	--	0.022 J	--	--	--	--	--	--	--	--	0.046 J	--	--	0.035 J	--	--	0.016 J	--	--	0.017 J	--	--	0.015 J
Microbial Census	1,1 DCA Reductase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	1,2 DCA Reductase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	BAV1 Vinyl Chloride Reductase	NS	cells/mL	--	--	*< 0.5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	cerA Reductase (CER)	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chloroform Reductase (CFR)	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobacter DCM	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobacter spp.	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalobium chlorocoercia	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehaloccoides tceA Reductase (TCE)	NS	cells/mL	--	--	*< 0.5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehaloccoides Vinyl chloride reductase	NS	cells/mL	--	--	*< 0.5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalococcoides spp.	NS	cells/mL	--	--	*< 0.5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dehalogenimonas spp. (DHG)	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Desulfitobacterium spp.	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Desulfuromonas spp.	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dichloromethane Dehalogenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Epoxyalkane Transferase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ethene Monooxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eubacteria, Total	NS	cells/mL	--	--	3,810	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Methanogens	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCE Reductase 1	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	PCE Reductase 2	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol Hydroxylase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Soluble Methane Monooxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Sulfate Reducing Bacteria (APS)	NS	cells/mL	--	--	452	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Dioxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Monooxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Toluene Monooxygenase 2	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	trans-1,2-Dichloroethene reductase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichlorobenzene Dioxygenase	NS	cells/mL	--	--	*< 5*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/L = milligrams per liter
µg/L = micrograms per liter
ng/l = nanogram per liter
cells/mL = cells per milliliter
δ13C, VPDB (‰) = delta-13 C measured against the Vienna Pee Dee Belemnite (VPDB) standard, parts per thousanc

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-5 SR	H-MW-6	H-MW-6	H-MW-6	H-MW-6 SR	H-MW-6 SR	H-MW-6 SR	H-MW-7 SR	H-MW-7 SR	H-MW-7 SR	H-SPRING-01	H-SPRING-01	H-SPRING-01	H-SPRING-02	H-SPRING-02	H-SPRING-02	H-SPRING-02
			Sample Date	3/7/2023	6/2/2021	9/1/2022	3/7/2023	6/1/2021	8/31/2022	3/7/2023	6/2/2021	8/31/2022	3/7/2023	6/1/2021	8/29/2022	3/7/2023	6/1/2021	8/30/2022	3/7/2023	3/7/2023
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD
			Unit																	
VOCs	1,1,1-Trichloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	0.70 J	< 2.5	< 2.5	< 2.5
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	1.1	< 2.5	3.7	0.89	< 2.5	< 2.5
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5
	1,1-Dichloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,1-Dichloroethene	5	µg/L	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50 J	< 0.50	< 0.50	< 0.50	0.17	< 0.50	0.26 J	< 0.50	< 0.50	< 0.50
	1,2,3-Trichlorobenzene	5	µg/L	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2,4-Trimethylbenzene	**5**	µg/L	--	**19**	--	--	**18**	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	1,2-Dichloroethene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	6.5	--	--	3.0	--	--
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
	1,3,5-Trimethylbenzene	**5**	µg/L	--	**9.3**	--	--	3.9	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,3-Dichloropropene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	< 0.50	--	--	< 0.50	--	--
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	1,4-Dioxane	NS	µg/L	< 250	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	--	< 250	< 250	< 250
	2-Butanone (Methyl ethyl ketone)	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	2-Hexanone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0
	4-Isopropyltoluene	5	µg/L	--	0.78 J	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--	--
	4-Methyl-2-pentanone	NS	µg/L	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0 J	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0 J	< 5.0 J	< 5.0	< 5.0 J	< 5.0 J	< 5.0	< 5.0 J	< 5.0 J
	Acetone	**50**	µg/L	< 5.0	< 5.0	< 5.0	5.2	< 5.0	< 5.0	4.1 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Benzene	**1**	µg/L	< 0.50	**2.8**	**2.3**	**13**	**14**	**2.8**	**16**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Bromoform	50	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Bromomethane	5	µg/L	< 2.5 J	< 2.5 J	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J
	Carbon disulfide	60	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chlorobromomethane	5	µg/L	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	< 2.5	< 2.5	< 2.5
	Chloroethane	5	µg/L	< 2.5	< 2.5 J	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chloroform	7	µg/L	< 2.5	< 2.5	< 2.5	1.3 J	< 2.5	< 2.5	1.4 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	cis-1,2-Dichloroethene	**5**	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	0.95 J	0.95	< 2.5	1.9 J	**6.5**	2.0 J	**6.6**	3.0	1.0 J	1.2 J
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Cyclohexane	NS	µg/L	< 10	2.5 J	0.94	3.1 J	1.1 J	1.4	2.5 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Dichlorodifluoromethane (Freon 12)	5	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	Ethylbenzene	**5**	µg/L	< 2.5	1.4 J	< 2.5	**13**	**11**	1.0	**16**	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Isopropylbenzene (Cumene)	**5**	µg/L	< 2.5	2.8	1.1	**5.0**	**6.5**	1.6	**5.5**	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	m,p-Xylenes	**5**	µg/L	< 2.5	2.9	1.3	**23**	**9.6**	1.8	**28**	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methyl acetate	NS	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Methylcyclohexane	NS	µg/L	< 10	40	17	54	7.1 J	24	26	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
	Methylene chloride	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Naphthalene	NS	µg/L	--	18	--	--	22	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--
	n-Butylbenzene	5	µg/L	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--
	n-Propylbenzene	**5**	µg/L	--	4.8	--	--	**6.8**	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--
	o-Xylene	**5**	µg/L	< 2.5	1.3 J	< 2.5	**11**	**6.8**	0.83	**14**	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	sec-Butylbenzene	5	µg/L	--	0.86 J	--	--	0.82 J	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--
	Styrene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	tert-Butylbenzene	5	µg/L	--	< 2.5	--	--	< 2.5	--	--	< 2.5	--	--	< 2.5	< 2.5	--	< 2.5	< 2.5	--	--
	Tetrachloroethene	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.37	< 0.50	1.5	0.35	< 0.50	< 0.50
	Toluene	**5**	µg/L	< 2.5	1.0 J	< 2.5	4.5	1.7 J	< 2.5	**5.0**	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
	Trichloroethene	**5**	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.44 J	< 0.50	< 0.50	0.73	2.3	0.56	**8.9**	1.6	0.65	0.80
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
	Vinyl chloride	2	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.78	< 1.0	< 1.0	0.10	< 1.0	< 1.0
	Xylene, Total	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	< 2.5	--	--	< 2.5	--	--
	TICs (Calculated), Total	NS	µg/L	--	91.3 J	--	--	94.5 J	--	--	29.1 J	--	--	--	--	--	--	--	--	--
Dissolved Gases	Ethane	NS	µg/L	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	0.564	0.614	--	< 0.500	< 0.500	--	< 0.500	0.707	--	--
	Ethene	NS	µg/L	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	< 0.500	< 0.500	--	--
	Methane	NS	µg/L	--	80.8	71.2	--	55.6	84.9	--	31.3	28.0	--	< 2.00	11.8	--	< 2.00	58.5	--	--

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte		NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-5 SR	H-MW-6	H-MW-6	H-MW-6	H-MW-6 SR	H-MW-6 SR	H-MW-6 SR	H-MW-7 SR	H-MW-7 SR	H-MW-7 SR	H-SPRING-01	H-SPRING-01	H-SPRING-01	H-SPRING-02	H-SPRING-02	H-SPRING-02	H-SPRING-02
			Sample Date	3/7/2023	6/2/2021	9/1/2022	3/7/2023	6/1/2021	8/31/2022	3/7/2023	6/2/2021	8/31/2022	3/7/2023	6/1/2021	8/29/2022	3/7/2023	6/1/2021	8/30/2022	3/7/2023	3/7/2023
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD
			Unit																	
SVOCs	1,2,4,5-Tetrachlorobenzene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,2'-Oxybis(1-chloropropane)	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,3,4,6-Tetrachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,5-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4,6-Trichlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dichlorophenol	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dimethylphenol	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrophenol	10	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,4-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2,6-Dinitrotoluene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Chlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3,3'-Dichlorobenzidine	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Bromophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chloro-3-methylphenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Chlorophenyl phenyl ether	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4-Nitrophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acetophenone	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Atrazine	7.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzaldehyde	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzyl butyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Biphenyl	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-chloroethoxy)methane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Bis(2-ethylhexyl)phthalate	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Caprolactam	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Carbazole	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzofuran	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibutyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dichloroethyl ether	1	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Diethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dimethyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dinitro-o-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Di-n-octyl phthalate	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorocyclopentadiene	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Isophorone	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	m,p-cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Nitrobenzene	0.4	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodi-n-propylamine	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	n-Nitrosodiphenylamine	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	o-Cresol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Chloroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	p-Nitroaniline	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	TICs (Calculated), Total	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
PAHs	2-Chloronaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	2-Methylnaphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthene	20	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Acenaphthylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Anthracene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)anthracene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(a)pyrene	0	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(b)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(g,h,i)perylene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Benzo(k)fluoranthene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Chrysene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Dibenzo(a,h)anthracene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluoranthene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Fluorene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobenzene	0.04	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachlorobutadiene	0.5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Hexachloroethane	5	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Indeno(1,2,3-cd)pyrene	0.002	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Naphthalene	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pentachlorophenol	NS	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Phenanthrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Pyrene	50	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,4-Dioxane	1,4-Dioxane	0.35	µg/L	--	*< 0.139*	--	--	*< 0.144*	--	--	*< 0.139*	--	--	0.0796 J	--	--	0.263	--	--	--
General Chemistry	Organic Carbon, Total	NS	mg/L	--	1.36	1.58	--	1.48	1.59	--	0.990	1.98	--	5.03	1.87	--	1.53	1.69	--	--
	pH, Lab	NS	pH units	--	7.8	--	--	7.4	--	--	7.8	--	--	7.4	--	--	7.4	--	--	--
CSIA	cis-1,2-Dichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-23.3	--	--
	Tetrachloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Trichloroethene	NS	δ13C, VPDB (‰)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	-19.1	--	--

Table 15
Groundwater Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

	Analyte	NY-TOGS1.1.1 DW-CLASS GA 1998-2004	Location ID	H-MW-5 SR	H-MW-6	H-MW-6	H-MW-6	H-MW-6 SR	H-MW-6 SR	H-MW-6 SR	H-MW-7 SR	H-MW-7 SR	H-MW-7 SR	H-SPRING-01	H-SPRING-01	H-SPRING-01	H-SPRING-02	H-SPRING-02	H-SPRING-02	H-SPRING-02
			Sample Date	3/7/2023	6/2/2021	9/1/2022	3/7/2023	6/1/2021	8/31/2022	3/7/2023	6/2/2021	8/31/2022	3/7/2023	6/1/2021	8/29/2022	3/7/2023	6/1/2021	8/30/2022	3/7/2023	3/7/2023
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD
			Unit																	
Metals	Aluminum	NS	mg/L	--	--	*< 0.0100*	--	--	*< 0.0100*	--	--	*< 0.0100*	--	--	*< 0.0100*	--	--	*< 0.0477*	--	--
	Antimony	0.003	mg/L	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--	*< 0.00400*	--	--
	Arsenic	0.025	mg/L	--	--	0.00130	--	--	0.00130	--	--	*< 0.00050*	--	--	0.00067	--	--	0.00049	--	--
	Barium	1	mg/L	--	--	0.1592	--	--	0.1550	--	--	0.03847	--	--	0.07141	--	--	0.05444	--	--
	Beryllium	0.003	mg/L	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--	*< 0.00050*	--	--
	Cadmium	0.005	mg/L	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--
	Calcium	NS	mg/L	--	--	120	--	--	118	--	--	190	--	--	200	--	--	313	--	--
	Chromium	0.05	mg/L	--	--	0.00024	--	--	0.03814	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--
	Cobalt	NS	mg/L	--	--	*< 0.00050*	--	--	0.00033	--	--	*< 0.00050*	--	--	0.00219	--	--	0.00021	--	--
	Copper	0.2	mg/L	--	--	*< 0.00100*	--	--	0.00120	--	--	*< 0.00100*	--	--	0.00058	--	--	0.00150	--	--
	Iron	NS	mg/L	--	--	1.73	--	--	1.78	--	--	2.33	--	--	0.738	--	--	*< 0.259*	--	--
	Lead	0.025	mg/L	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	0.00127	--	--	*< 0.00100*	--	--	0.00087	--	--
	Magnesium	**35**	mg/L	--	--	24.5	--	--	23.5	--	--	**37.5 J**	--	--	**36.4**	--	--	**47.8**	--	--
	Manganese	NS	mg/L	--	--	0.6453	--	--	0.6135	--	--	0.00765	--	--	0.1194	--	--	0.01132	--	--
	Mercury	0.0007	mg/L	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--	*< 0.00020*	--	--
	Nickel	0.1	mg/L	--	--	0.00125	--	--	0.01578	--	--	0.00758	--	--	0.00201	--	--	0.00091	--	--
	Potassium	NS	mg/L	--	--	8.09	--	--	7.95	--	--	3.24	--	--	4.72	--	--	4.02	--	--
	Selenium	0.01	mg/L	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500 J*	--	--	*< 0.00500 J*	--	--
	Silver	0.05	mg/L	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--	*< 0.00040*	--	--
	Sodium	**20**	mg/L	--	--	**482**	--	--	**463**	--	--	**64.3**	--	--	**144**	--	--	**117**	--	--
	Thallium	0.0005	mg/L	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	*< 0.00100*	--	--	0.00020	--	--
	Vanadium	NS	mg/L	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--	*< 0.00500*	--	--
	Zinc	2	mg/L	--	--	*< 0.01000*	--	--	0.00433	--	--	*< 0.01000*	--	--	0.00356	--	--	0.02732	--	--
Cations	Calcium	NS	mg/L	--	138	121	--	127	119	--	200	193	--	193	193	--	193	348	--	--
	Iron	NS	mg/L	--	*< 0.050*	--	--	0.032 J	--	--	0.104	--	--	0.010 J	--	--	0.051	--	--	--
	Magnesium	**35**	mg/L	--	27.0	27.1	--	25.0	26.0	--	34.7	**36.8**	--	29.5	**36.1**	--	32.2	**52.5**	--	--
	Manganese	NS	mg/L	--	0.620	--	--	0.266	--	--	0.015	--	--	0.002 J	--	--	0.002 J	--	--	--
	Potassium	NS	mg/L	--	8.35	8.76	--	10.3	8.78	--	4.81	3.31	--	9.98	4.66	--	3.91	4.47	--	--
	Sodium	**20**	mg/L	--	**387**	**529**	--	**431**	**493**	--	**195**	**61.7**	--	**89.5**	**145**	--	**148**	**130**	--	--
Anions	Alkalinity, Total as CaCO3	NS	mg/L	--	339	372	--	355 J	365	--	257	265	--	286 J	290	--	280 J	266	--	--
	Bicarbonate Alkalinity as CaCO3	NS	mg/L	--	339	--	--	355	--	--	257	--	--	286	--	--	280	--	--	--
	Carbonate Alkalinity as CaCO3	NS	mg/L	--	*< 2.00*	--	--	*< 2.00*	--	--	*< 2.00*	--	--	*< 2.00*	--	--	*< 2.00*	--	--	--
	Chloride	**250**	mg/L	--	--	**851**	--	--	**840**	--	**379**	129	--	169	202	--	**291**	180	--	--
	Sulfate	**250**	mg/L	--	33.5	33.3	--	37.0	32.7	--	**394**	**359**	--	**360**	236	--	**335**	**654**	--	--
	Nitrate (NO3)	10	mg/L	--	*< 0.10*	*< 0.10*	--	0.074 J	*< 0.10*	--	0.14	0.070 J	--	0.79	0.026 J	--	5.4	0.027 J	--	--
	Nitrogen oxide anion (NO2-)	1	mg/L	--	--	*< 0.050*	--	--	*< 0.050*	--	--	0.018 J	--	--	0.016 J	--	--	*< 0.050*	--	--
Microbial Census	1,1 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	1,2 DCA Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	BAV1 Vinyl Chloride Reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.4	--	--
	cerA Reductase (CER)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Chloroform Reductase (CFR)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Dehalobacter DCM	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Dehalobacter spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	26,600	--	--
	Dehalobium chlorocoercia	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33,300	--	--
	Dehaloccoides tceA Reductase (TCE)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.2	--	--
	Dehaloccoides Vinyl chloride reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	43.7	--	--
	Dehalococcoides spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70.5	--	--
	Dehalogenimonas spp. (DHG)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	520	--	--
	Desulfitobacterium spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	38,200	--	--
	Desulfuromonas spp.	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	524	--	--
	Dichloromethane Dehalogenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Epoxyalkane Transferase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	168	--	--
	Ethene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70.4	--	--
	Eubacteria, Total	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,010,000	--	--
	Methanogens	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	PCE Reductase 1	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	PCE Reductase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Phenol Hydroxylase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,540	--	--
	Soluble Methane Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Sulfate Reducing Bacteria (APS)	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	680,000	--	--
	Toluene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Toluene Monooxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Toluene Monooxygenase 2	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	974	--	--
	trans-1,2-Dichloroethene reductase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--
	Trichlorobenzene Dioxygenase	NS	cells/mL	--	--	--	--	--	--	--	--	--	--	--	--	--	--	*< 6.3*	--	--

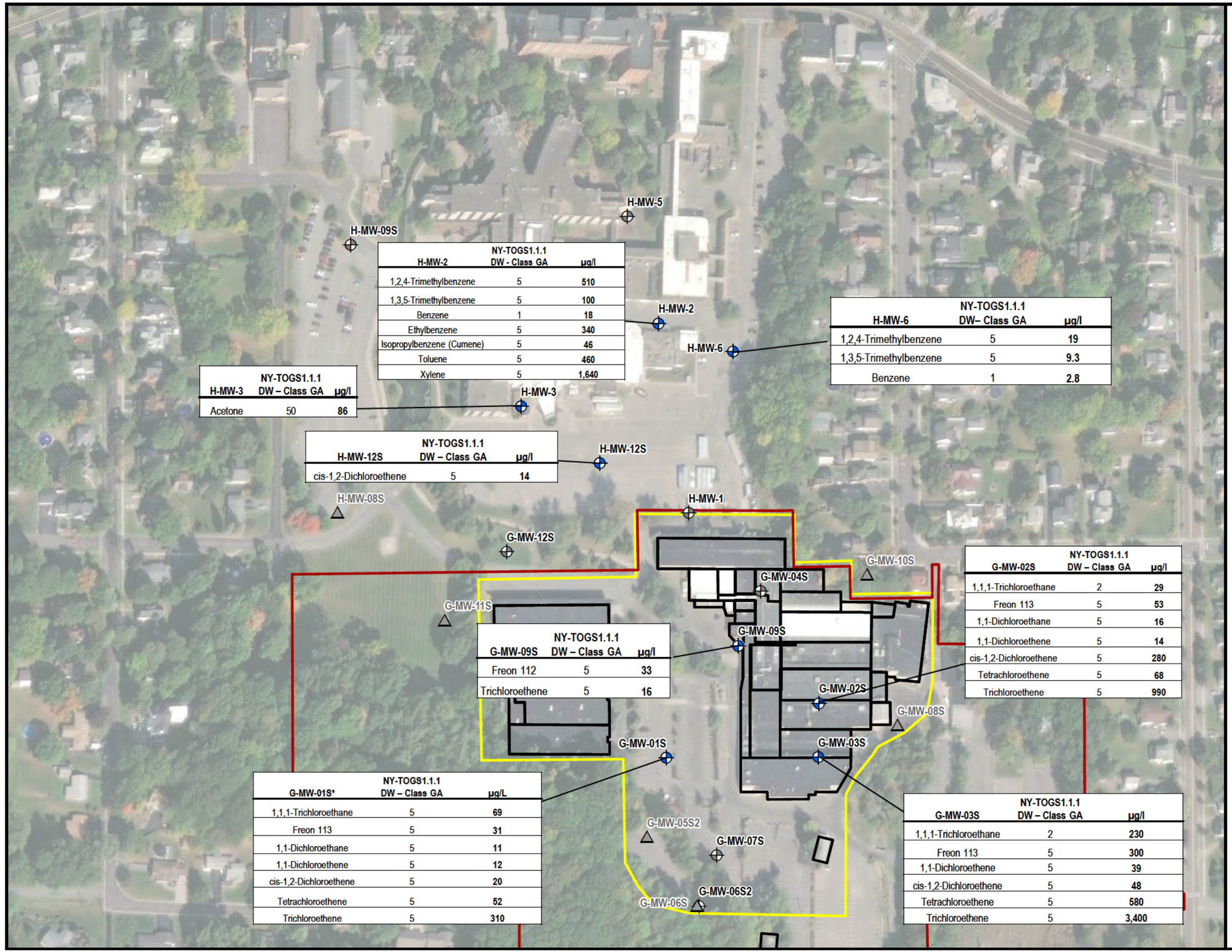
Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
mg/L = milligrams per liter
µg/L = micrograms per liter
ng/l = nanogram per liter
cells/mL = cells per milliliter
δ13C, VPDB (‰) = delta-13 C measured against the Vienna Pee Dee Belemnite (VPDB) standard, parts per thousanc

Table 15A
Groundwater PFAS Analytical Results - CSHC Property
GW Lisk Clifton Springs Facility
Clifton Springs, New York

Analyte	NYSDEC Ambient Water Quality Guidance	Location ID	H-MW-1	H-MW-1 SR	H-MW-4 SR
		Sample Date	11/20/2017	11/20/2017	11/20/2017
		Sample Type	N	N	N
		Unit			
Perfluorohexanoic acid (PFHxA)	NS	ng/l	8.36	4.86	0.493 J
Perfluoroheptanoic acid (PFHpA)	NS	ng/l	2.45	1.57 J	0.355 J
Perfluorooctanoic acid (PFOA)	6.7	ng/l	*< 3.19*	*< 2.68*	*< 1.72*
Perfluorononanoic acid (PFNA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72*
Perfluorodecanoic acid (PFDA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72*
Perfluoroundecanoic acid (PFUnDA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72*
Perfluorododecanoic acid (PFDoDA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72*
Perfluorotridecanoic acid (PFTrDA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72*
Perfluorotetradecanoic acid (PFTeDA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72*
Perfluorobutane sulfonic acid (PFBS)	NS	ng/l	2.09	2.20	0.703 J
Perfluorohexane sulfonic acid (PFHxS)	NS	ng/l	0.603 J	0.340 J	0.452 J
Perfluorooctane sulfonic acid (PFOS)	2.7	ng/l	0.324 J	0.324 J	0.448 J
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtPFOSAA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72 J*
N-Methyl perfluorooctanesulfonamidoacetic acid (NMePFOSAA)	NS	ng/l	*< 1.72*	*< 2.00*	*< 1.72*

Notes:

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
J = Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL)
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
ng/l = nanogram per liter



H-MW-2	NY-TOGS1.1.1 DW - Class GA	µg/l
1,2,4-Trimethylbenzene	5	510
1,3,5-Trimethylbenzene	5	100
Benzene	1	18
Ethylbenzene	5	340
Isopropylbenzene (Cumene)	5	46
Toluene	5	460
Xylene	5	1,640

H-MW-6	NY-TOGS1.1.1 DW– Class GA	µg/l
1,2,4-Trimethylbenzene	5	19
1,3,5-Trimethylbenzene	5	9.3
Benzene	1	2.8

H-MW-3	NY-TOGS1.1.1 DW – Class GA	µg/l
Acetone	50	86

H-MW-12S	NY-TOGS1.1.1 DW – Class GA	µg/l
cis-1,2-Dichloroethene	5	14

G-MW-09S	NY-TOGS1.1.1 DW – Class GA	µg/l
Freon 112	5	33
Trichloroethene	5	16

G-MW-02S	NY-TOGS1.1.1 DW – Class GA	µg/l
1,1,1-Trichloroethane	2	29
Freon 113	5	53
1,1-Dichloroethane	5	16
1,1-Dichloroethene	5	14
cis-1,2-Dichloroethene	5	280
Tetrachloroethene	5	68
Trichloroethene	5	990

G-MW-01S*	NY-TOGS1.1.1 DW – Class GA	µg/L
1,1,1-Trichloroethane	5	69
Freon 113	5	31
1,1-Dichloroethane	5	11
1,1-Dichloroethene	5	12
cis-1,2-Dichloroethene	5	20
Tetrachloroethene	5	52
Trichloroethene	5	310

G-MW-03S	NY-TOGS1.1.1 DW – Class GA	µg/l
1,1,1-Trichloroethane	2	230
Freon 113	5	300
1,1-Dichloroethene	5	39
cis-1,2-Dichloroethene	5	48
Tetrachloroethene	5	580
Trichloroethene	5	3,400



Legend

- Overburden Monitoring Well Location that Exceeds NYS TOGS 1.1.1 Class GA Standard
- Overburden Monitoring Well Location that does not Exceed NYS TOGS 1.1.1 Class GA Standard
- Not Sampled
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- µg/L = micrograms per liter
- J = Estimated value
- * = G-MW-01S results are from November 2017.
- Groundwater sampled June 2021.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

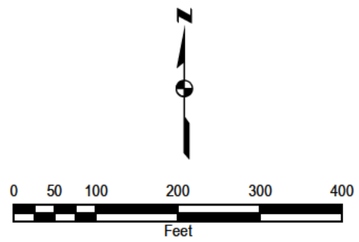
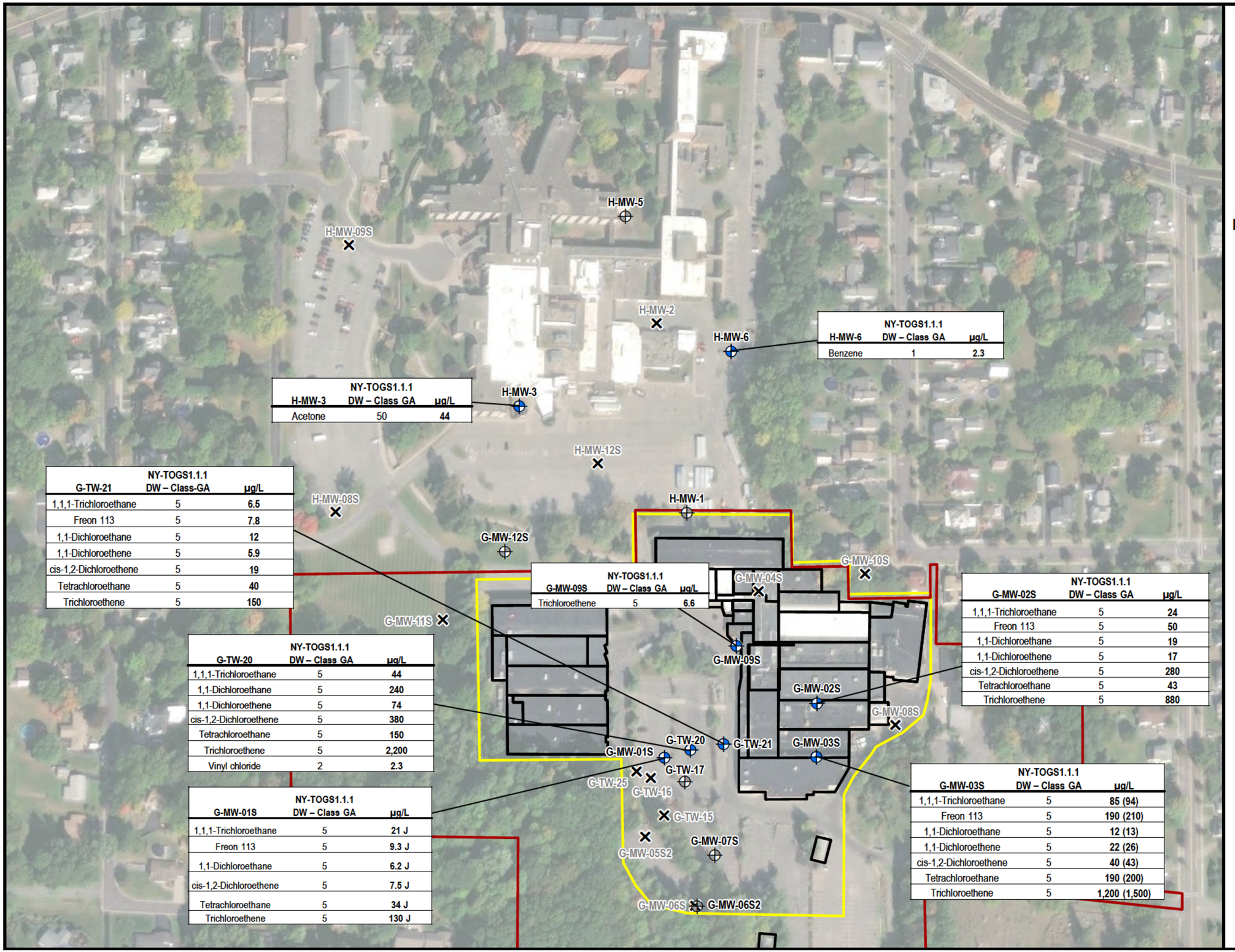


Figure 24: Overburden Groundwater Sample Exceedances - June 2021
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

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NY-TOGS1.1.1		
H-MW-3	DW – Class GA	µg/L
Acetone	50	44

NY-TOGS1.1.1		
H-MW-6	DW – Class GA	µg/L
Benzene	1	2.3

NY-TOGS1.1.1		
G-TW-21	DW – Class-GA	µg/L
1,1,1-Trichloroethane	5	6.5
Freon 113	5	7.8
1,1-Dichloroethane	5	12
1,1-Dichloroethene	5	5.9
cis-1,2-Dichloroethene	5	19
Tetrachloroethane	5	40
Trichloroethene	5	150

NY-TOGS1.1.1		
G-MW-09S	DW – Class GA	µg/L
Trichloroethene	5	6.6

NY-TOGS1.1.1		
G-MW-02S	DW – Class GA	µg/L
1,1,1-Trichloroethane	5	24
Freon 113	5	50
1,1-Dichloroethane	5	19
1,1-Dichloroethene	5	17
cis-1,2-Dichloroethene	5	280
Tetrachloroethane	5	43
Trichloroethene	5	880

NY-TOGS1.1.1		
G-TW-20	DW – Class GA	µg/L
1,1,1-Trichloroethane	5	44
1,1-Dichloroethane	5	240
1,1-Dichloroethene	5	74
cis-1,2-Dichloroethene	5	380
Tetrachloroethane	5	150
Trichloroethene	5	2,200
Vinyl chloride	2	2.3

NY-TOGS1.1.1		
G-MW-01S	DW – Class GA	µg/L
1,1,1-Trichloroethane	5	21 J
Freon 113	5	9.3 J
1,1-Dichloroethane	5	6.2 J
cis-1,2-Dichloroethene	5	7.5 J
Tetrachloroethane	5	34 J
Trichloroethene	5	130 J

NY-TOGS1.1.1		
G-MW-03S	DW – Class GA	µg/L
1,1,1-Trichloroethane	5	85 (94)
Freon 113	5	190 (210)
1,1-Dichloroethane	5	12 (13)
1,1-Dichloroethene	5	22 (26)
cis-1,2-Dichloroethene	5	40 (43)
Tetrachloroethane	5	190 (200)
Trichloroethene	5	1,200 (1,500)



Legend

- Overburden Monitoring Well Location that Exceeds NYS TOGS 1.1.1. Class GA Standard
- Overburden Monitoring Well Location that does not Exceed NYS TOGS 1.1.1. Class GA Standard
- Not Sampled
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- µg/L = micrograms per liter
- J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
- Groundwater samples collected August 2022.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

N

0 50 100 200 300 400
Feet

Figure 25: Overburden Groundwater Sample Exceedances - August 2022
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

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H-MW-3	NY-TOGS1.1.1 DW – Class GA	µg/L
Acetone	50	56

H-MW-6	NY-TOGS1.1.1 DW – Class GA	µg/L
Benzene	1	13
Ethylbenzene	5	13
Isopropylbenzene	5	5
m,p-Xylenes	5	23
o-Xylene	5	11

H-MW-12S	NY-TOGS1.1.1 DW – Class GA	µg/L
cis-1,2-Dichloroethene	5	8.5

G-TW-21	NY-TOGS1.1.1 DW – Class GA	µg/L
1,1,1-Trichloroethane	5	8.3
Freon 113	5	7.4 J
1,1-Dichloroethane	5	11
1,1-Dichloroethene	5	5.4 J
cis-1,2-Dichloroethene	5	16
Tetrachloroethane	5	28
Trichloroethene	5	160

G-MW-09S	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 12	5	23
Trichloroethene	5	19

G-MW-02S	NY-TOGS1.1.1 DW-Class GA	µg/L
1,1,1-Trichloroethane	5	21 J
Freon 113	5	52 J
1,1-Dichloroethane	5	13 J
1,1-Dichloroethene	5	16 J
cis-1,2-Dichloroethene	5	240
Tetrachloroethane	5	72
Trichloroethene	5	920

G-TW-20	NY-TOGS1.1.1 DW – Class GA	µg/L
1,1,1-Trichloroethane	5	73
Freon 113	5	140 J
1,1-Dichloroethane	5	220
1,1-Dichloroethene	5	130 J
cis-1,2-Dichloroethene	5	380
Tetrachloroethane	5	270
Trichloroethene	5	2,700
Vinyl chloride	2	4.4 J

G-MW-01S	NY-TOGS1.1.1 DW-Class GA	µg/L
1,1,1-Trichloroethane	5	26
Freon 113	5	23 J
1,1-Dichloroethane	5	6.9
1,1-Dichloroethene	5	5.7 J
cis-1,2-Dichloroethene	5	9.2
Tetrachloroethane	5	42
Trichloroethene	5	130

G-MW-03S	NY-TOGS1.1.1 DW-Class GA	µg/L
1,1,1-Trichloroethane	5	110
Freon 113	5	220 J
1,1-Dichloroethane	5	14 J
1,1-Dichloroethene	5	32 J
cis-1,2-Dichloroethene	5	38 J
Tetrachloroethane	5	250
Trichloroethene	5	1,700

H-MW-09S
H-MW-5
H-MW-2
H-MW-6
H-MW-3
H-MW-12S
H-MW-08S
H-MW-1
G-MW-12S
G-MW-10S
G-MW-04S
G-MW-11S
G-MW-09S
G-MW-02S
G-MW-08S
G-TW-20
G-TW-21
G-MW-03S
G-TW-25
G-MW-01S
G-TW-16
G-TW-17
G-TW-15
G-MW-05S2
G-MW-07S
G-MW-06S
G-MW-06S2



Legend

- Overburden Monitoring Well Location that Exceeds NYS TOGS 1.1.1. Class GA Standard
- Overburden Monitoring Well Location that does not Exceed NYS TOGS 1.1.1. Class GA Standard
- Not Sampled
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:
- µg/L = micrograms per liter
- Groundwater samples collected March 2023.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

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0 50 100 200 300 400
Feet

Figure 26: Overburden Groundwater Sample Exceedances - March 2023
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

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H-MW-11D

H-SPRING-02

H-SPRING-01

H-MW-10D2

H-MW-10D

H-MW-5 SR

H-MW-09D

H-MW-7 SR

H-MW-6 SR

H-MW-3 SR

H-MW-12D

H-MW-12D2

H-MW-4 SR

H-MW-08D2

H-MW-08D

H-MW-1 SR

G-MW-04D

G-MW-09D

G-MW-09D2

G-MW-02D

G-MW-08D

G-MW-01D

G-MW-03D

G-MW-07D

G-MW-07D2

H-SPRING-02	NY-TOGS1.1.1 DW – Class GA	µg/L
cis-1,2-Dichloroethene	5	6.6
Trichloroethene	5	8.9

H-MW-6 SR	NY-TOGS1.1.1 DW-Class GA	µg/L
1,2,4-Trimethylbenzene	5	18
Benzene	1	14
Ethylbenzene	5	11
Isopropylbenzene (Cumene)	5	6.5
n-Propylbenzene	5	6.8
Xylenes	5	16.4

G-MW-09D	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 113	5	6.7 (6.7)
cis-1,2-Dichloroethene	5	26 (26)
Freon 12	5	24 (23)
Tetrachloroethene	5	5.6 (5.4)
Trichloroethene	5	53 (51)

G-MW-09D2	NY-TOGS1.1.1 DW – Class GA	µg/L
cis-1,2-Dichloroethene	5	8.4

G-MW-01D	NY-TOGS1.1.1 DW-Class GA	µg/L
Freon 113	5	12
cis-1,2-Dichloroethene	5	22
Tetrachloroethene	5	6.4
Trichloroethene	5	34

G-MW-04D	NY-TOGS1.1.1 DW – Class GA	µg/L
Trichloroethene	5	14

G-MW-02D	NY-TOGS1.1.1 DW – Class GA	µg/L
1,1,1-Trichloroethane	5	7.9 J (7.9 J)
Freon 113	5	57 (60)
1,1-Dichloroethane	5	14 (14)
1,1-Dichloroethene	5	6.3 (6.7)
cis-1,2-Dichloroethene	5	130 (130)
Tetrachloroethene	5	69 (66)
Trichloroethene	5	420 (420)

G-MW-08D	NY-TOGS1.1.1 DW – Class GA	µg/L
Trichloroethene	5	32

G-MW-03D	NY-TOGS 1.1.1 DW-Class GA	µg/L
1,1,1-Trichloroethane	5	13
Freon 113	5	7.8
cis-1,2-Dichloroethene	5	7.4
Tetrachloroethene	5	16
Trichloroethene	5	170



Legend

- Bedrock Monitoring Well Location that Exceeds NYS TOGS 1.1.1 Class GA Standard
- Bedrock Monitoring Well Location that does not Exceed NYS TOGS 1.1.1 Class GA Standard
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- µg/L = micrograms per liter
- J = Estimated value
- **(98)** = Duplicate sample result
- Groundwater sampled June 2021.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

N

0 50 100 200 300 400

Feet

Figure 27: Bedrock Groundwater Sample Exceedances - June 2021

G.W. Lisk Company, Inc.

2 South Street, Clifton Springs, NY

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H-MW-11D
H-SPRING-02
H-SPRING-01
H-MW-10D
H-MW-5 SR
H-MW-9D
H-MW-7 SR
H-MW-6 SR
H-MW-3 SR
H-MW-12D
H-MW-4 SR
H-MW-08D
H-MW-1 SR
G-MW-12D
G-MW-10D
G-MW-04D
G-MW-11D
G-MW-09D
G-MW-02D
G-MW-08D
G-MW-01D
G-MW-03D
G-MW-07D

H-SPRING-01	NY-TOGS1.1.1 DW – Class GA	µg/L
cis-1,2-Dichloroethene	5	**6.5**

H-MW-6 SR	NY-TOGS1.1.1 DW – Class GA	µg/L
Benzene	1	**2.8**

H-MW-12D	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 113	5	**6.1**
cis-1,2-Dichloroethene	5	**15**
Trichloroethene	5	**62**

H-MW-4 SR	NY-TOGS1.1.1 DW – Class GA	µg/L
cis-1,2-Dichloroethene	5	**5**
Trichloroethene	5	**8.8**

G-MW-10D	NY-TOGS1.1.1 DW – Class GA	µg/L
Chloroform	7	**9.9**

G-MW-09D	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 12	5	**17**
Trichloroethene	5	**11**

G-MW-02D	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 113	5	**42**
1,1-Dichloroethane	5	**13**
cis-1,2-Dichloroethene	5	**55**
Tetrachloroethane	5	**24**
Trichloroethene	5	**230**

G-MW-01D	NY-TOGS1.1.1 DW – Class GA	µg/L
1,1,1-Trichloroethane	5	**7**
Freon 113	5	**59**
1,1-Dichloroethane	5	**5.9**
cis-1,2-Dichloroethene	5	**100**
Tetrachloroethane	5	**23**
Trichloroethene	5	**140**

G-MW-08D	NY-TOGS1.1.1 DW – Class GA	µg/L
Trichloroethene	5	**18**

G-MW-03D	NY-TOGS1.1.1 DW – Class GA	µg/L
Tetrachloroethene	5	**6.1**
Trichloroethene	5	**62**



Legend

- Overburden Monitoring Well Location that does not Exceed NYS TOGS 1.1.1. Class GA Standard
- Overburden Monitoring Well Location that Exceeds NYS TOGS 1.1.1. Class GA Standard
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- µg/L = micrograms per liter
- Groundwater samples collected August 2022.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

N

0 50 100 200 300 400
Feet

Figure 28: Bedrock Groundwater Sample Exceedances - August 2022
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

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H-MW-11D
H-SPRING-02
H-SPRING-01
H-MW-10D
H-MW-5 SR
H-MW-09D
H-MW-7 SR
H-MW-6 SR
H-MW-3 SR
H-MW-12D
H-MW-4 SR
H-MW-08D
H-MW-1 SR
G-MW-12D
G-MW-10D
G-MW-04D
G-MW-11D
G-MW-09D
G-MW-02D
G-MW-08D
G-MW-01D
G-MW-03D
G-MW-07D

H-MW-6 SR	NY-TOGS1.1.1 DW – Class GA	µg/L
Benzene	1	16
Ethylbenzene	5	16
Isopropylbenzene	5	5.5
m,p-Xylenes	5	28
o-Xylene	5	14
Toluene	5	5

G-MW-04D	NY-TOGS1.1.1 DW – Class GA	µg/L
Trichloroethene	5	(5.1)

G-MW-09D	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 12	5	13
Trichloroethene	5	30

G-MW-02D	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 113	5	280 J
1,1-Dichloroethane	5	9.9
1,1-Dichloroethene	5	6.7 J
cis-1,2-Dichloroethene	5	83
Tetrachloroethane	5	130
Trichloroethene	5	310

G-MW-08D	NY-TOGS1.1.1 DW-Class GA	µg/L
Trichloroethene	5	14

G-MW-01D	NY-TOGS1.1.1 DW – Class GA	µg/L
Freon 113	5	23 J
cis-1,2-Dichloroethene	5	35
Tetrachloroethane	5	12
Trichloroethene	5	54

G-MW-03D	NY-TOGS1.1.1 DW – Class GA	µg/L
Trichloroethene	5	12



Legend

- Bedrock Monitoring Well Location that Exceeds NYS TOGS 1.1.1. Class GA Standard
- Bedrock Monitoring Well Location that does not Exceed NYS TOGS 1.1.1. Class GA Standard
- Not Sampled
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- µg/L = micrograms per liter
- J = The analyte was positively identified; associated numerical value is the approximate concentration of the analyte in the sample.
- Duplicate sample results are shown in parentheses.
- Groundwater samples collected March 2023.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

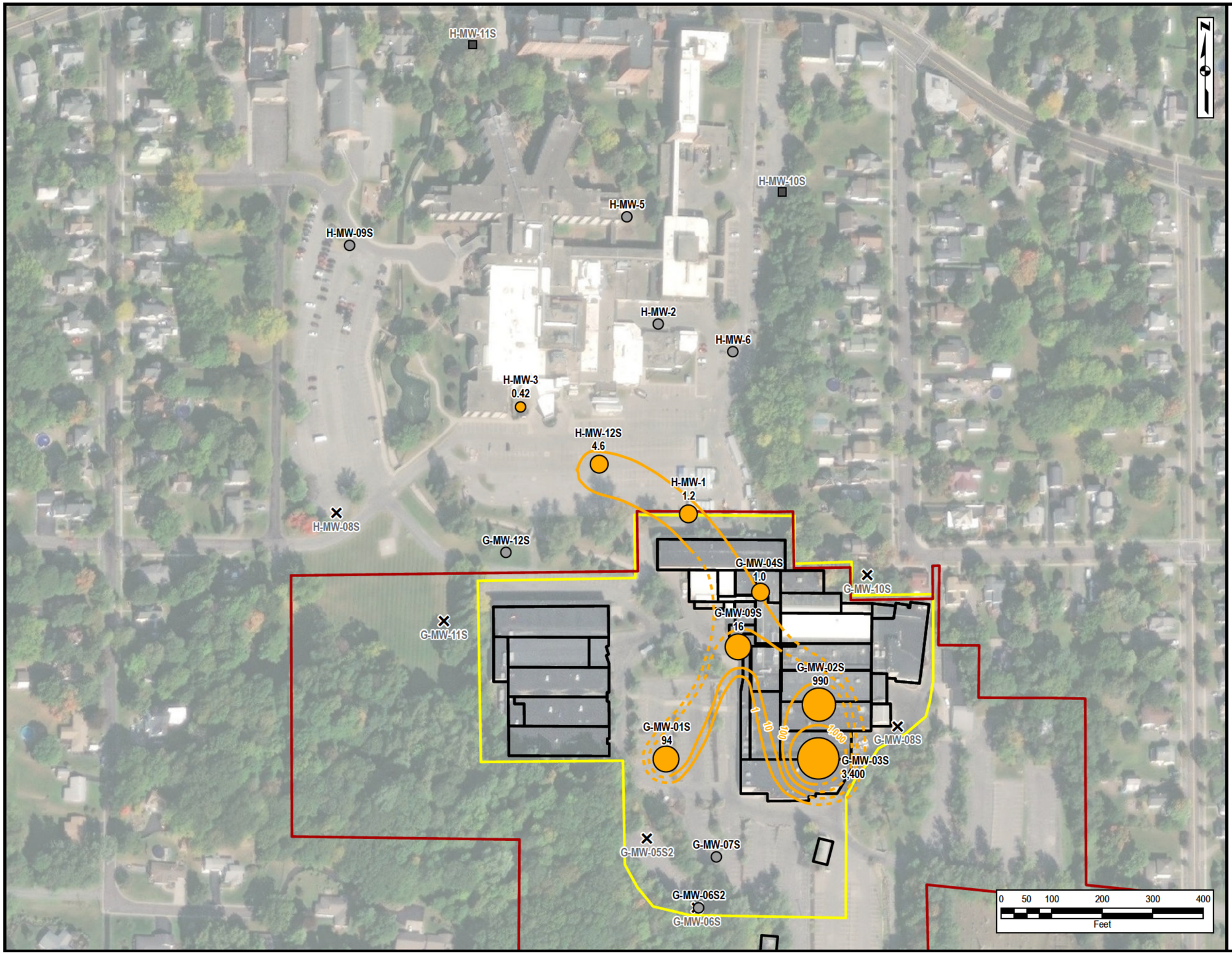
N

0 50 100 200 300 400
Feet

Figure 29: Bedrock Groundwater Sample Exceedances - March 2023
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

ERM

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Legend

Trichloroethene Concentration (µg/L)

- <1
- 1 - <10
- 10 - <100
- 100 - <1,000
- >1,000
- TCE Not Detected
- Not Sampled
- No Well Installed
- TCE Concentration Contours (Observed)
- TCE Concentration Contours (Inferred)
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

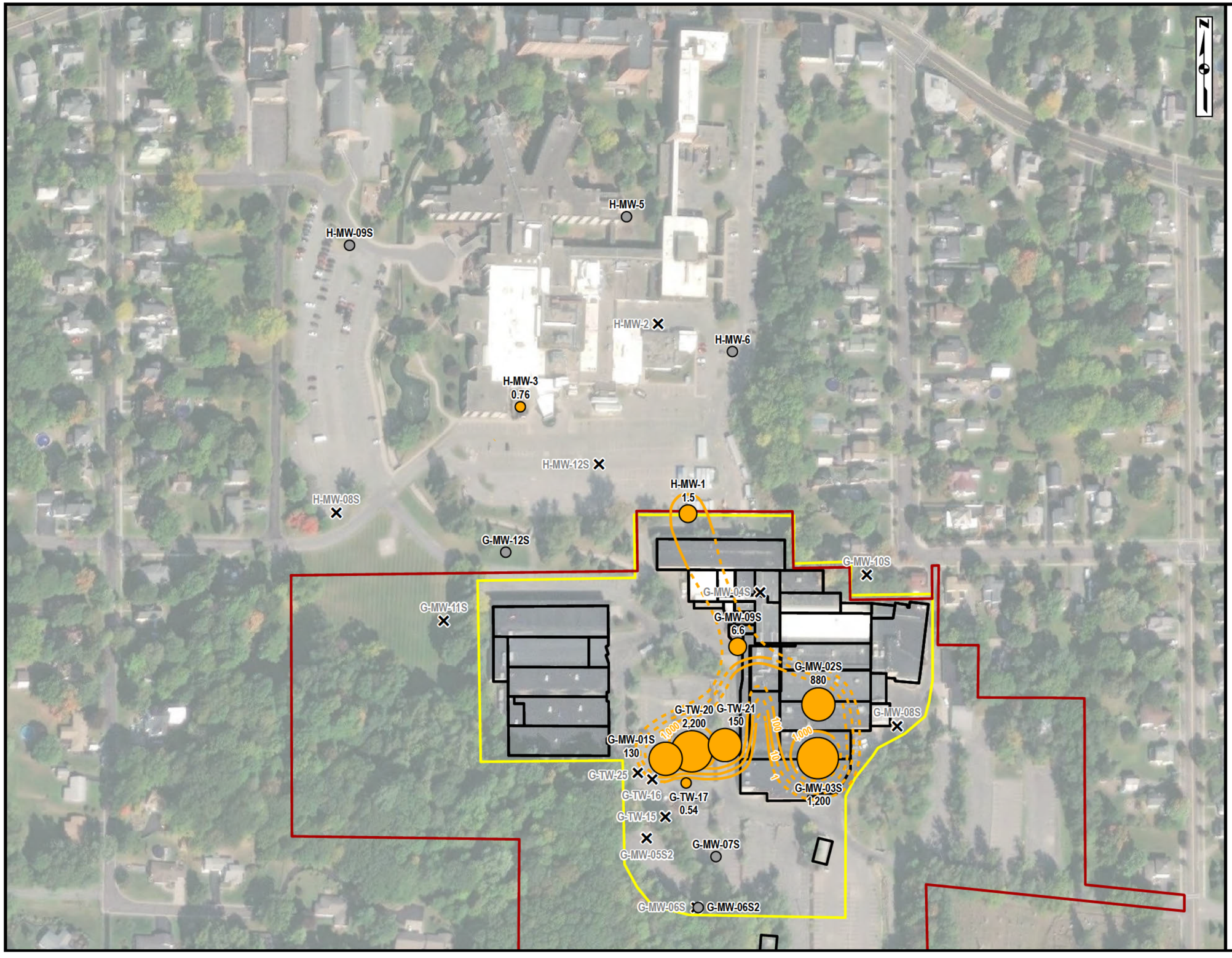
NOTES:

- TCE = Trichloroethane
- µg/L = micrograms per liter
- Groundwater collected June 2021.
- H-MW-10S was not installed as bedrock was 7 inches below ground surface.
- H-MW-11S was not installed due to a lack of groundwater present in the overburden.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

Figure 30: Overburden Groundwater TCE Distribution - June 2021
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

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Legend

Trichloroethene Concentration (µg/L)

- <1
- 1 - <10
- 10 - <100
- 100 - <1,000
- >1,000
- TCE Not Detected
- Not Sampled
- TCE Concentration Contours (Observed)
- TCE Concentration Contours (Inferred)
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- TCE = Trichloroethene
- µg/L = micrograms per liter
- ft. = feet
- Groundwater samples collected August 2022.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

0 50 100 200 300 400

Feet

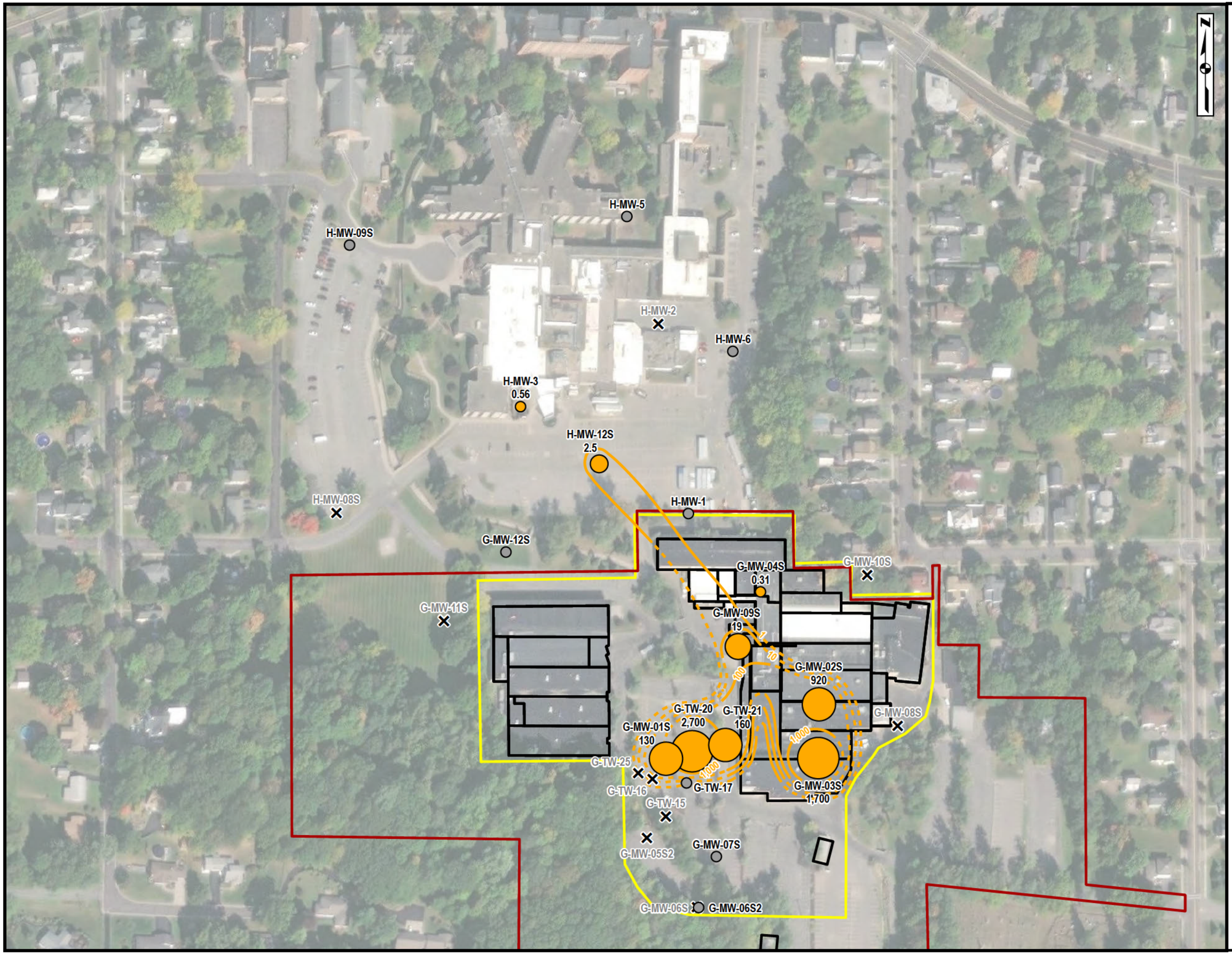
Figure 31: Overburden Groundwater TCE Distribution - August 2022

G.W. Lisk Company, Inc.

2 South Street, Clifton Springs, NY

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Legend

Trichloroethene Concentration (µg/L)

- <1
- 1 - <10
- 10 - <100
- 100 - <1,000
- >1,000
- TCE Not Detected
- Not Sampled
- TCE Concentration Contours (Observed)
- TCE Concentration Contours (Inferred)
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- TCE = Trichloroethene
- µg/L = micrograms per liter
- ft. = feet
- Groundwater samples collected March 2023.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

0 50 100 200 300 400

Feet

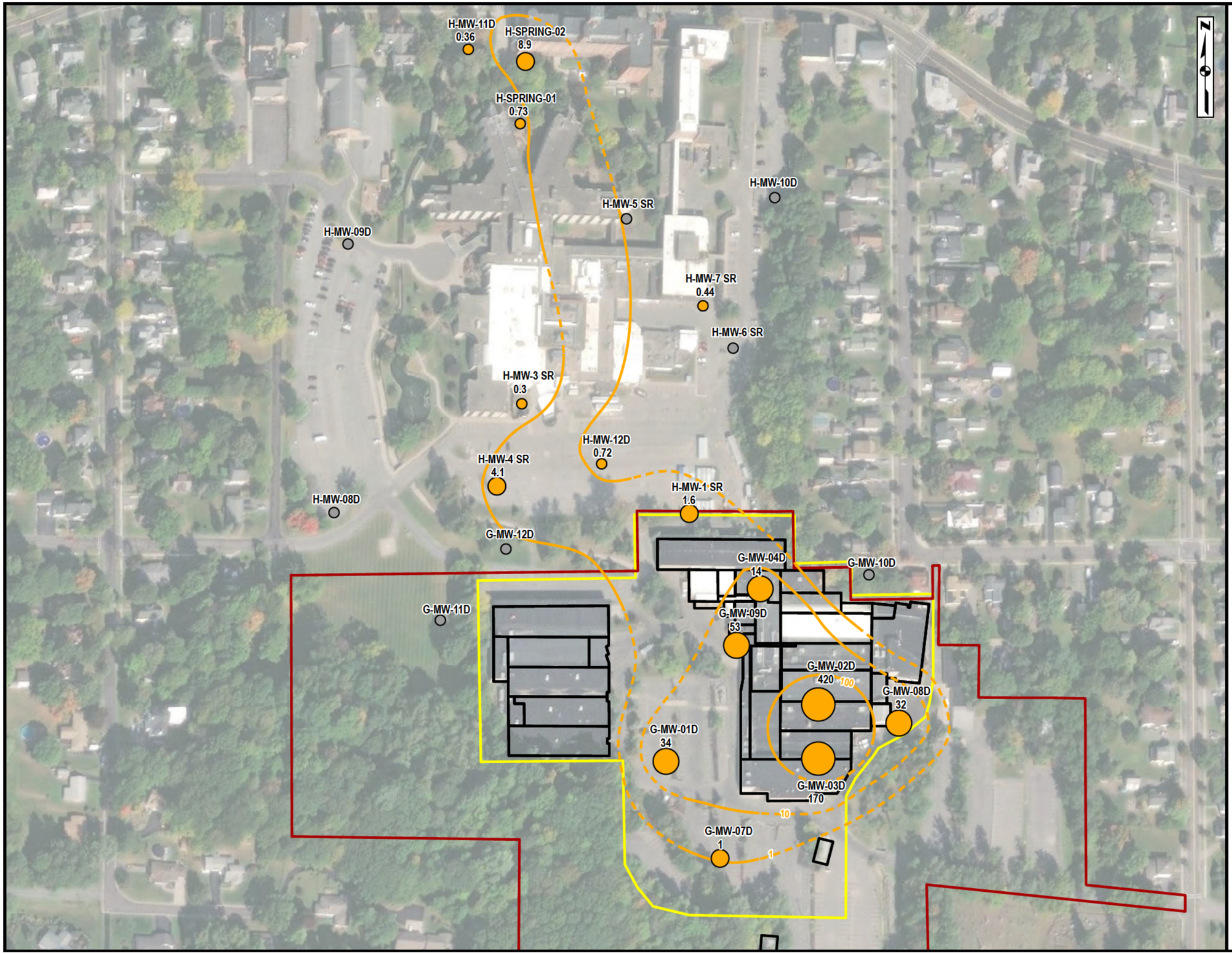
Figure 32: Overburden Groundwater TCE Distribution - March 2023

G.W. Lisk Company, Inc.

2 South Street, Clifton Springs, NY

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Legend

Trichloroethene Concentration (µg/L)

- <1
- 1 - <10
- 10 - <100
- 100 - <1,000
- >1,000
- Non-detect for TCE
- TCE Concentration Contours (Observed)
- TCE Concentration Contours (Inferred)
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- TCE = Trichloroethane
- µg/L = micrograms per liter
- Data shown was collected from shallow bedrock monitoring wells.
- Groundwater collected June 2021.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

0 50 100 200 300 400

Feet

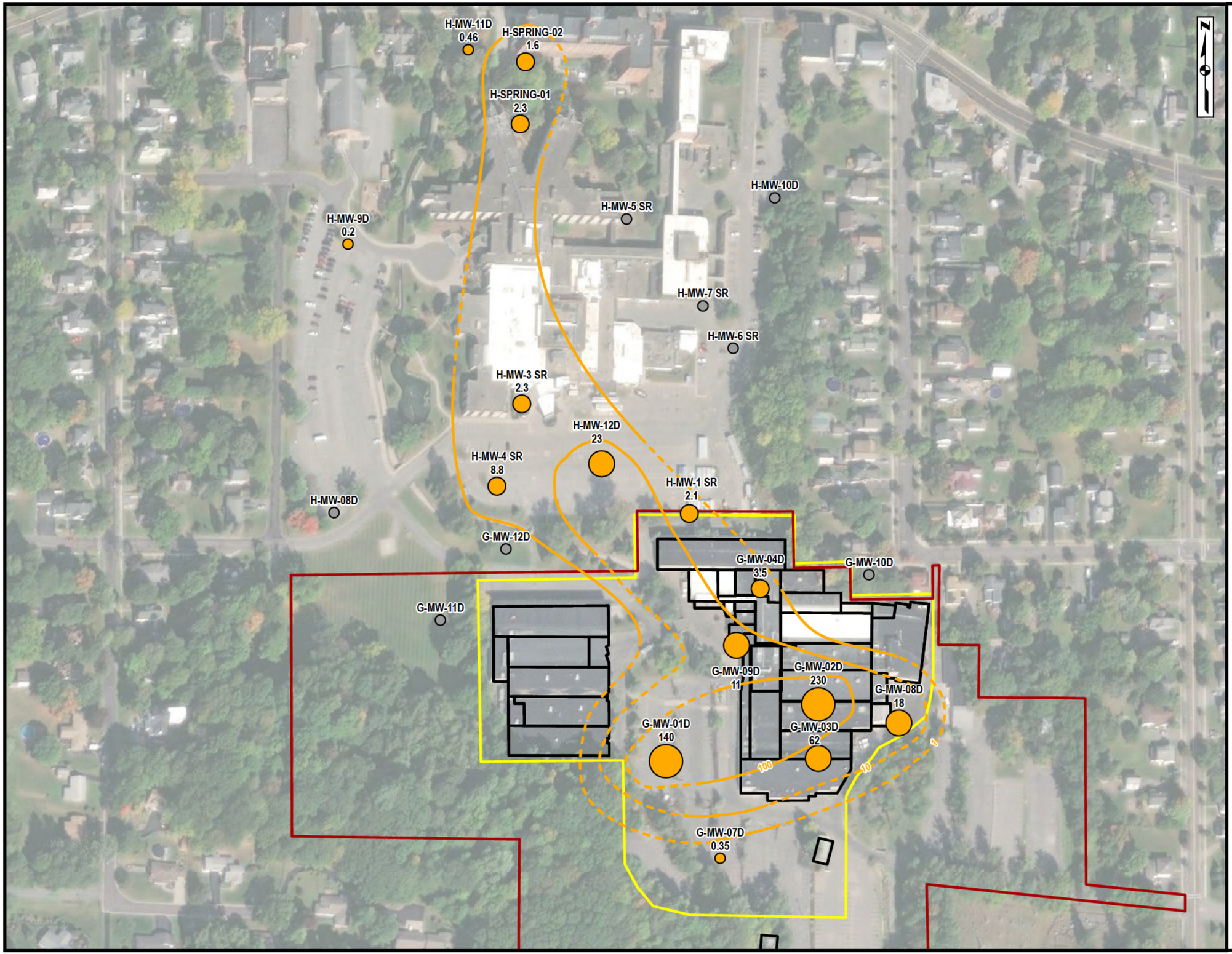
Figure 33: Bedrock Groundwater TCE Distribution - June 2021

G.W. Lisk Company, Inc.

2 South Street, Clifton Springs, NY

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Legend

Trichloroethene Concentration (µg/L)

- <1
- 1 - <10
- 10 - <100
- 100 - <1,000
- >1,000
- TCE Not Detected
- TCE Concentration Contours (Observed)
- TCE Concentration Contours (Inferred)
- Property Parcel Boundary
- Facility Outline
- BCP Boundary

NOTES:

- TCE = Trichloroethene
- µg/L = micrograms per liter
- ft. = feet
- Groundwater samples collected in August 2022.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

0 50 100 200 300 400

Feet

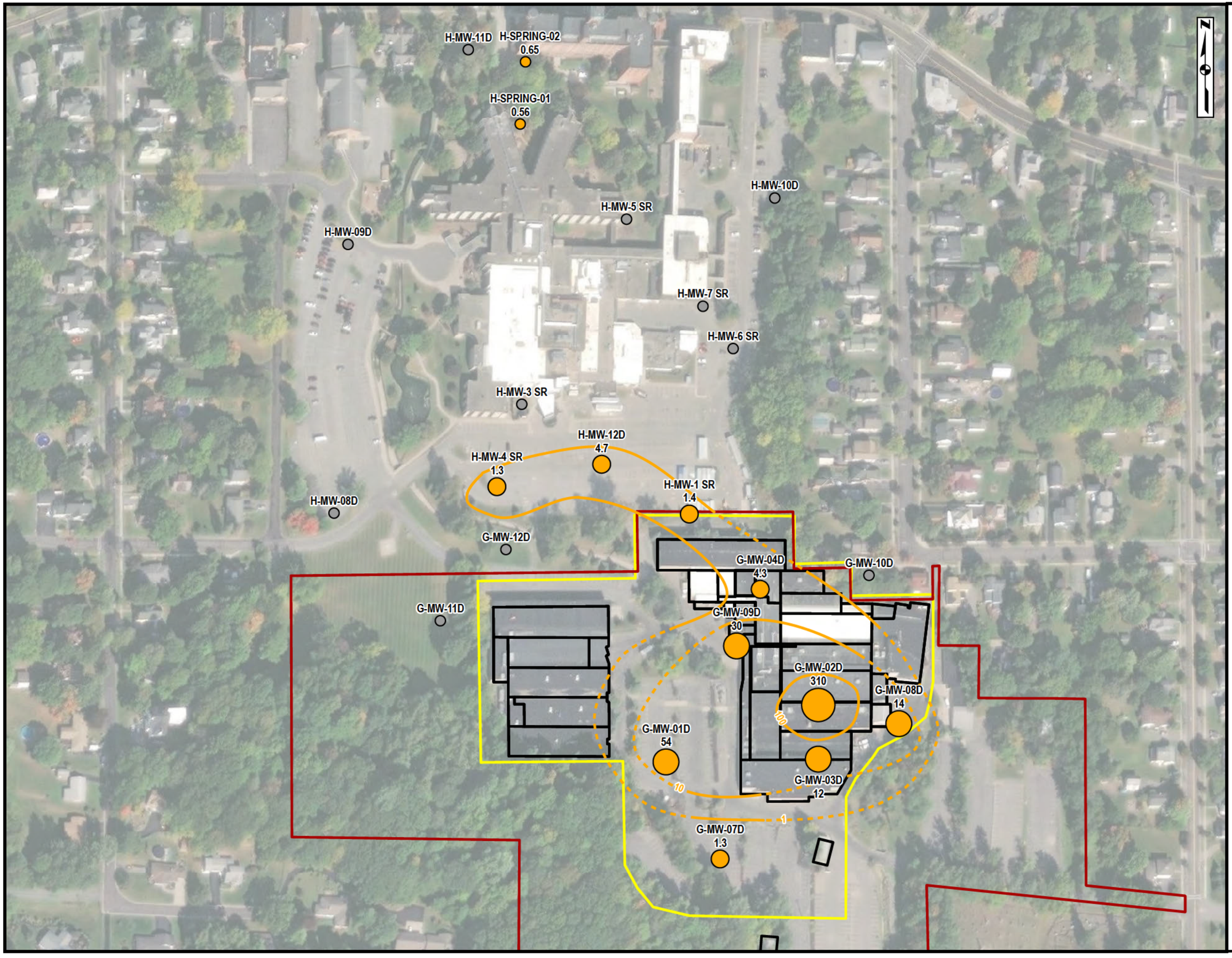
Figure 34: Bedrock Groundwater TCE Distribution - August 2022

G.W. Lisk Company, Inc.

2 South Street, Clifton Springs, NY

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Legend

Trichloroethene Concentration (µg/L)

- <1
- 1 - <10
- 10 - <100
- 100 - <1,000
- >1,000
- TCE Not Detected
- TCE Concentration Contours (Observed)
- TCE Concentraion Contours (Inferred)
- Property Parcel Boundary
- Facility Outline
- BCP Boundary

NOTES:

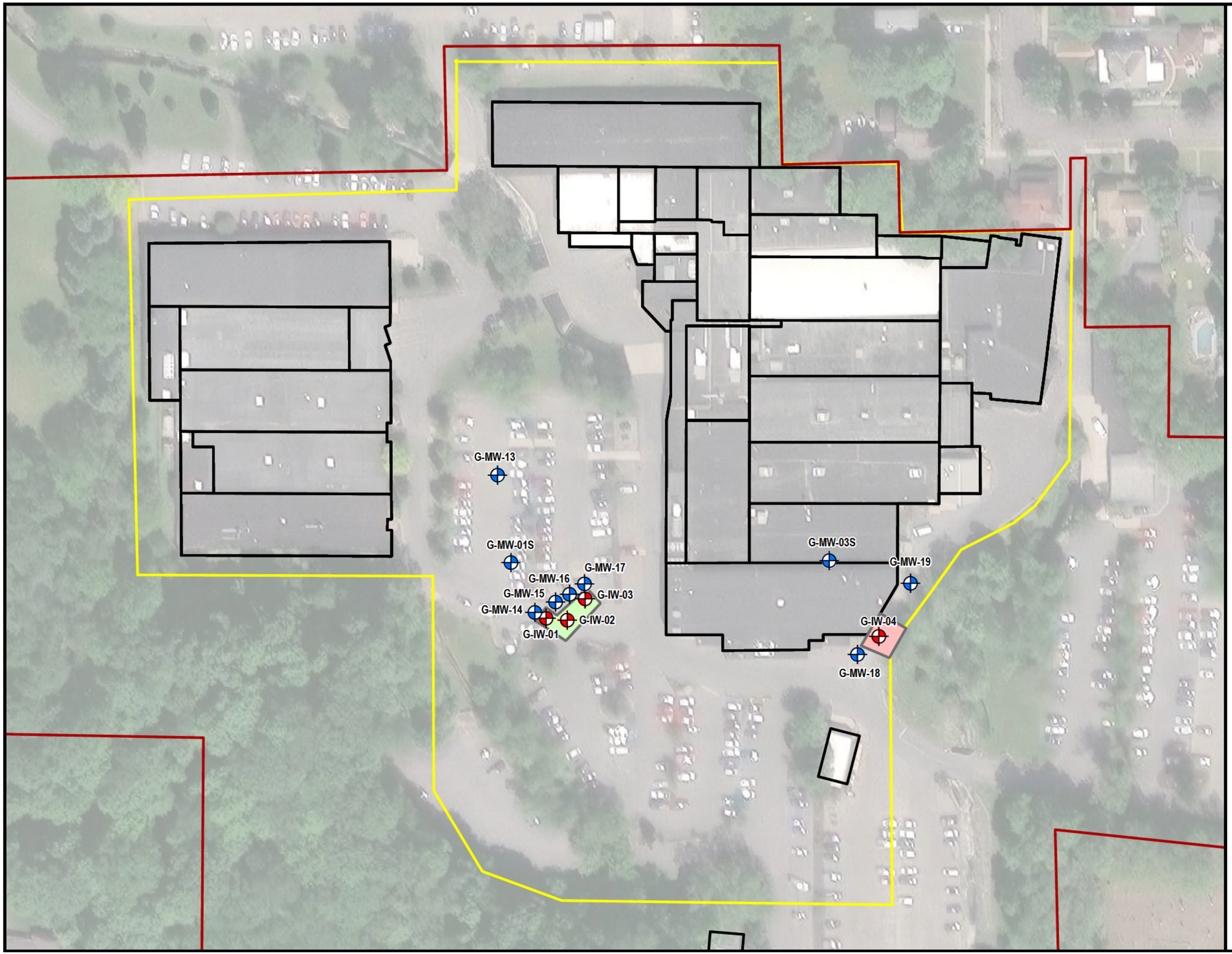
- TCE = Trichloroethene
- µg/L = micrograms per liter
- ft. = feet
- Groundwater samples collected March 2023.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

0 50 100 200 300 400
Feet

Figure 35: Bedrock Groundwater TCE Distribution - March 2023
G.W. Lisk Company, Inc.
2 South Street, Clifton Springs, NY

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Legend

- Injection Well Location
- Observation Monitoring Well Location
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

Injection Area

- Area 1
- Area 2

NOTES:

- Injection wells and observation wells were installed May 2023.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

N

0 25 50 100 150 200

Feet

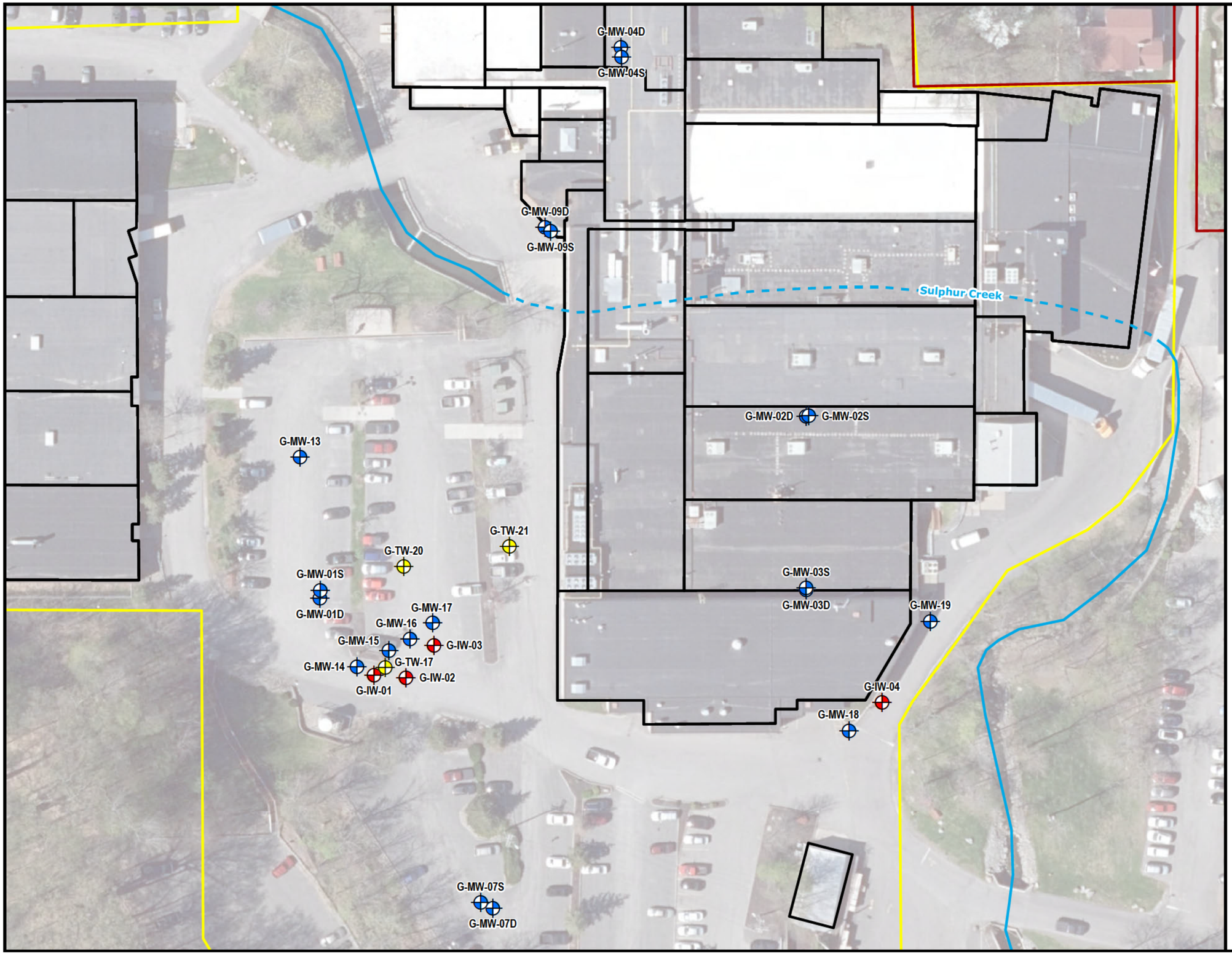
Figure 6: Installed Injection and Observation Well Locations

G.W. Lisk Company, Inc.

2 South Street, Clifton Springs, NY

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Legend

- Monitoring Well Location
- Temporary Monitoring Well Location
- Injection Well Location
- Sulphur Creek (Dashed where Inferred)
- Property Parcel Boundary
- BCP Boundary
- Facility Outline

NOTES:

- Injection wells and observation wells were installed May 2023.
- Facility room outlines are approximate in location and converted from AutoCAD models.
- Aerial imagery provided by Esri World Imagery.

N

0 12.5 25 50 75 100

Feet

Figure 7: Installed Post Injection Monitoring Well Network

G.W. Lisk Company, Inc.

2 South Street, Clifton Springs, NY

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Table 3
Baseline Groundwater Sampling Analytical Results
G.W. Lisk
Clifton Springs, New York

Analyte		NY TOGS 1.1.1 DW CLASS-GA	Location ID	G-MW-01S	G-MW-01D	G-MW-02S	G-MW-02D	G-MW-03S	G-MW-03D	G-MW-04S	G-MW-04D	G-MW-04D	G-MW-07S	G-MW-07D	G-MW-09S	G-MW-09D	G-TW-17	G-TW-20	G-TW-21
			Sample Date	3/9/2023	3/9/2023	3/9/2023	3/9/2023	3/9/2023	3/9/2023	3/8/2023	3/8/2023	3/8/2023	3/8/2023	3/9/2023	3/8/2023	3/8/2023	3/8/2023	3/8/2023	3/9/2023
			Sample Type	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N
			Unit																
VOCs	1,1,1-Trichloroethane	5	µg/L	26	3.1	21 J	4.2 J	110	< 2.5	< 2.5	0.89 J	0.95 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	73	8.3
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50	< 0.50	< 5.0	< 1.0	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.50
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	µg/L	23 J	23 J	52 J	280 J	220 J	0.95 J	< 2.5 J	< 2.5 J	< 2.5 J	< 2.5 J	2.6 J	< 2.5 J	3.5 J	< 2.5 J	140 J	7.4 J
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 15	< 3.0	< 30	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 30	< 1.5
	1,1-Dichloroethane	5	µg/L	6.9	2.6	13 J	9.9	14 J	< 2.5	< 2.5	1.8 J	1.8 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	220	11
	1,1-Dichloroethene	5	µg/L	5.7 J	1.9 J	16 J	6.7 J	32 J	< 0.50 J	< 0.50 J	0.27 J	0.25 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	130 J	5.4 J
	1,2,3-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 5.0	< 1.0	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.50
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 10	< 2.0	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 1.0
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	1,4-Dioxane	0.35	µg/L	< 250	< 250	< 2,500	< 500	< 5,000	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 5,000	< 250
	2-Butanone (Methyl ethyl ketone)	50	µg/L	< 5.0	< 5.0	< 50	< 10	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0
	2-Hexanone	50	µg/L	< 5.0	< 5.0	< 50	< 10	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0
	4-Methyl-2-pentanone	NS	µg/L	< 5.0	< 5.0	< 50	< 10	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 100	< 5.0
	Acetone	50	µg/L	< 5.0	< 5.0	< 50	< 10	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 5.0
	Benzene	1	µg/L	< 0.50	< 0.50	< 5.0	< 1.0	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	0.25 J
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	< 5.0	< 1.0	< 10	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.50
	Bromoform	50	µg/L	< 2.0	< 2.0	< 20	< 4.0	< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 2.0
	Bromomethane	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	Carbon disulfide	60	µg/L	< 5.0	< 5.0	< 50	< 10	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 100	< 5.0
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 5.0	< 1.0	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.50
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	Chlorobromomethane	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	Chloroethane	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 50	< 2.5
	Chloroform	7	µg/L	0.85 J	< 2.5	< 25	< 5.0	< 50	< 2.5	2.8	2.6	2.6	< 2.5	< 2.5	0.82 J	0.90 J	< 2.5	< 50	0.80 J
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	cis-1,2-Dichloroethene	5	µg/L	9.2	35	240	83	38 J	< 2.5	< 2.5	3.4	3.5	< 2.5	0.96 J	0.82 J	4.2	< 2.5	380	16
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 5.0	< 1.0	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.50
	Cyclohexane	NS	µg/L	< 10	< 10	< 100	< 20	< 200	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 200	< 10
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 5.0	< 1.0	< 10	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 0.50
	Dichlorodifluoromethane (Freon 12)	5	µg/L	< 5.0	< 5.0	< 50	< 10	< 100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	23	13	< 5.0	< 100	< 5.0
	Ethylbenzene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 20	< 4.0	< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 2.0
	Isopropylbenzene (Cumene)	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	m,p-Xylenes	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	Methyl acetate	NS	µg/L	< 2.0	< 2.0	< 20	< 4.0	< 40	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 2.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	0.81 J
	Methylcyclohexane	NS	µg/L	< 10	< 10	< 100	< 20	< 200	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 200	< 10
	Methylene chloride	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	o-Xylene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	Styrene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	Tetrachloroethene	5	µg/L	42	12	72	130	250	2.6	0.50	1.3	1.6	< 0.50	< 0.50	0.63	2.0	< 0.50	270	28
	Toluene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 2.5
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50 J	< 0.50 J	< 5.0 J	< 1.0 J	< 10 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	< 0.50 J	< 10 J	< 0.50 J
	Trichloroethene	5	µg/L	130	54	920	310	1,700	12	0.31 J	4.3	5.1	< 0.50	1.3	19	30	< 0.50	2,700	160
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5	< 25	< 5.0	< 50	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 50	< 2.5
	Vinyl chloride	2	µg/L	< 1.0	< 1.0	< 10	< 2.0	< 20	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	4.4 J	0.10 J
Carbon	Organic Carbon, Total	NS	mg/L	0.250 J	0.960	0.430 J	0.520	0.450 J	0.780 J	0.980	1.07	1.02	1.19 J	0.990	0.780	0.820	0.980 J	0.690	1.34

Notes:

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/L = micrograms per liter
mg/L = milligrams per liter
Results shown in bold font indicate a compound was detectedabove the laboratory reporting detection limit.
Results shaded grey indicate a detection above NYS TOGS 1.1.1 Groundwater Standard

Table 4
Post-Injection Groundwater Analytical Results
G.W. Lisk
Clifton Springs, New York

Analyte		NY TOGS 1.1.1 DW CLASS-GA	Location ID	G-IW-01	G-IW-01	G-IW-01	G-IW-01	G-IW-02	G-IW-02	G-IW-02	G-IW-03	G-IW-03	G-IW-03	G-IW-03	G-IW-03	G-IW-04	G-IW-04	G-IW-04
			Sample Date	11/1/2023	1/30/2024	4/30/2024	8/6/2024	1/30/2024	4/30/2024	8/6/2024	9/6/2023	11/1/2023	1/30/2024	4/30/2024	8/6/2024	9/5/2023	11/1/2023	1/30/2024
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit															
VOCs	1,1,1-Trichloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	9.8	5.7	4.1	1.0 J	3.5	2.4 J	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	22	18	4.5	6.8	11	9.3	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 6.0
	1,1-Dichloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	4.5	2.3 J	1.2 J	9.4	8.9	7.8	7.3	3.3	< 2.5	< 2.5	< 10
	1,1-Dichloroethene	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	0.91	0.22 J	< 0.50	1.8	1.7	1.9	1.1	0.58	< 0.50	< 0.50	< 2.0
	1,2,3-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 10
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 4.0
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	1,4-Dioxane	0.35	µg/L	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 1,000
	2-Butanone (Methyl ethyl ketone)	50	µg/L	18	12	16	14	5.4	2.6 J	< 5.0	7.0	16	15	9.5	12	3.2 J	7.9	29
	2-Hexanone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20
	4-Methyl-2-pentanone	NS	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	2.3 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 20
	Acetone	50	µg/L	5.0	4.3 J	7.6	6.9	7.5	8.5	1.8 J	2.2 J	28	28	11	15	3.8 J	6.0	76
	Benzene	1	µg/L	0.21 J	< 0.50	< 0.50	< 0.50	0.24 J	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	Bromoform	50	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 8.0
	Bromomethane	5	µg/L	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 10
	Carbon disulfide	60	µg/L	< 5.0	1.1 J	< 5.0	1.1 J	1.5 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	1.5 J	< 5.0	< 5.0	< 20
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Chlorobromomethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Chloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	1.9 J	2.8	< 2.5	< 2.5	< 10
	Chloroform	7	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	0.81 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 10
	cis-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	2.3 J	1.1 J	1.3 J	6.6	8.8	17	8.5	4.6	0.70 J	5.1	< 10
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	Cyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 40
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	Dichlorodifluoromethane (Freon 12)	5	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0 J	< 5.0	< 20
	Ethylbenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 8.0
	Isopropylbenzene (Cumene)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	m,p-Xylenes	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Methyl acetate	NS	µg/L	0.97 J	1.5 J	< 2.0	0.71 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 8.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	0.29 J	0.21 J	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Methylcyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 40
	Methylene chloride	5	µg/L	1.1 J	< 2.5	< 2.5	< 2.5	1.1 J	< 2.5	< 2.5	2.0 J	1.6 J	1.5 J	1.2 J	0.72 J	< 2.5	1.4 J	< 10
	o-Xylene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Styrene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Tetrachloroethene	5	µg/L	0.24 J	0.27 J	0.22 J	< 0.50	6.6	3.4	3.5	1.1	3.3	1.2	0.84	0.82	< 0.50	< 0.50	< 2.0
	Toluene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 2.0
	Trichloroethene	5	µg/L	1.1	1.2	1.1	0.34 J	20	8.5	6.6	10	16	5.6	1.3	1.4	6.3	6.3	3.9
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 10
	Vinyl chloride	2	µg/L	0.08 J	< 1.0	0.16 J	< 1.0	0.49 J	0.34 J	0.22 J	< 1.0	0.87 J	5.3	15	8.9	< 1.0	5.6	0.42 J
Dissolved Gases	Ethane	NS	mg/L	--	--	< 0.014	--	--	--	--	--	--	--	< 0.014	--	--	--	--
	Ethene	NS	mg/L	--	--	< 0.017	--	--	--	--	--	--	--	< 0.017	--	--	--	--
	Methane	NS	mg/L	--	--	1.5	--	--	--	--	--	--	--	3.2	--	--	--	--
Carbon	Organic Carbon, Total	NS	mg/L	230	130	38	28	41	--	8.2	98	70 J	86	26	22	61	480	550

Notes:

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/L = micrograms per liter
mg/L = milligrams per liter
Results shown in **bold** font indicate a compound was detectedabove the laboratory reporting detection limit.
Results shaded grey indicate a detection above NYS TOGS 1.1.1 Groundwater Standard

Table 4
Post-Injection Groundwater Analytical Results
G.W. Lisk
Clifton Springs, New York

Analyte		NY TOGS 1.1.1 DW CLASS-GA	Location ID	G-IW-04	G-IW-04	G-MW-01S	G-MW-01S	G-MW-01S	G-MW-01S	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-02S	G-MW-02S	G-MW-02S	G-MW-02S	G-MW-02D	G-MW-02D	G-MW-02D
			Sample Date	4/30/2024	8/6/2024	11/1/2023	1/30/2024	4/30/2024	8/6/2024	11/1/2023	1/30/2024	5/1/2024	8/7/2024	1/31/2024	5/1/2024	8/8/2024	8/8/2024	1/31/2024	5/1/2024	8/8/2024
			Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
			Unit																	
VOCs	1,1,1-Trichloroethane	5	µg/L	< 2.5	< 2.5	**9.2**	**12**	**10**	**11**	**5.0**	**1.3 J**	**1.6 J**	< 2.5	**40 J**	**73**	**43 J**	**39**	**2.4 J**	**3.1**	**2.2 J**
	1,1,2,2-Tetrachloroethane	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	µg/L	< 2.5	< 2.5	**1.5 J**	**11**	**6.4**	**6.4**	**40**	**9.1**	**10**	**0.86 J**	**52**	**67**	**64**	**61**	**120 J**	**66**	**20**
	1,1,2-Trichloroethane	1	µg/L	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	< 30	< 38	< 30	< 15	< 3.0	< 1.5	< 1.5
	1,1-Dichloroethane	5	µg/L	< 2.5	< 2.5	**4.1**	**4.3**	**4.3**	**3.4**	**4.4**	**0.99 J**	**1.5 J**	< 2.5	**20 J**	**40 J**	**18 J**	**17 J**	**8.8**	**10**	**8.6**
	1,1-Dichloroethene	5	µg/L	< 0.50	< 0.50	**1.7**	**3.0**	**2.4**	**2.6**	**2.8**	**0.64**	**0.91**	< 0.50	**19**	**33**	**19**	**21**	**4.0**	**3.6**	**3.2**
	1,2,3-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	1,2,4-Trichlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	1,2-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	1,2-Dichloroethane	0.6	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	1,2-Dichloropropane	1	µg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 20	< 25	< 20	< 10	< 2.0	< 1.0	< 1.0
	1,3-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	1,4-Dichlorobenzene	3	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	1,4-Dioxane	0.35	µg/L	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 250	< 5,000	< 6,200	< 5,000	< 2,500	< 500	< 250	< 250
	2-Butanone (Methyl ethyl ketone)	50	µg/L	**3.3 J**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 120	< 100	< 50	< 10	< 5.0	< 5.0
	2-Hexanone	50	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 120	< 100	< 50	< 10	< 5.0	< 5.0
	4-Methyl-2-pentanone	NS	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 120	< 100	< 50	< 10	< 5.0	< 5.0
	Acetone	50	µg/L	**10**	**7.8**	< 5.0	< 5.0	**1.5 J**	< 5.0	< 5.0	**2.4 J**	< 5.0	< 5.0	< 100	< 120	< 100	< 50	< 10	< 5.0	< 5.0
	Benzene	1	µg/L	**0.41 J**	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	Bromodichloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	Bromoform	50	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 50	< 40	< 20	< 4.0	< 2.0	< 2.0
	Bromomethane	5	µg/L	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	< 50	< 62 J	< 50	< 25	< 5.0	< 2.5 J	< 2.5
	Carbon disulfide	60	µg/L	**1.1 J**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 100	< 120	< 100	< 50	< 10	< 5.0	< 5.0
	Carbon tetrachloride	5	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	Chlorobenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Chlorobromomethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Chloroethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Chloroform	7	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Chloromethane	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	cis-1,2-Dichloroethene	5	µg/L	**2.0 J**	**0.70 J**	**5.0**	**4.8**	**4.6**	**4.4**	**76**	**17**	**20 J**	**2.2 J**	**180**	**230**	**250**	**260**	**44**	**27**	**19**
	cis-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	Cyclohexane	NS	µg/L	< 10	< 10	< 10	< 10	< 10	**0.87 J**	< 10	< 10	< 10	< 10	< 200	< 250	< 200	< 100	< 20	< 10	< 10
	Dibromochloromethane	50	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	Dichlorodifluoromethane (Freon 12)	5	µg/L	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**1.0 J**	< 5.0	< 5.0	< 5.0	< 100	< 120	< 100	< 50	< 10	< 5.0	< 5.0
	Ethylbenzene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Ethylene dibromide	0.0006	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 50	< 40	< 20	< 4.0	< 2.0	< 2.0
	Isopropylbenzene (Cumene)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	m,p-Xylenes	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Methyl acetate	NS	µg/L	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 50	< 40	< 20	< 4.0	< 2.0	< 2.0
	Methyl tert-butyl ether	10	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Methylcyclohexane	NS	µg/L	< 10	< 10	**1.0 J**	< 10	< 10	**2.0 J**	< 10	< 10	< 10	< 10	< 200	< 250	< 200	< 100	< 20 J	< 10	< 10
	Methylene chloride	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	o-Xylene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Styrene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Tetrachloroethene	5	µg/L	< 0.50	< 0.50	**22**	**25**	**21**	**27**	**23**	**4.8**	**4.8**	**0.72**	**120**	**190**	**160**	**150**	**59**	**31**	**9.5**
	Toluene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	trans-1,2-Dichloroethene	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	trans-1,3-Dichloropropene	0.4	µg/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 10	< 12	< 10	< 5.0	< 1.0	< 0.50	< 0.50
	Trichloroethene	5	µg/L	**1.2**	**0.26 J**	**80**	**94**	**82**	**91**	**87**	**21**	**24 J**	**1.8**	**2,100**	**3,400**	**1,800**	**1,700**	**210**	**180**	**160**
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 50	< 62	< 50	< 25	< 5.0	< 2.5	< 2.5
	Vinyl chloride	2	µg/L	**1.4**	**0.72 J**	< 1.0	< 1.0	< 1.0	< 1.0	**0.12 J**	< 1.0	< 1.0	**0.28 J**	< 20	< 25	< 20	< 10	< 2.0	**0.17 J**	**0.09 J**
Dissolved Gases	Ethane	NS	mg/L	< 0.014	--	--	--	< 0.014	--	--	--	< 0.014	--	--	--	--	--	--	--	--
	Ethene	NS	mg/L	< 0.017	--	--	--	< 0.017	--	--	--	< 0.017	--	--	--	--	--	--	--	--
	Methane	NS	mg/L	**22**	--	--	--	**0.0020 J**	--	--	--	**0.0029 J**	--	--	--	--	--	--	--	--
Carbon	Organic Carbon, Total	NS	mg/L	**180**	**70**	**0.65 J**	**0.42**	**0.32 J**	< 2.0	**1.8**	**3.3**	**1.4**	**1.0**	**0.38**	**0.62**	**0.46 J**	**0.49 J**	**0.41**	**0.68**	**0.38 J**

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/L = micrograms per liter
mg/L = milligrams per liter
Results shown in **bold** font indicate a compound was detectedabove the laboratory reporting detection lim
Results shaded grey indicate a detection above NYS TOGS 1.1.1 Groundwater Standard

Table 4
Post-Injection Groundwater Analytical Results
G.W. Lisk
Clifton Springs, New York

Analyte		NY TOGS 1.1.1 DW CLASS-GA	Location ID	G-MW-02D	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-04D	G-MW-04D	G-MW-04D	G-MW-09D	G-MW-09D	G-MW-09S	G-MW-09S
			Sample Date	8/8/2024	11/1/2023	11/1/2023	1/31/2024	4/30/2024	4/30/2024	8/8/2024	11/1/2023	1/31/2024	1/31/2024	5/1/2024	5/1/2024	8/7/2024	1/31/2024	1/31/2024	8/6/2024	5/1/2024	8/7/2024	5/1/2024	8/6/2024
			Sample Type	FD	N	FD	N	N	FD	N	N	N	FD	N	FD	N	N	FD	N	N	N	N	N
			Unit																				
VOCs	1,1,1-Trichloroethane	5	µg/L	**2.2 J**	**100**	**100**	**120**	**110**	**120**	**84**	*< 2.5*	*< 2.5*	*< 2.5*	**2.4 J**	**3.4**	**1.2 J**	--	--	**1.3 J**	**0.83 J**	*< 2.5*	*< 2.5*	*< 2.5*
	1,1,2,2-Tetrachloroethane	5	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	µg/L	**22**	**150**	**140**	**160**	**150**	**160**	**160**	*< 2.5*	**1.1 J**	**0.96 J**	**2.9 J**	**3.3 J**	**1.1 J**	--	--	*< 2.5*	**31 J**	**19**	*< 2.5*	*< 2.5*
	1,1,2-Trichloroethane	1	µg/L	*< 1.5*	*< 15*	*< 15*	*< 30*	*< 30*	*< 30*	*< 15*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	--	--	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*
	1,1-Dichloroethane	5	µg/L	**7.5**	**12 J**	**10 J**	**14 J**	**17 J**	**18 J**	**11 J**	*< 2.5*	*< 2.5*	*< 2.5*	**1.5 J**	**1.9 J**	*< 2.5*	--	--	**1.6 J**	**1.6 J**	**1.3 J**	*< 2.5*	*< 2.5*
	1,1-Dichloroethene	5	µg/L	**3.5**	**17**	**17**	**23**	**23**	**25**	**18**	*< 0.50*	*< 0.50*	*< 0.50*	**0.87**	**0.98**	*< 0.50*	--	--	**0.25 J**	**0.29 J**	**0.28 J**	*< 0.50*	*< 0.50*
	1,2,3-Trichlorobenzene	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	1,2,4-Trichlorobenzene	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	1,2-Dibromo-3-chloropropane	0.04	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50 J*	*< 50 J*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5*
	1,2-Dichlorobenzene	3	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	1,2-Dichloroethane	0.6	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	1,2-Dichloropropane	1	µg/L	*< 1.0*	*< 10*	*< 10*	*< 20*	*< 20*	*< 20*	*< 10*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	--	--	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*
	1,3-Dichlorobenzene	3	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	1,4-Dichlorobenzene	3	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	1,4-Dioxane	0.35	µg/L	*< 250*	*< 2,500*	*< 2,500*	*< 5,000*	*< 5,000*	*< 5,000*	*< 2,500*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	--	--	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*
	2-Butanone (Methyl ethyl ketone)	50	µg/L	*< 5.0*	*< 50*	*< 50*	*< 100*	*< 100*	*< 100*	*< 50*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	--	--	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*
	2-Hexanone	50	µg/L	*< 5.0*	*< 50*	*< 50*	*< 100*	*< 100*	*< 100*	*< 50*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	--	--	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*
	4-Methyl-2-pentanone	NS	µg/L	*< 5.0*	*< 50*	*< 50*	*< 100*	*< 100*	*< 100*	*< 50*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	--	--	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*
	Acetone	50	µg/L	*< 5.0*	*< 50*	*< 50*	*< 100*	*< 100*	*< 100*	*< 50*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	--	--	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*
	Benzene	1	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	Bromodichloromethane	50	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	Bromoform	50	µg/L	*< 2.0*	*< 20*	*< 20*	*< 40*	*< 40*	*< 40*	*< 20*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	--	--	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*
	Bromomethane	5	µg/L	*< 2.5*	*< 25 J*	*< 25 J*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Carbon disulfide	60	µg/L	*< 5.0*	*< 50*	*< 50*	*< 100*	*< 100*	*< 100*	*< 50*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	--	--	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*
	Carbon tetrachloride	5	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	Chlorobenzene	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Chlorobromomethane	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Chloroethane	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Chloroform	7	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	**4.2**	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Chloromethane	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	cis-1,2-Dichloroethene	5	µg/L	**18**	**42**	**41**	**42 J**	**43 J**	**47 J**	**29**	*< 2.5*	**0.94 J**	**0.92 J**	**3.8**	**5.0**	*< 2.5*	--	--	**3.8**	**35**	**27**	*< 2.5*	*< 2.5*
	cis-1,3-Dichloropropene	0.4	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	Cyclohexane	NS	µg/L	*< 10*	*< 100*	*< 100 J*	*< 200*	*< 200*	*< 200*	*< 100*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	--	--	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*
	Dibromochloromethane	50	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	Dichlorodifluoromethane (Freon 12)	5	µg/L	*< 5.0*	*< 50*	*< 50*	*< 100*	*< 100*	*< 100*	*< 50*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	--	--	*< 5.0*	**9.6**	**13**	**25**	**21**
	Ethylbenzene	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Ethylene dibromide	0.0006	µg/L	*< 2.0*	*< 20*	*< 20*	*< 40*	*< 40*	*< 40*	*< 20*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	--	--	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*
	Isopropylbenzene (Cumene)	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	m,p-Xylenes	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Methyl acetate	NS	µg/L	*< 2.0*	*< 20*	*< 20*	*< 40*	*< 40*	*< 40*	*< 20*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	--	--	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*
	Methyl tert-butyl ether	10	µg/L	*< 2.5*	*< 25*	*< 25 J*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Methylcyclohexane	NS	µg/L	*< 10*	*< 100*	*< 100*	*< 200*	*< 200*	*< 200*	*< 100*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	--	--	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*
	Methylene chloride	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	o-Xylene	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Styrene	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Tetrachloroethene	5	µg/L	**10**	**250**	**250**	**260**	**230**	**250**	**220**	**4.3**	**3.0**	**2.6**	**11 J**	**16 J**	**5.2**	--	--	**2.2**	**6.4 J**	**5.3**	**0.55**	**0.68**
	Toluene	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	trans-1,2-Dichloroethene	5	µg/L	*< 2.5*	*< 25*	*< 25 J*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	trans-1,3-Dichloropropene	0.4	µg/L	*< 0.50*	*< 5.0*	*< 5.0*	*< 10*	*< 10*	*< 10*	*< 5.0*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	--	--	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*
	Trichloroethene	5	µg/L	**150**	**1,500**	**1,400**	**2,000**	**1,900**	**2,000**	**1,400**	**13**	**15**	**14**	**64**	**89**	**19**	--	--	**9.9**	**52**	**39**	**13**	**6.5**
	Trichlorofluoromethane (Freon 11)	5	µg/L	*< 2.5*	*< 25*	*< 25*	*< 50*	*< 50*	*< 50*	*< 25*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	--	--	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*
	Vinyl chloride	2	µg/L	**0.09 J**	*< 10*	*< 10*	*< 20*	*< 20*	*< 20*	*< 10*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	--	--	*< 1.0*	**0.38 J**	**0.26 J**	*< 1.0*	*< 1.0*
Dissolved Gases	Ethane	NS	mg/L	--	--	--	--	*< 0.014*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Ethene	NS	mg/L	--	--	--	--	*< 0.017*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Methane	NS	mg/L	--	--	--	--	**0.0036 J**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Carbon	Organic Carbon, Total	NS	mg/L	**0.49 J**	**1.1**	**1.2**	**0.49**	**0.41 J**	**0.41 J**	**0.48 J**	**1.2**	**0.50**	**1.0**	**0.74**	**0.76**	**1.2 J**	--	--	**1.0**	**1.1**	**0.98**	**1.3**	**1.4**

Notes:

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/L = micrograms per liter
mg/L = milligrams per liter
Results shown in **bold** font indicate a compound was detectedabove the laboratory reporting detection lim
Results shaded grey indicate a detection above NYS TOGS 1.1.1 Groundwater Standard

Table 4
Post-Injection Groundwater Analytical Results
G.W. Lisk
Clifton Springs, New York

Analyte		NY TOGS 1.1.1 DW CLASS-GA	Location ID	G-MW-14	G-MW-14	G-MW-14	G-MW-14	G-MW-14	G-MW-16	G-MW-16	G-MW-17	G-MW-17	G-MW-17	G-MW-17	G-MW-17	G-MW-18	G-MW-18	G-MW-18	G-MW-18	G-MW-18	G-MW-19	G-MW-19	G-TW-17	G-TW-17	G-TW-17	G-TW-17	G-TW-20
			Sample Date	9/5/2023	11/1/2023	1/29/2024	5/1/2024	8/6/2024	4/30/2024	8/6/2024	9/5/2023	9/5/2023	1/30/2024	4/30/2024	8/7/2024	9/5/2023	11/1/2023	1/30/2024	5/1/2024	8/6/2024	1/31/2024	4/30/2024	11/1/2023	1/30/2024	4/30/2024	8/8/2024	9/6/2023
			Sample Type	N	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Unit																								
VOCs	1,1,1-Trichloroethane	**5**	µg/L	**1.8 J**	**2.4 J**	**1.7 J**	**1.7 J**	**3.3**	**48**	**31**	**130 J**	**130 J**	**68**	**48 J**	**52**	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**51**
	1,1,2,2-Tetrachloroethane	5	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 10*
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	**5**	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	**1.5 J**	**2.2 J**	**42**	**8.6**	**110 J**	**120 J**	**40**	**32 J**	**28**	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**0.98 J**	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**100**
	1,1,2-Trichloroethane	1	µg/L	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 3.0*	*< 7.5 J*	*< 7.5 J*	*< 6.0*	*< 3.0 J*	*< 3.8*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 1.5*	*< 30*
	1,1-Dichloroethane	**5**	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**12**	**9.0**	**15 J**	**14 J**	**13**	**15 J**	**15**	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**0.84 J**	**0.98 J**	**0.90 J**	*< 2.5*	**230**
	1,1-Dichloroethene	**5**	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	**0.92**	**0.73 J**	**20 J**	**20 J**	**10**	**7.9 J**	**8.4**	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	**0.17 J**	**0.28 J**	**0.21 J**	**0.22 J**	**130**
	1,2,3-Trichlorobenzene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	1,2,4-Trichlorobenzene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	1,2-Dibromo-3-chloropropane	0.04	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 50*
	1,2-Dichlorobenzene	3	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	1,2-Dichloroethane	0.6	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 10*
	1,2-Dichloropropane	1	µg/L	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 2.0*	*< 5.0 J*	*< 5.0 J*	*< 4.0*	*< 2.0 J*	*< 2.5*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 20*
	1,3-Dichlorobenzene	3	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	1,4-Dichlorobenzene	3	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	1,4-Dioxane	0.35	µg/L	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 500*	*< 1,200 J*	*< 1,200 J*	*< 1,000*	*< 500 J*	*< 620*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 250*	*< 5,000*
	2-Butanone (Methyl ethyl ketone)	50	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 10*	*< 25 J*	*< 25 J*	*< 20*	*< 10 J*	*< 12*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 100*
	2-Hexanone	50	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 10*	*< 25 J*	*< 25 J*	*< 20*	*< 10 J*	*< 12*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 100*
	4-Methyl-2-pentanone	NS	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 10*	*< 25 J*	*< 25 J*	*< 20*	*< 10 J*	*< 12*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 100*
	Acetone	**50**	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 10*	*< 25 J*	*< 25 J*	*< 20*	*< 10 J*	*< 12*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	**13**	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 100*
	Benzene	**1**	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	**0.18 J**	*< 0.50*	*< 10*
	Bromodichloromethane	50	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 10*
	Bromoform	50	µg/L	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 4.0*	*< 10 J*	*< 10 J*	*< 8.0*	*< 4.0 J*	*< 5.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 40*
	Bromomethane	5	µg/L	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50 J*
	Carbon disulfide	60	µg/L	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 10*	*< 25 J*	*< 25 J*	*< 20*	*< 10 J*	*< 12*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 100*
	Carbon tetrachloride	5	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 10*
	Chlorobenzene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Chlorobromomethane	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Chloroethane	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Chloroform	**7**	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**0.87 J**	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	**1.9 J**	**1.9 J**	**1.2 J**	**1.4 J**	**1.3 J**	**1.1 J**	**1.1 J**	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Chloromethane	5	µg/L	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5 J*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50 J*
	cis-1,2-Dichloroethene	**5**	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**48**	**20**	**20 J**	**19 J**	**18**	**19 J**	**23**	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	**1.4 J**	**1.9 J**	**1.5 J**	**1.2 J**	**430**
	cis-1,3-Dichloropropene	0.4	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 10*
	Cyclohexane	NS	µg/L	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 20*	*< 50 J*	*< 50 J*	*< 40*	*< 20 J*	*< 25*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	**0.39 J**	**0.78 J**	*< 200*
	Dibromochloromethane	50	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 10*
	Dichlorodifluoromethane (Freon 12)	**5**	µg/L	*< 5.0 J*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 10*	*< 25 J*	*< 25 J*	*< 20*	*< 10 J*	*< 12*	*< 5.0 J*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 5.0*	*< 100 J*
	Ethylbenzene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Ethylene dibromide	0.0006	µg/L	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 4.0*	*< 10 J*	*< 10 J*	*< 8.0*	*< 4.0 J*	*< 5.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 40*
	Isopropylbenzene (Cumene)	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	m,p-Xylenes	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Methyl acetate	NS	µg/L	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 4.0*	*< 10 J*	*< 10 J*	*< 8.0*	*< 4.0 J*	*< 5.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 2.0*	*< 40*
	Methyl tert-butyl ether	10	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Methylcyclohexane	NS	µg/L	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 20*	*< 50 J*	*< 50 J*	*< 40*	*< 20 J*	*< 25*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	*< 10*	**0.77 J**	**1.4 J**	*< 200*		
	Methylene chloride	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	o-Xylene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Styrene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Tetrachloroethene	**5**	µg/L	**1.2**	**1.8**	**1.6**	**1.6**	**3.2**	**58**	**58**	**310 J**	**310 J**	**170**	**140 J**	**140**	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	**0.18 J**	**0.18 J**	*< 0.50*	**220**
	Toluene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	trans-1,2-Dichloroethene	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	trans-1,3-Dichloropropene	0.4	µg/L	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 1.0*	*< 2.5 J*	*< 2.5 J*	*< 2.0*	*< 1.0 J*	*< 1.2*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 0.50*	*< 10*
	Trichloroethene	**5**	µg/L	**2.7**	**4.1**	**3.6**	**3.9**	**7.4**	**180**	**160**	**530 J**	**530 J**	**400**	**310 J**	**350**	**0.83**	**1.4**	**0.66**	**0.72**	**0.72**	**5.0**	**3.1**	*< 0.50*	**0.87**	**2.0**	**0.30 J**	**2,600**
	Trichlorofluoromethane (Freon 11)	5	µg/L	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 5.0*	*< 12 J*	*< 12 J*	*< 10*	*< 5.0 J*	*< 6.2*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 2.5*	*< 50*
	Vinyl chloride	**2**	µg/L	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 2.0*	*< 5.0 J*	*< 5.0 J*	*< 4.0*	*< 2.0 J*	*< 2.5*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	*< 1.0*	**4.4 J**
Dissolved Gases	Ethane	NS	mg/L	--	--	--	--	--	--	--	--	--	--	*< 0.014*	--	--	--	--	--	--	--	--	--	--	**0.0043 J**	--	--
	Ethene	NS	mg/L	--	--	--	--	--	--	--	--	--	--	*< 0.017*	--	--	--	--	--	--	--	--	--	--	*< 0.017*	--	--
	Methane	NS	mg/L	--	--	--	--	--	--	--	--	--	--	**0.024**	--	--	--	--	--	--	--	--	--	--	**0.043**	--	--
Carbon	Organic Carbon, Total	NS	mg/L	**1.2 J**	**0.92 J**	**0.46 J**	**0.71 J**	*< 2.5*	--	**1.7 J**	**0.90 J**	**0.87 J**	**0.57**	**0.60 J**	**0.48 J**	**0.48 J**	--	*< 5.0*	**0.69 J**	*< 2.5*	**0.66**	**1.9 J**	*< 1.0*	*< 1.0*	**0.33 J**	*< 1.0*	**1.4**

Notes:

< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/L = micrograms per liter
mg/L = milligrams per liter
Results shown in **bold** font indicate a compound was detectedabove the laboratory reporting detection lim
Results shaded grey indicate a detection above NYS TOGS 1.1.1 Groundwater Standard

Table 4
Post-Injection Groundwater Analytical Results
G.W. Lisk
Clifton Springs, New York

Analyte		NY TOGS 1.1.1 DW CLASS-GA	Location ID	G-TW-20	G-TW-20	G-TW-20	G-TW-20	G-TW-21	G-TW-21	G-TW-21	G-TW-21	G-TW-21	H-SPRING-02
			Sample Date	11/1/2023	1/30/2024	4/30/2024	8/6/2024	9/6/2023	11/1/2023	1/30/2024	4/30/2024	8/6/2024	5/1/2024
			Sample Type	N	N	N	N	N	N	N	N	N	N
			Unit										
VOCs	1,1,1-Trichloroethane	5	µg/L	40 J	45 J	50 J	47 J	7.4	6.6	7.2	5.8	6.9	--
	1,1,2,2-Tetrachloroethane	5	µg/L	< 12	< 12	< 12	< 12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--
	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	5	µg/L	68	75	86	86	5.6	4.5	5.0	4.7	4.4	--
	1,1,2-Trichloroethane	1	µg/L	< 38	< 38	< 38	< 38	< 1.5	< 1.5	< 1.5	< 1.5	< 1.5	--
	1,1-Dichloroethane	5	µg/L	230	240	290	240	8.1	8.7	8.4	7.5	7.2	--
	1,1-Dichloroethene	5	µg/L	87	100	110	93	4.1	3.3	3.4	2.8	3.0	--
	1,2,3-Trichlorobenzene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	1,2,4-Trichlorobenzene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	1,2-Dibromo-3-chloropropane	0.04	µg/L	< 62	< 62	< 62 J	< 62	< 2.5	< 2.5	< 2.5	< 2.5 J	< 2.5	--
	1,2-Dichlorobenzene	3	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	1,2-Dichloroethane	0.6	µg/L	< 12	< 12	< 12	< 12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--
	1,2-Dichloropropane	1	µg/L	< 25	< 25	< 25	< 25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--
	1,3-Dichlorobenzene	3	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	1,4-Dichlorobenzene	3	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	1,4-Dioxane	0.35	µg/L	< 6,200	< 6,200	< 6,200	< 6,200	< 250	< 250	< 250	< 250	< 250	--
	2-Butanone (Methyl ethyl ketone)	50	µg/L	< 120	< 120	< 120	< 120	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--
	2-Hexanone	50	µg/L	< 120	< 120	< 120	< 120	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--
	4-Methyl-2-pentanone	NS	µg/L	< 120	< 120	< 120	< 120	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--
	Acetone	50	µg/L	< 120	< 120	< 120	< 120	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--
	Benzene	1	µg/L	< 12	< 12	< 12	< 12	0.24 J	0.22 J	0.25 J	0.20 J	0.19 J	--
	Bromodichloromethane	50	µg/L	< 12	< 12	< 12	< 12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--
	Bromoform	50	µg/L	< 50	< 50	< 50	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--
	Bromomethane	5	µg/L	< 62 J	< 62	< 62	< 62	< 2.5	< 2.5 J	< 2.5	< 2.5	< 2.5	--
	Carbon disulfide	60	µg/L	< 120	< 120	< 120	< 120	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	--
	Carbon tetrachloride	5	µg/L	< 12	< 12	< 12	< 12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--
	Chlorobenzene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Chlorobromomethane	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Chloroethane	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Chloroform	7	µg/L	< 62	< 62	< 62	< 62	0.79 J	0.71 J	0.79 J	0.75 J	0.83 J	--
	Chloromethane	5	µg/L	< 62	< 62	< 62	< 62	< 2.5 J	< 2.5	< 2.5	< 2.5	< 2.5	--
	cis-1,2-Dichloroethene	5	µg/L	400	410	450	440	13	12	13	11	12	--
	cis-1,3-Dichloropropene	0.4	µg/L	< 12	< 12	< 12	< 12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--
	Cyclohexane	NS	µg/L	< 250	< 250	< 250	< 250	< 10	< 10	< 10	< 10	< 10	--
	Dibromochloromethane	50	µg/L	< 12	< 12	< 12	< 12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--
	Dichlorodifluoromethane (Freon 12)	5	µg/L	< 120	< 120	< 120	< 120	< 5.0 J	< 5.0	< 5.0	< 5.0	< 5.0	--
	Ethylbenzene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Ethylene dibromide	0.0006	µg/L	< 50	< 50	< 50	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--
	Isopropylbenzene (Cumene)	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	m,p-Xylenes	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Methyl acetate	NS	µg/L	< 50	< 50	< 50	< 50	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	--
	Methyl tert-butyl ether	10	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	0.58 J	0.57 J	--
	Methylcyclohexane	NS	µg/L	< 250	< 250	< 250	< 250	< 10	< 10	1.2 J	< 10	< 10	--
	Methylene chloride	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	o-Xylene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Styrene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Tetrachloroethene	5	µg/L	220	220	190	260	26	25	21	21	26	--
	Toluene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	trans-1,2-Dichloroethene	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	trans-1,3-Dichloropropene	0.4	µg/L	< 12	< 12	< 12	< 12	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	--
	Trichloroethene	5	µg/L	2,600	3,100	3,000	3,300	130	140	140	110	120	--
	Trichlorofluoromethane (Freon 11)	5	µg/L	< 62	< 62	< 62	< 62	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	--
	Vinyl chloride	2	µg/L	2.7 J	3.3 J	4.5 J	2.6 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	--
Dissolved Gases	Ethane	NS	mg/L	--	--	< 0.014	--	--	--	--	--	--	< 0.014
	Ethene	NS	mg/L	--	--	< 0.017	--	--	--	--	--	--	< 0.017
	Methane	NS	mg/L	--	--	0.011	--	--	--	--	--	--	0.048
Carbon	Organic Carbon, Total	NS	mg/L	2.2	0.66	0.41 J	0.55 J	1.7 J	0.99 J	1.0	1.6 J	0.46 J	--

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory
-- = Not analyzed
NS = No Standard
N = Normal Environmental Sample
FD = Field Duplicate Sample
µg/L = micrograms per liter
mg/L = milligrams per liter
Results shown in **bold** font indicate a compound was detectedabove the laboratory reporting detection lim
Results shaded grey indicate a detection above NYS TOGS 1.1.1 Groundwater Standard

Table 5
Groundwater Microbial Census Pre and Post-Injection
G.W. Lisk
Clifton Springs, New York

Analyte	Pre-Injection							Post-Injection								
	Sample Date	August 2022						May 2024 (270-Day)					August 2024 (365-Day)			
	Location ID	G-MW-01D	G-MW-03D	G-MW-04D	G-MW-09D	H-MW-12D	H-SPRING-02	G-IW-01	G-IW-03	G-IW-04	G-MW-03S	G-MW-17	G-MW-01D	G-MW-03D	G-MW-17	H-SPRING-02
	Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	Unit															
1,1 DCA Reductase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25 U*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
1,2 DCA Reductase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	21	*< 0.25*	*< 0.25*	*< 0.25*
BAV1 Vinyl Chloride Reductase	cells/mL	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	2.4	--	--	--	--	--	--	--	--	--
cerA Reductase (CER)	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	--	--	--	--	--	--	--	--	--
Chloroform Reductase (CFR)	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Dehalobacter DCM	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	99,000	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Dehalobacter spp.	cells/mL	33.1	*< 5*	61.1	*< 5*	*< 5*	26,600	640,000	260,000	1,400,000	61	*< 0.48*	740	470	*< 0.25*	2,400
Dehalobium chlorocoercia	cells/mL	*< 5*	*< 5*	142	16.9	*< 5*	33,300	12,000	26,000	270,000	150	*< 0.48*	140	180	*< 0.25*	2,200
Dehaloccoides bvcA Reductase (BVC)	cells/mL	--	--	--	--	--	--	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Dehaloccoides tceA Reductase (TCE)	cells/mL	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	9.2	130,000	380	6,300	*< 0.25*	*< 0.48*	110	*< 0.25*	*< 0.25*	1.7
Dehaloccoides Vinyl chloride reductase	cells/mL	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	*< 0.5*	43.7	120,000	340	7,700	*< 0.25*	0.33 J	0.93	*< 0.25*	*< 0.25*	0.76
Dehalococcoides spp.	cells/mL	1	*< 0.5*	0.8	*< 0.5*	*< 0.5*	70.5	600,000	2,600	27,000	0.88	0.73	24	*< 0.25*	*< 0.25*	*< 0.25*
Dehalogenimonas spp. (DHG)	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	520	*< 0.25*	*< 0.25*	18,000	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	220
Desulfitobacterium spp.	cells/mL	63.7	*< 5*	93.2	*< 5*	*< 5*	38,200	380,000	250,000	1,300,000	*< 0.25*	*< 0.48*	620	2,100	*< 0.25*	2,200
Desulfuromonas spp.	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	524	300	4,200	21,000	*< 0.25*	*< 0.48*	5,100	470	*< 0.25*	82
Dichloromethane Dehalogenase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Epoxyalkane Transferase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	168	110	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	59
Ethene Monooxygenase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	70.4	200	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	32
Eubacteria, Total	cells/mL	5,100	113	63,500	97,800	3,810	1,010,000	54,700,000	47,800,000	271,000,000	58,000	230	480,000	700,000	660	12,400,000
Methanogens	cells/mL	*< 5*	*< 5*	0.2 J	*< 5*	*< 5*	*< 6.3*	120,000	190,000	1,300,000	2.1	*< 0.48*	190	9.4	*< 0.25*	63
PCE Reductase 1	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
PCE Reductase 2	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Phenol Hydroxylase	cells/mL	*< 5*	*< 5*	*< 5*	64.4	*< 5*	1,540	4,600	9,800	200,000	8.4	*< 0.48*	1,700	*< 0.25*	*< 0.25*	1,700
Soluble Methane Monooxygenase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	1.3	330	9.8	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Sulfate Reducing Bacteria (APS)	cells/mL	363	*< 5*	5,260	1,300	452	680,000	1,300,000	690,000	960,000	1,900	*< 0.48*	800	7,700	*< 0.25*	27,000
Toluene Dioxygenase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	1.6	*< 0.25*	2,700	*< 0.25*	*< 0.48*	25	120	*< 0.25*	*< 0.25*
Toluene Monooxygenase	cells/mL	*< 5*	*< 5*	*< 5*	1,960	*< 5*	*< 6.3*	1,200	2,600	65,000	*< 0.25*	*< 0.48*	980	*< 0.25*	*< 0.25*	5,500
Toluene Monooxygenase 2	cells/mL	*< 5*	*< 5*	62.8	73.8	*< 5*	974	1,800	8,100	160,000	*< 0.25*	*< 0.48*	1,800	*< 0.25*	*< 0.25*	3,500
trans-1,2-Dichloroethene reductase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Trichlorobenzene Dioxygenase	cells/mL	*< 5*	*< 5*	*< 5*	*< 5*	*< 5*	*< 6.3*	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*
Vinyl chloride reductase (CER)	cells/mL	--	--	--	--	--	--	*< 0.25*	*< 0.25*	*< 2.6*	*< 0.25*	*< 0.48*	*< 0.25*	*< 0.25*	*< 0.25*	*< 0.25*

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
-- = Not analyzed
N = Normal Environmental Sample
Units are in cells/mL = cells per milliliter
J = Estimated Gene Copies Below PQL but Above LQL (MI)

Table 6
Summary of Field Parameters
G.W. Lisk
Clifton Springs, New York

Field Parameter	Location ID	G-IW-01	G-IW-01	G-IW-01	G-IW-01	G-IW-01	G-IW-02	G-IW-02	G-IW-02	G-IW-02	G-IW-03	G-IW-03	G-IW-03	G-IW-03	G-IW-03	G-IW-04	G-IW-04	G-IW-04	G-IW-04	G-IW-04
	Sample Date	9/6/2023	11/1/2023	1/30/2024	4/30/2024	8/6/2024	9/6/2023	1/30/2024	4/29/2024	8/6/2024	9/6/2023	11/1/2023	1/30/2024	4/30/2024	8/6/2024	9/5/2023	11/1/2023	1/30/2024	4/30/2024	8/6/2024
	Unit																			
Temperature, Field	deg C	18.4	13.53	9.52	12.2	14.8	18.5	--	15.2	--	17	11.97	9.84	13.5	16.7	17.5	12.62	12.3	12.8	16.6
pH, Field	pH units	6.16	5.64	6.32	7.00	6.76	6.22	--	7.07	--	6.58	7.37	3.70	6.79	6.84	6.56	6.23	6.40	6.53	6.55
Specific Conductivity, Field	uS/cm	1380	12700	20542	20478	20946	5933	--	25160	--	18571	22800	14932	17024	16682	9950	8102	6769	9844	7448
Oxidation-Reduction Potential, Field	mV	101.8	-48	-161.7	-156.30	-262.5	-155.4	--	-12.8	--	-141.2	-283	-280.0	-314.4	-281.2	-199.3	-97	39.50	-54.8	-76.1
Turbidity, Field	NTU	overrange	--	13.3	29	6.59	--	--	overrange	--	33	34	30.0	33.9	20.2	1.73	25.09	20.50	13.2	20.7
Color, Field	-	white-cloudy	cloudy	cloudy	clear	clear	milky white	clear-grey	light brown	clear	clear	murky/silty	greyish	cloudy-black	cloudy	clear	cloudy	grey	cloudy-black	clear w/blk flakes
Odor, Field	-	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	organic-like	none	organic-like	organic-like	organic-like
Dissolved Oxygen, Field	mg/L	0.72	0	4.94	4.60	0.11	0.45	--	1.23	--	0.09	0	0.21	0.23	0.17	0.42	0	0	0.41	0.12

Field Parameter	Location ID	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01D	G-MW-01S	G-MW-01S	G-MW-01S	G-MW-01S	G-MW-02D	G-MW-02D	G-MW-02D	G-MW-02S	G-MW-02S	G-MW-02S	G-MW-03D	G-MW-03D	G-MW-03D	G-MW-03D
	Sample Date	11/1/2023	1/30/2024	5/1/2024	8/7/2024	11/1/2023	1/30/2024	4/30/2024	8/6/2024	1/31/2024	5/1/2024	8/8/2024	1/31/2024	5/1/2024	8/8/2024	11/1/2023	1/31/2024	5/1/2024	8/7/2024
	Unit																		
Temperature, Field	deg C	8.40	8.1	10.1	13.5	8.39	8.3	13.2	--	16.4	16.9	17.2	17.2	17.5	17.8	16.03	18.01	18.2	18.0
pH, Field	pH units	6.62	7.21	7.40	7.00	6.80	7.04	7.59	--	7.02	7.41	7.01	6.88	7.40	7.00	6.80	7.10	7.44	7.02
Specific Conductivity, Field	uS/cm	1540	1149	1154	995	17900	13572	13873	--	3567	3070	3063	4143	3382	3215	1961	2135	2038	1960
Oxidation-Reduction Potential, Field	mV	92	106.2	114.9	60.8	220	152.2	-88.6	--	89.8	35.9	-64.4	98.9	-35.3	-82.8	-55	-67.8	-58.6	11.4
Turbidity, Field	NTU	2.37	1.64	1 89	0	975	63.9	78.9	--	28.5	2.95	10.12	5.85	7.32	4.43	37.10	23.5	40.4	11.0
Color, Field	-	clear	cloudy to clear	clear	clear	turbid	cloudy	clear	clear	clear	clear	rust to clear	clear	clear	cloudy	clear	rust to clear	clear	clear
Odor, Field	-	none	organic-like	none	none	none	none	none	none	none	none	none	chemical-like	none	none	none	none	none	none
Dissolved Oxygen, Field	mg/L	0 33	5.38	7.27	6.43	7.98	3.81	5.92	--	0 06	0.3	0.24	0.24	0.5	0.37	0	0.74	2.31	0.49

Field Parameter	Location ID	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-03S	G-MW-04D	G-MW-04D	G-MW-09D	G-MW-09D	G-MW-09S	G-MW-09S	G-MW-14	G-MW-14	G-MW-14	G-MW-14	G-MW-14	G-MW-16	G-MW-16	G-MW-17	G-MW-17	G-MW-17	G-MW-17
	Sample Date	11/1/2023	1/31/2024	4/30/2024	8/8/2024	1/31/2024	8/6/2024	5/1/2024	8/7/2024	5/1/2024	8/6/2024	9/5/2023	11/1/2023	1/29/2024	5/1/2024	8/6/2024	4/30/2024	8/6/2024	9/5/2023	1/30/2024	4/30/2024	8/7/2024
	Unit																					
Temperature, Field	deg C	16.98	18.81	19	18.9	18.6	20.2	13.1	17.4	11.6	19.2	27.3	--	9.0	10.1	16.5	--	20.9	18.62	10.55	11.0	16.8
pH, Field	pH units	7.63	6.99	7.11	7.15	7.20	7.08	7.26	7 25	7.80	7.43	7.52	--	7.21	7.19	7.31	--	6.75	6.89	4.92	6.87	6.81
Specific Conductivity, Field	uS/cm	2680	2872	2784	2897	1377	1029	1995	1525	1722	1158	20514	--	32623	15320	17077	--		16452	11736	14750	15884
Oxidation-Reduction Potential, Field	mV	83	149.5	292	87.4	5.9	82.1	183.9	16.7	124.8	44.8	174.3	--	205.7	227.6	65.3	--	94.2	120.4	-178.4	327.3	79 9
Turbidity, Field	NTU	4.41	3.79	1 05	0	10.70	1.75	9.71	23.1	3.02	0	70.4	--	5.06	8.90	--	--	overrange	overrange	overrange	overrange	103.8
Color, Field	-	clear	clear	cloudy-clear	clear	clear	brown-clear	clear	cloudy	clear	clear	clear	none	clear	clear	clear	cloudy-clear	brown	tan brown	orange/silty	cloudy	cloudy
Odor, Field	-	chemical-like	none	none	none	chemical-like	chemical-like	none	none	none	none	none	--	none	none	none	--	organic-like	none	organic-like	none	none
Dissolved Oxygen, Field	mg/L	0	0.61	0.73	0.98	0.15	2.98	1.26	0.32	4.48	0.45	4.51	--	6.78	6.20	4.90	--	2.13	0.71	1.01	6.33	3.24

Field Parameter	Location ID	G-MW-18	G-MW-18	G-MW-18	G-MW-18	G-MW-18	G-MW-19	G-MW-19	G-TW-17	G-TW-17	G-TW-17	G-TW-17	G-TW-17	G-TW-20	G-TW-20	G-TW-20	G-TW-20	G-TW-20	G-TW-21	G-TW-21	G-TW-21	G-TW-21	G-TW-21	H-SPRING-02
	Sample Date	9/5/2023	11/1/2023	1/30/2024	5/1/2024	8/6/2024	1/31/2024	4/30/2024	9/6/2023	11/1/2023	1/30/2024	4/30/2024	8/8/2024	9/6/2023	11/1/2023	1/30/2024	4/30/2024	8/6/2024	9/6/2023	11/1/2023	1/30/2024	4/30/2024	8/6/2024	5/1/2024
	Unit																							
Temperature, Field	deg C	19.3	13.96	12.89	13.0	17.7	--	14.8	19.3	11.74	8.59	12.5	22.5	20.8	15.97	10.46	14.1	18.8	18.9	15.27	11.38	13.0	19.0	13.2
pH, Field	pH units	6.69	7.65	6.73	6.58	6.49	--	7.35	6.90	7 39	6.88	7.49	6.94	6.56	6.31	6.75	0.79	6.86	6.82	7.27	6.83	6.43	6.96	7.19
Specific Conductivity, Field	mS/cm	22.732	26.8	23.215	23 811	20.881	--	12.792	10.942	11.5	10.67	13.507	11.603	7.919	9.81	9.562	9.791	9.887	16 168	18.9	16.846	17.148	18.368	2.113
Specific Conductivity, Field	uS/cm	22732	26800	23215	23811	20881	--	12792	10942	11500	10670	13507	11603	7919	9810	9562	9791	9887	16168	18900	16846	17148	18368	2113
Oxidation-Reduction Potential, Field	mV	40.7	-193	101.0	226.8	59.8	--	67.3	16.7	113	-85.5	-161.0	92.1	142.6	-32	-22.5	-40.6	105.1	158.7	135	-63.0	22.4	-163.9	-128.9
Turbidity, Field	NTU	4.91	34	85.7	8.59	1.51	--	19.9	overrange	overrange	50.9	102.9	overrange	46	103.4	overrange	22.5	0.92	18.1	overrange	overrange	29.0	overrange	9.52
Color, Field	-	clear	silty	clear	clear	clear	turbid-clear	clear	clear-cloudy	pale yellow	cloudy	cloudy	light brown	clear	cloudy	coudy	turbid	brown	clear	cloudy white	cloudy	cloudy	cloudy	clear
Odor, Field	-	none	organic-like	none	none	none	none	none	organic-like	none	organic-like	organic-like	none	organic-like	none	none	none	none	organic-like	none	organic-like	organic-like	none	organic-like
Dissolved Oxygen, Field	mg/L	0.41	0.38	3.97	2.79	0.91	--	8.14	1.04	3 97	3.81	2.49	3.74	1	0	1.52	0.63	3.18	5	0	4.83	1.83	0.34	0.71

APPENDIX B

Health and Safety Plan (HASP)

Health and Safety Plan

G. W. Lisk Company, Inc.
NYSDEC BCP Site No. C835026
Clifton Springs, New York

January 2026

Prepared for:

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Site-Specific Emergency Information

Emergency Phone Numbers

Most emergency services can be obtained by calling 911. Where 911 service is not available, use the telephone numbers provided in the below table. The following is a master emergency phone list for use by the project management personnel. A more condensed version of the emergency numbers listed below will be posted throughout project work areas. Emergencies encountered on the site will be responded to by a combination of off-site emergency services and on-site personnel.

Emergency Contact Information			
Site Personnel			
Title	**Contact**		**Telephone**
Operations Manager (OM)	Thomas Forbes		(716) 864-1730
Project Principal (PP)	Lori Riker		(716) 474-7510
Project Manager (PM)	Charlotte Clark		(716) 220-1201
Site Supervisor (SS)	Chelsea Kanaley		(716) 783-2822
Site Health and Site Safety Officer (SHSO)	Chelsea Kanaley		(716) 783-2822
Office Health and Safety Manager (OHSM)	Paul Werthman		(716) 997-9584
Corporate Health and Safety Director (CHSD)	Brian Hobbs, CIH, CSP		(631) 807-0193
WorkCare, Inc.	Occupational Health Care Management Provider		(888) 449-7787
Client Emergency Contact	Allen Hawker		(315) 651-9328
Outside Assistance			
Agency	**Contact**	**Telephone**	**Address/Location**
Ambulance/emergency medical services (EMS)	Rochester Regional Health, Clifton Springs Hospital and Clinic	(585) 922-5227	2 Coulter Rd, Clifton Springs, NY, 14432
Police	Clifton Springs Police Department	(315) 462-2422	1 W Main St, Clifton Springs, NY 14432
Fire	Clifton Springs Fire Department	(315) 462-7501	39 Kendall St, Clifton Springs, NY, 14432
Site Address	2 South Street, Clifton Springs, New York, 14432		

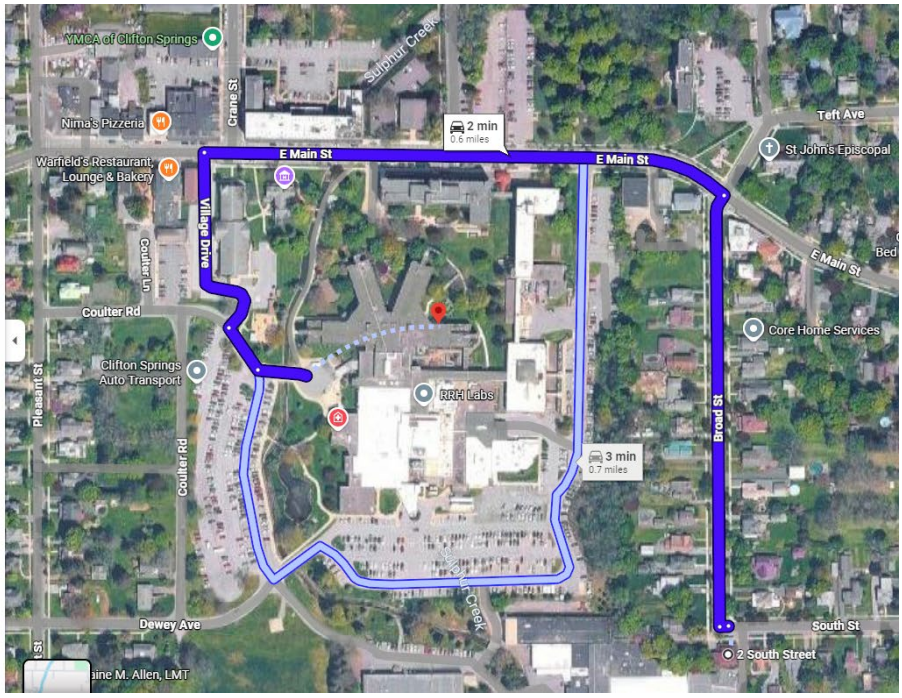
Route to Clifton Springs Hospital and Clinic, 2 Coulter Road, Clifton Springs, NY, 14432, Open 24 hours:

2 min (0.6 mile)
via Broad St and E Main St
Fastest route

2 South St
Clifton Springs, NY 14432

- Head toward Broad St — 20 ft
- South St turns right and becomes Broad St — 0.2 mi
- Turn left onto E Main St — 0.2 mi
- Turn left onto Village Drive — 482 ft
- Turn left — 118 ft
- Turn left — 112 ft

RRH Clifton Springs Hospital & Clinic
2 Coulter Rd, Clifton Springs, NY 14432



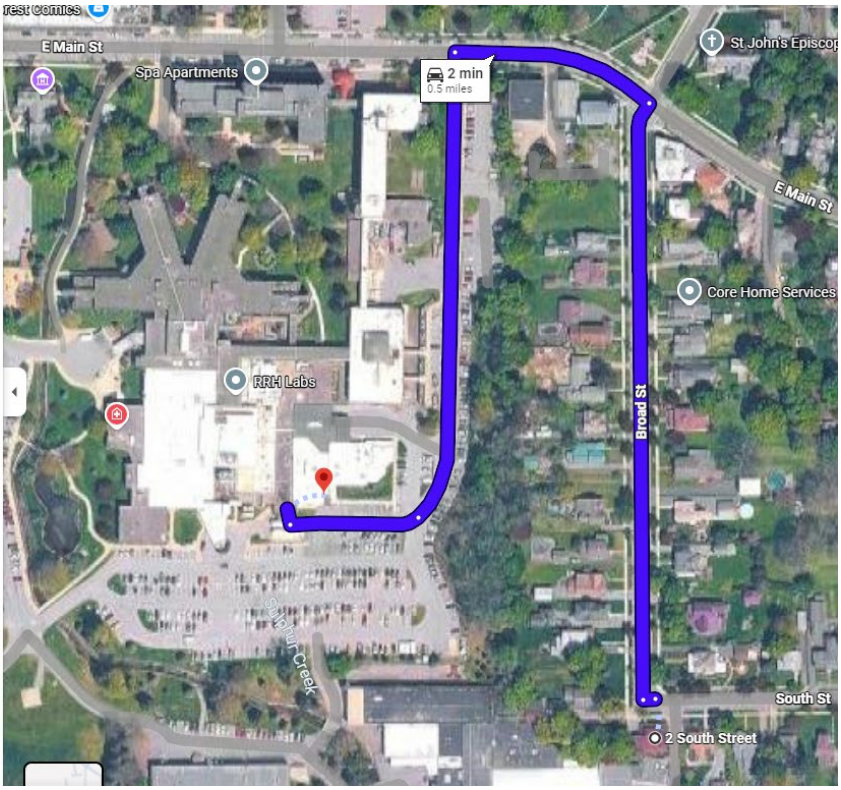
Route to RRH Rob and Pamela Sands Emergency Department, 2 Coulter Road, Clifton Springs, NY, 14432, Open 24 hours:

2 min (0.5 mile)
via Broad St and Ambulance Dr
Fastest route

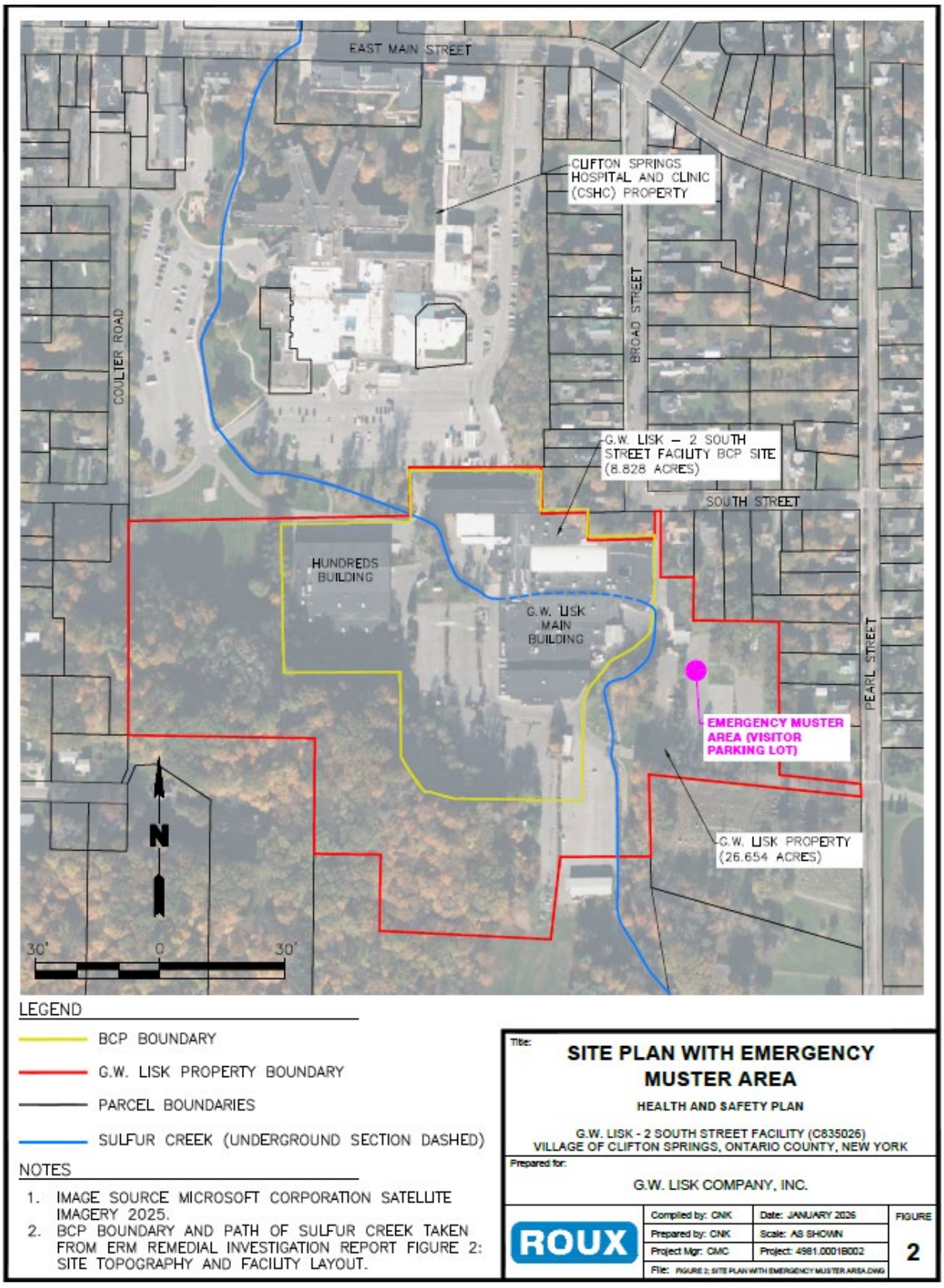
2 South St
Clifton Springs, NY 14432

- Head toward Broad St — 20 ft
- South St turns right and becomes Broad St — 0.2 mi
- Turn left onto E Main St — 348 ft
- Turn left onto Ambulance Dr — 0.1 mi
- Turn right to stay on Ambulance Dr — 217 ft
- Turn right — 26 ft

RRH Rob and Pamela Sands Emergency Department
2 Coulter Rd, Clifton Springs, NY 14432



Site map with Muster point:



1. Introduction

This Site-specific Health and Safety Plan (HASP) has been prepared by Roux Environmental Engineering and Geology, D.P.C. (Roux) for use during remedial action activities at the New York State Brownfield Cleanup Program (BCP) G.W. Lisk – 2 South Street Facility site (Site, C835026), located at 2 South Street, Village of Clifton Springs, Ontario County, New York (Site; **Figure 1**). This HASP was prepared in general accordance with the requirements of the Occupational Safety and Health Administration (OSHA) standards promulgated at 29 CFR 1910.120 and 29 CFR 1926.65, both commonly referred to as the Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard. In accordance with the HAZWOPER Standard, this Site-specific HASP was prepared to address the safety and health hazards associated with the remedial activities being performed at the Site by Roux and to provide requirements and procedures for the protection of Roux employees, subcontractor personnel, government oversight personnel, Site personnel, and the general public. It also addresses client- and Site-specific requirements for health and safety. Additionally, subcontractors may be required to submit their own HASP as it relates to their specific work activities and will be kept onsite during such work.

Implementation of this HASP is the joint responsibility of the Project Manager (PM), the Site Health and Safety Officer (SHSO), and all field staff, with assistance from the Project Principal (PP), Office Health and Safety Manager (OHSM), and Corporate Health and Safety Director (CHSD). The PM for this project is Charlotte Clark. The Site Supervisor (SS) is Chelsea Kanaley and Site Health and Safety Officer (SHSO) is Chelsea Kanaley.

This HASP will be introduced to, reviewed, and signed off on by all Roux personnel through a formal training session prior to commencing work. A copy of the HASP will be kept at the Site at all times. The Roux SHSO or PM will be responsible for posting any changes, amendments, memos, etc. to the HASP. Any revisions to this HASP will be signed by appropriate personnel, which can include Roux's PP, CHSD, and SS. Any changes will be announced to all workers at the next safety meeting.

1.1 Roles and Responsibilities

Overall Roles and Responsibilities (R&Rs) of Roux personnel are provided in Roux's Policies and Procedures Manual. Only those R&Rs specific to HASP requirements are listed below.

Project Manager (PM)

The PM has responsibility and authority to direct all work operations. The PM coordinates safety and health functions with the Site Health and Safety Officer (SHSO), has the authority to oversee and monitor the performance of the SHSO, and bears ultimate responsibility for the proper implementation of this HASP. The specific duties of the PM are:

- Preparing and coordinating the Site work plan;
- Providing Site supervisor(s) with work assignments and overseeing their performance; Coordinating safety and health efforts with the SSHO;
- Ensuring effective emergency response through coordination with the Emergency Response Coordinator (ERC); and
- Serving as primary Site liaison with public agencies and officials and Site contractors.

Site Health and Safety Officer (SHSO)

The SHSO has the full responsibility and authority to develop and implement this HASP and to verify compliance. The SHSO reports to the Project Manager. The SHSO is on Site or readily accessible to the Site during all work operations and has the authority to halt Site work if unsafe conditions are detected. The specific responsibilities of the SHSO include:

- Managing the safety and health functions on this Site;
- Serving as the Site's point of contact for safety and health matters;
- Ensuring Site monitoring, worker training, and effective selection and use of PPE;
- Assessing Site conditions for unsafe acts and conditions and providing corrective action;
- Assisting the preparation and review of this HASP;
- Maintaining effective safety and health records as described in this HASP; and
- Coordinating with the SS and others as necessary for safety and health efforts.

Site Supervisor (SS)

The Site Supervisor (SS) is responsible for field operations and reports to the Project Manager (PM). The SS ensures the implementation of the HASP requirements and procedures in the field. The specific responsibilities of the Site Supervisor include:

- Executing the work plan and schedule as detailed by the PM;
- Coordination with the SHSO on safety and health; and
- Ensuring Site work compliance with the requirements of this HASP.

Employees

All Roux employees are responsible for reading and following all provisions of the Corporate Health and Safety Manual, including this HASP. Employees report to the SS at the project Site. Each employee is also responsible for the following:

- Wearing all appropriate PPE as outlined within this HASP;
- Attending all safety meetings;
- Inspecting tools and equipment prior to use, and taking any defective tools or equipment out of service;
- Appropriately documenting field events as they occur within a logbook or equivalent;
- Properly operating machinery and/or equipment only if trained to do so;
- Stopping work operations if unsafe conditions exist;
- Identifying and mitigating hazards when observed;
- Reporting all incidents and near misses to the Roux SHSO and SS immediately; and
- Knowing where emergency equipment is located (e.g., first aid kit, fire extinguisher).

Subcontractors and Visitors

Subcontractors and visitors are responsible for complying with the same health and safety requirements. It is the responsibility of all to make sure subcontractors and visitors comply and uphold the HASP. Subcontractors and visitors have the following additional responsibilities:

- Designating a qualified safety representative for the project that can make the necessary changes in work practices, as necessary;
- Attending all safety meetings while participating in Roux Site work activities;
- Reporting all incidents and near misses to Roux SHSO and SS immediately;
- Conducting initial and periodic equipment inspections in accordance with manufacturer and regulatory guidelines; and
- Providing copies of all Safety Data Sheets (SDS) to Roux SHSO for materials brought to the Site.

2. Background

Relevant background information is provided below, including a general description of the Site; a brief review of the Site's history with respect to hazardous material use, handling, and/or storage; and a review of known and potential releases of hazardous substances at the Site.

2.1 Site Description

The BCP Site consists of the northern ±8.828 acres of a greater 26.654-acre parcel (SBL No. 46.06-1-87.000) located at 2 South Street, in the Village of Clifton Springs, Ontario County, New York. The Site is improved with two buildings with a total area of 225,000 square feet including the G.W. Lisk Main Building, used for manufacturing and office space, and the Hundreds Building, used for manufacturing and storage. The remaining area of the Site is covered with asphalt paved parking areas and driveways, concrete sidewalks, and vegetated areas including grass covered, wooded, and landscaped areas.

The Site is located in a mixed industrial, commercial, and residential use area in the Village of Clifton Springs, New York. The Site is bounded to the north by Clifton Springs Hospital and Clinic (CSHC). Sulfur Creek runs southeast to the northwest through the Site. The Site is connected to the Village of Newark public water system.

2.2 Site History

The Site was developed for agricultural use in the mid-1800s. In the early 1910s, the Site was developed by G.W. Lisk for manufacturing of tin cake pans, pails, and spraying devices. G.W. Lisk transitioned to manufacturing solenoids and valves for industrial and commercial markets in 1948 and the Site continues to be used in this capacity.

2.3 Known and Potential Releases of Hazardous Substances at the Site

The Site was identified as a potential source of chlorinated volatile organic compounds (cVOCs) during initial investigations completed at the CSHC property, located north (downgradient) of the Site. Further investigations, including a pilot investigation conducted by ERM Consulting and Engineering Inc., determined the presence of VOCs (petroleum VOCs and cVOCs), polycyclic aromatic hydrocarbons (PAHs), and metals within the soil/fill on site, cVOCs (specifically tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), and 1,1-dichloroethene (1,1-DCE)) and Freon 113 within site groundwater, and cVOCs within the soil vapor.

3. Scope of Work

The Alternatives Analysis Report identified the cleanup approach for the Site. The selected remedy is identified as *in-situ* groundwater treatment using enhanced biological dechlorination and *in-situ* chemical reduction and benzene, toluene, ethylbenzene, and xylene (BTEX) area treatment using *in-situ* chemical oxidation (ISCO). The NYSDEC will be notified at least 5 business days in advance of any planned remedial activities. Remedial work will be documented by an experienced Roux professional. Remedial activities will include:

1. Injection of groundwater amendments into the overburden and shallow bedrock groundwater at each of the two source areas identified at the site;

2. Completion of pre- and post-remediation groundwater sampling;

3. Excavation and addition of a chemical oxidation amendment into the unsaturated zone in the BTEX area;

4. Cover system inspection and, if any portion of the cover system is removed, reevaluation and replacement; and

5. Implementation of a Site Management Plan (SMP) which incorporates the existing Interim SMP (ISMP) and includes site management activities for the groundwater remedy.

If there are any changes with the scope a revision of the HASP will be required to address any new hazards.

4. Site Control

This Site control program is designed to reduce the spread of hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the Site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the Site, and to deter vandalism and theft.

4.1 Site Map

A map of this Site, showing Site boundaries, designated work zones, and points of entry and exit is provided in Figure 2.

4.2 Site Access

The Site does not have surrounding fencing or an alternative method for restricting exterior site access. Access to the buildings is limited to employees of G.W. Lisk and approved visitors/workers.

4.3 Buddy System

While working in the Exclusion Zone, Site workers use the buddy system. The buddy system means that personnel work in pairs and stay in close visual contact to be able to observe one another and summon rapid assistance in case of an emergency. The responsibilities of workers using the buddy system include:

- Remaining in close visual contact with partner;
- Providing partner with assistance as needed or requested;
- Observing partner for signs of heat stress, chemical overexposure or other difficulties;
- Periodically checking the integrity of partner's PPE; and
- Notifying the SS or other Site personnel if emergency assistance is needed.

This section is not applicable for all components of the SOW described in Section 3. Some Site inspections, and potentially groundwater sampling activities are completed by a single Roux employee. However, when completing these tasks, the single Roux employee is accompanied either by Roux subcontractors or the Site caretaker/other representatives from G.W. Lisk. Any time Roux is on-site, G.W. Lisk is made aware and communications with G.W. Lisk and the Roux PM are maintained via cellular phone.

4.4 Site Communications

The following communication equipment is used to support on-site communication: cell phones, visual hand signals.

As applicable, hand signals will be used according to the following:

Hand Signals

SIGNAL	MEANING
Hand gripping throat	Out of air; I cannot breathe

Hand Signals

SIGNAL	MEANING
Grip partner's wrist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	I am all right; okay
Thumbs down	No; negative

A current list of emergency contact numbers is included in the Site-Specific Emergency Information at the beginning of this HASP.

4.5 Site Work Zones

The SOW does not require the implementation of work zones; however, should the need arise, this section provides details for the proper execution of work zones at this Site.

Work areas at the Site will be divided into three (3) major zones, described below. These zones are characterized by the likely presence or absence of biological, chemical, or physical hazards and the activities performed within them. Zone boundaries are clearly marked at all times and the flow of personnel among the zones is controlled. The Site is monitored for changing conditions that may warrant adjustment of zone boundaries. Zone boundaries are adjusted as necessary to protect personnel and clean areas. Whenever boundaries are adjusted, zone markings are also changed and workers are immediately notified of the change.

Exclusion Zone

The area where contamination exists is the Exclusion Zone (EZ). All areas where excavation and handling of contaminated materials take place are considered part of the EZ. This zone will be clearly delineated by chain link fencing, caution tape, cones or other effective barriers, as necessary. Safety tape may be used as a secondary delineation within the EZ. The zone delineation markings may be opened in areas for varying lengths of time to accommodate equipment operation or specific construction activities. The SHSO may establish more than one EZ where different levels of protection may be employed or where different hazards exist. Personnel are not allowed in the EZ without:

- A buddy (co-worker);
- Required minimum level PPE;
- Medical authorization;
- Training certification; and
- Requirement to be in the zone.

Contamination Reduction Zone

A Contamination Reduction Zone (CRZ) is established between the exclusion zone and the support zone. The CRZ contains the Contamination Reduction Corridor (CRC) and provides an area for decontamination of personnel and equipment. The CRZ will be used for general Site entry and egress in addition to access for heavy equipment and emergency support services. Personnel are not allowed in the CRZ without:

- A buddy (co-worker);
- Appropriate PPE;
- Medical authorization;
- Training certification; and
- Requirement to be in the zone.

Support Zone

The Support Zone (SZ) is an uncontaminated area that will be the field support area for the Site operations. The SZ will contain the temporary project trailers and provides for field team communications and staging for emergency response. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated personnel or materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples.

5. Job Hazard Evaluation

Roux's work at the Site is expected to entail a variety of physical, chemical, and biological hazards, all of which must be sufficiently managed to allow the work to be performed safely. Some of the hazards are Site-specific (i.e., they are associated with the nature, physical characteristics, and/or routine operation of the Site itself), while others are activity-specific (i.e., they are associated with [or arise from] the particular activity being performed). The various hazards can be grouped into the following categories:

- **Caught/Crushed** – the potential to become caught in, under, between, or by an object or parts of an object, such as equipment with parts that open and close or move up and down ("pinch points") or equipment that rotates, and the accompanying potential to have body parts cut, mangled, or crushed thereby.
- **Contact** – the potential to be struck by or against moving or stationary objects that can cause physical injury, such as heavy machinery, overhead piping, moving vehicles, falling objects, and equipment (including tools and hand-held equipment) or infrastructure with the ability to cut or impale.
- **Energy Sources** – the potential for bodily harm associated with energy sources, most notably electricity, but also including latent energy sources such as compressed air and equipment under tension (which when released could cause injurious contact or a fall).
- **Ergonomics** – the potential for musculoskeletal injury associated with lifting/carrying, pushing/pulling, bending, reaching, and other physical activity attributable to poor body position/mechanics, repetitive motion, and/or vibration.
- **Exposure** – the potential for injury/illness due to physical, chemical, or biological exposures in the work environment, including, but not limited to, temperature extremes, solar radiation, and noise (physical), chemical splashes and hazardous atmospheres (chemical), and animal/insect bites and poisonous plants (biological).
- **Falls** – the potential to slip or trip and thus fall or drop a load, resulting in bodily injury to oneself or others.

The foregoing is intended to provide Roux employees with a general awareness of the hazards involved with Site work. A more detailed review of the potential hazards associated with each specific activity planned for the Site (or on-going activity, as the case may be) is provided in the activity-specific Job Safety Analysis (JSA) forms in **Appendix A**. As can be seen in the JSA forms, the hazards are identified by category per the above, and specific measures designed to mitigate/manage those hazards are also identified. In preparing the JSA forms, all categories of hazards were considered, and all anticipated potential hazards were identified to the extent possible based on the experience of the personnel preparing and reviewing the JSA forms. However, there is always the possibility for an unanticipated hazard to arise, potentially as condition change over the course of the workday. Roux personnel must maintain a continual awareness of potential hazards in the work zone, regardless of whether the hazard is identified in the JSA form. Particular attention should be paid to hazards associated with exposure to hazardous substances (see **Table 1** for a listing of the hazardous substances most likely to be encountered in environmental media at the Site) and to Site personnel being located "in the line of fire" with respect to moving equipment, pinch points, and latent energy (e.g., being located or having body parts located within the swing radius of an excavator, between two sections of pipe being connected, below a piece of suspended equipment, or adjacent to a compressed air line).

5.1 Hazard Communication and Overall Site Information Program

The information in the JSAs and SDSs is made available to all employees and subcontractors who could be affected by it prior to the time they begin their work activities.

Modifications to JSAs are communicated during routine pre-work briefings, and periodically updated as needed in the HASP. SDSs will be maintained by the SHSO/SS for new chemicals brought on-site as needed. Copies of SDSs can be found in **Appendix B**.

5.2 Noise

Noise is associated with the operation of heavy equipment, power tools, pumps, and generators. Noise is also a potential hazard when working near operating equipment such as excavators, drill rigs or pole drivers. High noise (i.e., < 85 dBA) operations may be evaluated by the SHSO utilizing a type 2 handheld sound level meter (SLM) operating on the "A"-weighted scale with slow response because this scale most closely resembles human response to noise and complies with OSHA 29 CFR 1910.95. Hearing protection is required in areas with noise exposure greater than 85 dBA. Double hearing protection (ear plugs and earmuffs) should be donned in areas where the noise exposure is more than 95 dBA. Noise exposure will be controlled by hearing protection as described above or by maintaining set-backs from high-noise equipment, as warranted. Personnel handling heavy equipment and using power tools that produce noise levels exceeding those described levels above are required by OSHA 29 CFR 1910.95 to wear the appropriate Noise Reduction Rating (NRR) level of hearing protection. Appropriate hearing protection will be evaluated by the SHSO as necessary in consultation with the OHSM and CHSD.

5.3 Slip, Trip, and Fall Hazards

Slip, trip, and fall hazards may include, but are not limited to, general slip and trip hazards associated with uneven ground, possible debris, wet grass, and equipment. Prior to work, walking paths will be assessed for solid footings, any ground penetrations that may cause a tripping hazard will be appropriately marked, and other areas will be noted and discussed with the field team.

Personnel shall be aware of their surroundings and footings at all time, and all accommodations should be made for proper housekeeping and organized equipment placement at the Site, where possible, to help prevent any slip, trip, and fall-related incidents. All tools and materials should be appropriately stored when not in use and placed in appropriate storage containers.

5.4 Biological Hazards

Biological hazards that may potentially be present at a Site, include poisonous plants, insects (ticks, spiders, bees), animals (snakes, dogs), etc. Information on biological hazards can be found within Roux's Biological Hazard Awareness Management Program located within Roux's Corporate Health and Safety Manual. There is also potential for transmission and/or exposure to SARS-CoV-2, the virus that causes COVID-19. Prior to beginning work, on-Site protocols shall be established by the project team, including subcontractors, in accordance with federal, state, county, city, and/or other guidance, as applicable.

6. Emergency Response Plan

This emergency response plan details actions to be taken in the event of Site emergencies. The PM and SHSO is responsible for the implementation of emergency response procedures onsite. The SHSO/PM provides specific direction for emergency action based upon information available regarding the incident and response capabilities and initiates emergency procedures and notification of appropriate authorities. In the event of an emergency, Site personnel are evacuated and do not participate in emergency response activities, response is facilitated through external emergency services.

6.1 Emergency Response

The SHSO, after investigating the incident and relevant information, shall determine the level of response required for containment, rescue and medical care. Limited on-site emergency response activities could occur therefore the SHSO is responsible for notifying external emergency response agencies. The SHSO provides relevant information to the responding organizations, including, but not limited to, the hazards associated with the emergency incident, potential containment problems, and missing Site personnel.

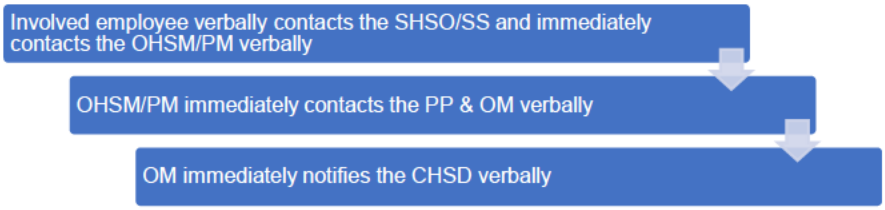
6.2 Emergency Alerting and Evacuation

If evacuation notice is given, Site workers leave the worksite, if possible, by way of the nearest exit. Appropriate primary and alternate evacuation routes and assembly areas have been identified and are shown on the Site Plan with Emergency Muster Area (**Figure 2**). The routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by SHSO/PM.

Personnel exiting the Site gather at a designated assembly point. To determine that everyone has successfully exited the Site, personnel will be accounted for at the assembly point. If any worker cannot be accounted for, notification is given to the SHSO, PM, and any arriving response authorities so that appropriate action can be initiated. Subcontractors on this Site have coordinated their emergency response plans to ensure that these plans are compatible and potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

6.3 Emergency Medical Treatment and First Aid

In the event of a work-related injury or illness, employees are required to follow the procedures outlined below. All work-place injury and illness situations require Roux's Project and Corporate Management Team to be notified when an injury/illness incident occurs, and communication with the contracted Occupational Health Care Management Provider, WorkCare, Inc., is initiated, as necessary. The Injury/Illness Notification Flowchart is provided below and within Roux's Incident Investigation and Reporting program included within Roux's Corporate Health and Safety Manual.



If on-Site personnel require any medical treatment, the following steps will be taken:

a. Notify Roux's Project and Corporate Management Team for any work-related injury and/or illness occurrence, and communicate with the contracted Occupational Health Care Management Provider, WorkCare, immediately following the notifications provided above.

b. Based on discussions with the Project Team, Corporate Management and the WorkCare evaluation, if medical attention beyond onsite first aid is warranted, transport the injured / ill person (IP) to the Urgent Care Center, or notify the Fire Department or Ambulance Emergency service and request an ambulance or transport the victim to the hospital, and continue communications with Corporate Management Team. An Urgent Care/Hospital Route map with location to RRH Rob and Pamela Sanda emergency Department is included as **Figure 3**.

c. Decontaminate to the extent possible prior to administration of first aid or movement to medical or emergency facilities.

d. First aid medical support will be provided by onsite personnel trained and certified in First Aid, Cardio Pulmonary Resuscitation (CPR), Automatic External Defibrillation (AED), and Blood-Borne Pathogens (BBP) Awareness, until relieved by emergency medical services (EMS).

e. The SHSO and PM will perform a Loss Investigation (LI) and the Project Team will complete the final Loss Report. If a Roux employee is involved in a vehicular incident, the employee must also complete the Acord Automobile Loss Notice.

7. Environmental Conditions and Response

7.1 Adverse Weather Conditions

In the event of adverse weather conditions, the SHSO or project principal will determine if work can continue without jeopardizing the health and safety of field workers. Some of the items related to adverse weather conditions to be considered prior to determining if work should continue include:

- Potential for heat stress and heat-related injuries;
- Potential for cold stress and cold-related injuries;
- Treacherous weather-related conditions. If wind speed is greater than 15 mph averaged over a 15-minute period or wind gusts over 25 mph, earthmoving operations will be ceased
- Limited visibility; and
- Electrical storm potential.

Site activities will be limited to daylight hours and acceptable weather conditions. Inclement working conditions may include heavy rain, fog, high winds, and lightning. The SHSO and/or PM shall observe daily weather reports and evacuate, if necessary, in case of inclement weather conditions.

7.2 Electrical Storm Guidelines

In the event that lightning and/or thunder are observed while working onsite, all onsite activities shall stop and personnel shall seek proper shelter (e.g., substantial building, enclosed vehicle, etc.). Work shall not resume until the threat of lighting has subsided and no lightning or thunder has been observed for 30 minutes. If the possibility of lightning is forecast for the day, advise the onsite personnel on the risks and proper procedure at the pre-work safety briefing. Continuously monitor for changing weather conditions and allow enough time to properly stop work if lightning is forecast.

7.3 Environmental Stressors, Heat Stress, Heat Exhaustion, and Heat Stroke

It is the employer's responsibility to monitor weather forecasts and ambient air temperatures, both prior to the work shift and during the shift. The National Oceanic and Atmospheric Administration records average minimum/maximum temperatures of 19/70 degrees Fahrenheit during the year in Rochester, New York.

To prevent potential heat illness, the following strategies will be implemented:

- Adjusting personnel work/rest intervals;
- Monitoring for symptoms of heat illness;
- Providing shaded rest areas;
- Providing cool potable water so that each employee has access to at least one quart per hour for the entire shift, free of charge;
- Allowing for employees to acclimatize to the weather conditions and work demands;
- Observe workers during a heat wave (i.e., when the temperature is at least 80oF, and 10 degrees hotter than the average temperature of the five preceding days); and
- Implementing high heat procedures when the temperature reaches 95oF.

Roux's Heat Illness Prevention Plan is implemented when the when ambient temperatures exceed 80oF. Roux's Heat Illness Prevention Program can be found within **Appendix C**. Additional information regarding heat illnesses is provided below. This can include, but is not limited to, access to shade that is sufficient in size to fit all workers who are on break; a car with air conditioning is acceptable, too. Preventative cool-down breaks shall be allowed at any time, and anyone taking such a break will be monitored for heat illness symptoms and not required to return to work until all symptoms (if present) of heat illness have disappeared. If necessary, first aid will be offered, but if symptoms are severe, emergency response procedures will be implemented per Section 6.3. Anyone who has shown symptoms of severe heat illness will not be sent home without being offered first aid or medical treatment.

High heat procedures must be implemented when temperatures reach 95oF. These procedures include:

- Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if the reception in the area is reliable.
- Observing employees for alertness and signs or symptoms of heat illness. The employer shall ensure effective employee observation/monitoring by implementing one or more of the following:
    - Supervisor or designee observation of 20 or fewer employees;
    - Mandatory buddy system; and
    - Regular communication with sole employee such as by radio or cellular phone, or other effective means of observation.
- Designating one or more employees on each worksite as authorized to call for emergency medical services and allowing other employees to call for emergency services when no designated employee is available.
- Encouraging employees throughout the work shift to drink plenty of water.
- A review of the high heat procedures during the daily tailgate meeting and remind employees of their right to take a cool-down rest when necessary.

7.3.1 Heat Stress

Heat stress is the body's response to excessive heat and can be a significant potential hazard. The risk of heat stress can be increased with heavy physical activity and/or the use of personal protective equipment in hot, humid weather environments. There are also personal risk factors that can contribute to the risk of suffering from heat stress, such as obesity, water intake, alcohol and caffeine consumption, pregnancy, age, medication, etc. Heat illness includes heat cramps, heat exhaustion, heat syncope, and heat stroke.

7.3.2 Heat Cramps

Heat cramps may be brought on by prolonged exposure to heat. As an individual sweats, water and salts are lost by the body resulting in painful muscle cramps, typically in the legs.

First aid treatment includes, but is not limited to, shade, rest, and fluid replacement. Typically, the individual should recover within one-half hour while being monitored constantly. If the individual has not improved substantially within 30 minutes and the body temperature has not decreased, the individual should be transported to a hospital for medical attention.

Per Roux's Heat Illness Prevention Plan, employees shall have access to potable drinking water that is fresh, pure, suitably cool, free of charge and in sufficient quantities. Access to shade shall be present when temperatures exceed 80 degrees Fahrenheit and shall be available when temperatures do not exceed 80 degrees Fahrenheit.

7.3.3 Heat Exhaustion

Heat exhaustion may occur in an individual who has been exposed to excessive heat while working or exercising. The circulatory system of the individual fails as blood collects near the skin to rid the body of excess heat through transference. The signs and symptoms of heat exhaustion are as follows:

- Rapid and shallow breathing;
- Weak pulse;
- Cold and clammy skin with heavy perspiration;
- Skin appears pale;
- Fatigue and weakness;
- Dizziness; and
- Elevated body temperature.

First aid treatment includes, but is not limited to, cooling the victim, elevating the feet, and replacing fluids.

If the individual is not substantially improved within 30 minutes and the body temperature has not decreased, the individual should be transported to the hospital for medical attention.

7.3.4 Heat Stroke

Heat stroke occurs when an individual is exposed to excessive heat and stops sweating. This condition is classified as a MEDICAL EMERGENCY requiring immediate cooling of the victim and transport to a medical facility. The signs and symptoms of heat stroke are as follows:

- Dry, hot, red skin;
- Body temperature approaching or above 105˚F;
- Confusion, altered mental state, slurred speech;
- Seizures;
- Large (dilated) pupils; and
- Loss of consciousness – the individual may go into a coma.

First aid treatment requires immediate cooling and transportation to a medical facility. Heat stress is a significant hazard if any type of protective equipment (semi-permeable or impermeable) that prevents evaporative cooling when worn in hot weather environments.

7.4 Cold Stress

Cold stress is a danger at low temperatures and when the wind-chill factor is low. Prevention of cold-related illnesses is a function of whole-body protection. Adequate insulating clothing must be used when the air temperature is below 60°F. A work/rest regimen will be initiated when ambient temperatures and protective

clothing cause a stressful situation. In addition, reduced work periods followed by rest in a warm area may be necessary in extreme conditions. The signs and symptoms of cold stress include the following:

- Severe shivering;
- Abnormal behavior;
- Slowing;
- Weakness;
- Stumbling or repeated falling;
- Inability to walk;
- Collapse; and/or
- Unconsciousness.

First aid requires removing the victim from the cold environment and seeking medical attention immediately. Also, prevent further body heat loss by covering the victim lightly with blankets. Do not cover the victim's face. If the victim is still conscious, administer hot drinks and encourage activity such as walking, wrapped in a blanket.

8. Safety Procedures

This section of the HASP presents the specific safety procedures to be implemented during Roux's activities at the Site in order to protect the health and safety of various on-site personnel. Minimum OSHA-mandated procedures are presented first, followed by client- and Site-specific procedures. Lastly, activity-specific procedures are discussed. These Site and activity-specific procedures supplement the general safety procedures included in Roux's Corporate Health and Safety Manual, which also must be followed in their entirely.

8.1 Training

At a minimum, Site personnel who will perform work in areas where there exists the potential for toxic exposure will be health and safety-trained prior to performing work onsite per OSHA 29 CFR 1910.120(e) and 29 CFR 1926.65(e). More specifically, all Roux, subcontractor, and other personnel engaged in sampling and remedial activities at the Site and who are exposed or potentially exposed to hazardous substances, health hazards, or safety hazards must have received at a minimum the 40 hour initial HAZWOPER training consistent with the requirements of 29CFR 1910.120(e)(3)(i) training and a minimum of 3 days' actual field experience under the direct supervision of a trained experienced supervisor, plus 8 hours of refresher training on an annual basis. Depending on tasks performed, less training may be permitted. Evidence of such training must be maintained at the Site at all times. Furthermore, all on-Site management and supervisory personnel directly responsible for or who supervise the employees engaged in Site remedial operations, must have received an additional 8 hours of specialized training at the time of job assignment on topics including, but not limited to, the employer's safety and health program and the associated employee training program, personal protective equipment program, spill containment program, and health hazard monitoring procedure and techniques, plus 8 hours of refresher training on an annual basis. Additionally, all workers who will be required to don a respirator will be properly trained on their employer's Respiratory Protection Program, which also includes being medically cleared to wear a respirator and passed a fit test, at least initially prior to use, and then annually thereafter in accordance with 29 CFR 1910.134, Respiratory Protection.

Roux personnel training records are maintained in a corporate database with records available upon request from either the OHSM/SHSO/CHSD or Human Resources Department.

8.2 Site-Specific Safety Briefings for Visitors

A site-specific briefing is provided to all site visitors who enter this site beyond the site entry point. For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

8.3 HASP Information and Site-Specific Briefings for Workers

Site personnel review this HASP and are provided a Site-specific tailgate briefing prior to the commencement of work to ensure employees are familiar with this HASP and the information and requirements it contains, as well as the relevant JSAs included in **Appendix A**. Additional briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during on-going Site characterization and analysis of changing conditions. Conditions for which we

schedule additional briefings include, but are not limited to: changes in site conditions, changes in the work schedule/plan, newly discovered hazards, and incidents occurring during Site work.

8.4 Medical Surveillance

The medical surveillance section of the Health and Safety Plan describes how worker health status is monitored at this site. Medical surveillance is used when there is the potential for worker exposure to hazardous substance at levels above OSHA Permissible Exposure Limits (PEL) or other published limits. The purpose of a medical surveillance program is to medically monitor worker health to ensure that personnel are not adversely affected by site hazards. The provisions for medical surveillance at this site are based on the site characterization and job hazard analysis found in Section 4 of this HASP and are consistent with OSHA requirements in 29 CFR 1910.120(f) as applicable.

8.4.1 Site Medical Surveillance Program

Medical surveillance requirements are based on a worker's potential for exposure as determined by the site characterization and job hazard analysis documented in Section 4 and JSAs within **Appendix A** of this HASP and in compliance with the requirements of 29 CFR 1910.120(f)(2). Based on site information and use of direct reading instruments, limited use of respirators (less than 30 days per year), and the absence of an employee-staffed HAZMAT team, a limited medical surveillance program is required and implemented at this site. The medical surveillance program provides that:

1. Workers assigned to tasks requiring the use of respirators receive medical examinations in accordance with 29 CFR 1910.134(e) to ensure they are physically capable to perform the work and use the equipment, and
2. If a worker is injured, becomes ill, or develops signs or symptoms of possible over-exposure to hazardous substance or health hazards, medical examinations are provided to that worker as soon as possible after the occurrence and as required by the attending physician.
3. These medical examinations and procedures are performed by or under the supervision of a licensed physician and are provided to workers free of cost, without loss of pay, and at a reasonable time and place. In addition, the need to implement a more comprehensive medical surveillance program will be re-evaluated after any apparent over-exposure.

8.4.2 Medical Recordkeeping Procedures

Medical recordkeeping procedures are consistent with the requirements of 29 CFR 1910.1020 and are described in the company's overall safety and health program. A copy of that program is available at our Islandia, New York office.

The following items are maintained in worker medical records:

- Respirator fit test and selection;
- Physician's medical opinion of fitness for duty (pre-placement, periodic, termination);
- Physician's medical opinion of fitness for respirator protection (pre-placement, periodic); and
- Exposure monitoring results.

8.4.3 Program Review

The medical program is reviewed to ensure its effectiveness. The Corporate Health and Safety Manager, in coordination with the Human Resources Director, is responsible for this review. At minimum, this review consists of:

- Review of accident and injury records and medical records to determine whether the causes of accidents and illness were promptly investigated and whether corrective measures were taken wherever possible;
- Evaluation of the appropriateness of required medical tests based on site exposures; and
- Review of emergency treatment procedures and emergency contacts list to ensure they were site specific, effective, and current.

8.5 Personnel Protection

Site safety and health hazards are eliminated or reduced to the greatest extent possible through engineering controls and work practices. Where hazards are still present, a combination of engineering controls, work practices and PPE are used to protect employees. Appropriate personal protective equipment (PPE) shall be worn by Site personnel when there is a potential exposure to chemical, biological or physical hazards (e.g., falling objects, flying particles, sharp edges, electricity, and noise), as determined by the SHSO. The level of personal protection, type and kind of equipment selected will depend on the hazardous conditions and in some cases cost, availability, compatibility with other equipment, and performance. An accurate assessment of all these factors will be made before work can be safely executed.

Roux maintains a comprehensive written PPE program that addresses proper PPE selection, use, maintenance, storage, fit and inspection. Roux's PPE program can be found within **Appendix D**. PPE to be used at the Site will meet the appropriate American National Standards Institute (ANSI) standards and the following OSHA (General/Construction Industry) standards for minimum PPE requirements.

The minimum level of PPE for entry onto the Site is Level D. The following equipment shall be worn:

- Work uniform (long pants, sleeved shirt);
- Hard hat;
- Steel or composite toe work boots (must comply with American Society for Testing and Materials [ASTM]) F 2412-05, Standard Test Methods for Foot Protection and ASTM F 2413-05, Standard Specification for Performance Requirements for Foot Protection);
- Safety Glasses (must comply with one of the following ANSI/ISEA Z87.1-2010, ANSI Z87.1-2003, ANSI Z87.1-2003);
- Boot Covers (as needed);
- Hearing protection (as needed);
- High visibility clothing (shirt/vest); and
- Hand protection (e.g., minimum cut resistance meeting ANSI 105-2000 Level 2).

Note that jewelry shall be removed or appropriately secured to prevent it from becoming caught in rotating equipment or unexpectedly snagged on a fixed object (e.g., wrist watches, bracelets, rings, chains and necklaces, open earrings). Do not wear loose clothing and all shoulder-length hair should be tied back.

Site specific PPE ensembles and materials are identified within task specific JSAs located within **Appendix A**, and any upgrades or downgrades of the level of protection (i.e., not specified in the JSA) must be approved by the PP and immediately communicated to all Roux personnel and subcontractors as applicable. PPE is used in accordance with manufacturer's recommendations.

Note that jewelry shall be removed or appropriately secured to prevent it from becoming caught in rotating equipment or unexpectedly snagged on a fixed object. (e.g., wrist watches bracelets, rings, chains and necklaces, open earrings). Do not wear loose clothing and all shoulder length hair should be tied back.

Site-specific PPE ensembles and materials are identified within task specific JSAs located within **Appendix A**, and any upgrades or downgrades of the level of protection (i.e., not specified in the JSA) must be immediately communicated to all Roux personnel and subcontractors, as applicable. PPE is used in accordance with manufacturer's recommendations.

8.5.2 Hearing Conservation

Hearing protection is made available when noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 dBA. Hearing protection is required when the 8-hour time weighted average sound level > 85 dBA, or when noise levels exceed 140 dBA at any point or exceeds 115 dBA for at least 15 minutes. Where noise exposure meets or exceeds this level, noise is listed as a physical hazard in the JSA for the tasks/operation, and hearing protection is included as one of the control measures (PPE).

8.6 Monitoring

An air monitoring program is important to the safety of on- and off-Site personnel, and the surrounding area. A preliminary survey, to establish background conditions in the immediate sampling area, may be made prior to the initiation of Site work including, but not limited to, monitoring wind direction (e.g., wind socks) and approximate temperature during all invasive Site activities. This survey will be conducted with the appropriate pre-calibrated air monitoring instrument(s), as warranted by the field activity. Once this survey has been complete, any changes in the type of PPE will be determined and relayed to those working on Site.

Real-time community air monitoring will be performed during the remedial action activities at the Site. A generic NYSDOH CAMP is included in Appendix C. Particulate and VOC monitoring will be performed along the downwind perimeter of the work area during intrusive remedial action activities in accordance with this plan. The CAMP is consistent with the requirements for community air monitoring at remediation sites as established by the NYSDOH and NYSDEC. Accordingly, it follows procedures and practices outlined under NYSDEC's DER-10 (May 2010) Appendix 1A (NYSDOH's Generic Community Air Monitoring Plan) and Appendix 1B (Fugitive Dust and Particulate Monitoring).

Work zone air monitoring will be performed to verify that the proper level of PPE is used, and to determine if increased protection or work stoppage is required. The following equipment shall be used to monitor conditions:

- A Photoionization Detector (PID) with a lamp energy of 10.6 eV will be used to provide direct readings of organic vapor concentrations during intrusive activities to determine that personnel protection is adequate. Concentrations shall be recorded during intrusive activities with the potential to encounter contaminant vapors.

Personal exposure monitoring utilizing activated charcoal tubes may be considered based on whether or not the area sample results are at or above half of the PEL. The decision to perform the monitoring will be made by, and under the control of, the CHSD.

Below are monitoring action levels for Site-specific chemicals of concern. In the event PID readings above the thresholds identified below are sustained for 5 minutes in the breathing zone, worker protection will require upgrading following notification to the OHSM and applicable parties.

8.6.1 Action Levels for Air Monitoring

PPE can remain at Level D if breathing zone VOC concentrations are less than 5 ppm and benzene is non detect. Personnel are required to evacuate the Site when breathing zone VOC readings exceed 25 ppm.

The following tables include summaries of the air monitoring, work practices, and action levels for the expected contaminants. The action levels to initiate testing with colorimetric tubes for airborne volatiles is 1 ppm (PID reading) and is based on the Permissible Exposure Limit (PEL) for benzene (1 ppm). The colorimetric tubes are used to confirm the presence or absence of specific constituents, and they do not provide a measured concentration.

PPE can remain at Level D if breathing zone VOC concentrations are less than 5 ppm and specific compounds, such as benzene, vinyl chloride, or formaldehyde, is non-detect. Personnel are required to evacuate the Site when breathing zone VOC readings exceed 25 ppm.

The following tables include summaries of the air monitoring, work practices, and action levels for the expected contaminants. The action levels to initiate testing with colorimetric tubes for airborne volatiles is 1 ppm (PID reading) and is based on the Permissible Exposure Limit (PEL) for benzene/vinyl chloride (1 ppm). The colorimetric tubes are used to confirm the presence or absence of specific constituents, and they do not provide a measured concentration.

Air Monitoring Summary and Action Levels Organic Vapors	
PID Reading in Breathing Zone (ppm)	**Action**
0-1 ppm above background	Continue monitoring
>1-5 ppm sustained 60 seconds	Continue monitoring; if applicable initiate additional collection of benzene/vinyl chloride using colorimetric tubes.
<5 ppm and no presence of benzene/vinyl chloride	Continue Monitoring, ventilate space
≥ 5 ppm - ≤ 25 ppm and no presence of benzene/vinyl chloride	Ventilate space until PID reads < 5 ppm. If < 5 ppm cannot be achieved, upgrade to Level C[1].
≥ 25 ppm	Ventilate space and evacuate area. Consult with CHSD.

Background concentrations should be established at the beginning of each work day. It may be necessary to re-establish background concentrations and ambient conditions vary through the day.

1 Measured air concentrations of known organic vapors will be reduced by the respirator to one half of the PEL or lower, and the individual and combined compound concentrations shall be within the service limit of the respirator cartridge.

Air Monitoring Summary and Action Levels Oxygen	
O_2 Reading in Breathing Zone (%)[1]	**Action**
20.9% O_2	Oxygen level normal
< 19.5% O_2	Oxygen deficient Interrupt task/Evacuate area
>23.5% O_2	Oxygen enriched Interrupt task/Evacuate area

1. Action levels based on USEPA Standard Operating Safety Guides; Table 5-1

Air Monitoring Summary and Action Levels Carbon Monoxide	
CO Reading in Breathing Zone (ppm)[1]	**Action**
<12.5 ppm	Inspect exhaust system for leaks or other sources of CO. Monitor initially and every 15 minutes during use of CO-generating equipment.
12.5-25 ppm	Ventilate area. Monitor continuously and record measurements. Contact PM.
>25 ppm	Cease Field Operations. Ventilate area.

1. Based upon the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV) of 25 ppm as an 8-hour time weighted average (TWA) and OSHA's Permissible Exposure Limit (PEL) of 50 ppm as an 8-hour TWA concentration.

Air Monitoring Summary and Action Levels Combustible Gases	
Lower Explosive Limit (LEL) Reading	**Action**
< 4% LEL	Site activities will continue with normal monitoring
4% – 20% LEL	Stop work until levels dissipate to <4% LEL
> 20% LEL	Potential explosion hazard. Halt all site activities, research source of release, aerate work area, suppress source.
Air Monitoring Summary and Action Levels Hydrogen Sulfide	
Hydrogen Sulfide (H_2S) Reading	**Action**
<10 ppm	Site activities will continue with normal monitoring
≥10 ppm	Stop work until levels dissipate to <10 ppm; use mechanical ventilation if possible. Consult with CHSD if unable to reduce concentrations below 10 ppm.

8.6.2 Air Monitoring Equipment and Calibration

A PID calibrated to an appropriate calibration mixture will be used to detect organic vapors in and around the work areas. Monitoring will be conducted in and around all work areas and at the workers breathing

zone before activities commence to establish a background level, then at 15-minute intervals throughout the day. All equipment will be calibrated according to the manufacturer's recommendation. A calibration log will be maintained and will include the name of the person who performed the calibration, the date and time calibrated, and the instrument reading at the time of calibration. A manual bellows pump or equivalent with colorimetric tubes for specific compounds will be utilized to determine the course of action related to upgrading or downgrading the level of respiratory protection, as applicable.

If air monitoring data indicate safe levels of potentially harmful constituents at consistent intervals (5-minute intervals), then monitoring can be conducted less frequently (every 30 minutes). This determination will be made by the onsite SHSO. Monitoring data, including background readings and calibration records, will be documented. Work to be performed on-Site will conform to Roux's Standard Operating Procedures (SOPs). Conformance with these guidelines as well as the guidelines described in this HASP will aid in mitigating the physical and chemical hazards mentioned throughout this HASP.

8.7 Tailgate Safety Meetings

A designated Site worker will provide daily safety briefings (e.g., tailgate meetings) including, but not limited to, the following scenarios:

- When new operations are to be conducted;
- Whenever changes in work practices must be implemented; and
- When new conditions are identified and/or information becomes available.

Daily safety briefings shall be recorded on the Roux Daily Tailgate Health and Safety Meeting Log/Daily Site Safety Checklist, and all completed forms will become a part of the project file.

8.8 Spill Containment

Spill containment equipment and procedures should, at a minimum, meet the requirements of the facility's Spill Prevention, Control and Countermeasure Plan, if applicable. Otherwise, spill containment equipment and procedures must be considered depending on the task, including, but not limited to, chemical/product transfer points and handling.

8.8.1 Initial Spill Notification and Response

Any worker who discovers a hazardous substance spill will immediately notify the SHSO. The worker will, to his/her best ability, report the hazardous substance involved, the location of the spill, the estimated quantity of material spilled, the direction/flow of the spill material, related fire/explosion incidents, and any associated injuries without compromising their own safety.

8.8.2 Spill Evaluation and Response

The SHSO is responsible for evaluating spills and determining the appropriate response. When this evaluation is being made, the spill area will be isolated and demarcated to the extent possible. If necessary to protect nearby community members, notification of the appropriate authorities is made by the PM as appropriate. On-Site response is limited to small spills (e.g., <10 gallons); large spills require external emergency responders who will be contacted by the SHSO.

8.9 Decontamination

The decontamination section of the HASP describes how personnel and equipment are decontaminated when they leave the Exclusion Zone. This section also describes how residual waste from decontamination processes is disposed. The site decontamination procedures are designed to achieve an orderly, controlled removal or neutralization of contaminants that may accumulate on personnel or equipment. These procedures minimize worker contact with contaminants and protect against the transfer of contaminants to clean areas of the site and off-site. They also extend the useful life of PPE by reducing the amount of time that contaminants contact and can permeate PPE surfaces. Decontamination is facilitated within the CRZ at this site, if applicable.

8.9.1 Decontamination Procedures for Personnel and PPE

The following are general decontamination procedures established and implemented at this site.

1. Decontamination is required for all workers exiting a contaminated area. Personnel may re-enter the SZ only after undergoing the decontamination procedures described below in the next section.
2. Protective clothing is decontaminated, cleaned, laundered, maintained and/or replaced as needed to ensure its effectiveness.
3. PPE used at this site that requires maintenance or parts replacement is decontaminated prior to repairs, or
4. PPE used at this site is decontaminated or prepared for disposal on the premises. Personnel who handle contaminated equipment have been trained in the proper means to do so to avoid hazardous exposure.
5. This site uses an off-site laundry for decontamination of PPE. The site has informed that facility of the hazards associated with contaminated PPE from this site.
6. The site requires and trains workers that if their permeable clothing is splashed or becomes wetted with a hazardous substance, they will immediately exit the work zone, perform applicable decontamination procedures, shower, and change into uncontaminated clothing.
7. Procedures for disposal of decontamination waste meet applicable local, State, and Federal regulations.

8.9.2 Decontamination Procedures for Equipment

All tools, equipment, and machinery from the EZ or CRZ are decontaminated in the CRZ prior to removal to the SZ. Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

General Equipment Decontamination Procedures:

1. Decontamination is required for all equipment exiting a contaminated area. Equipment may re-enter the SZ only after undergoing the equipment decontamination procedures.
2. Vehicles that travel regularly between the contaminated and clean areas of the site are carefully decontaminated each time they exit the EZ and the effectiveness of that decontamination is monitored to reduce the likelihood that contamination will be spread to other parts of the site.
3. Particular attention is given to decontaminating tires, scoops, and other parts of heavy equipment that are directly exposed to contaminants and contaminated soil.
4. Procedures for disposal of decontamination waste shall meet applicable local, State, and Federal regulations.

The following items may be used to decontaminate equipment:

- Fresh water rinse;
- Non-phosphorus detergent wash;
- Acetone rinse;
- Distilled water rinse; and
- A steam cleaner or pressure washer (heavy equipment only).

8.9.3 Monitoring the Effectiveness of Decontamination Procedures

Visual examination and sampling are used to evaluate the effectiveness of decontamination procedures. Visual examination is used to ensure that procedures are implemented as described and that they appear to control the spread of contaminants under changing site conditions. Visual examination is also used to inspect for signs of residual contamination or for contaminant permeation of PPE.

Personnel who work in contaminated areas of the site, either the Contamination Reduction Zone (CRZ) or the Exclusion Zone, are trained in the principles and practices of decontamination described in this section of the HASP and in related SOPs. If site procedures are changed as a result of inspection and monitoring, all affected employees are notified of these changes.

8.10 Confined Space Entry

Confined space entry is not anticipated to be performed given the remedial activities. However, should the need for confined space entry arise, work will be performed in accordance with the below specifications.

The following is a list of the safety requirements for confined space entry at the Site:

- **ROUX PERSONNEL ARE NOT AUTHORIZED TO ENTER AN OSHA PERMIT REQUIRED CONFINED SPACE;**
- Currently the scope of work **DOES NOT** require personnel to enter permitted confined space for this project; and
- Any changes to the field activities that may necessitate confined space entry will be reported to the Project Principal and OHSM.

Confined space is defined as any space, depression, or enclosure that:

- Has limited opening for entry and egress;
- Is large enough for and employee to enter and perform assigned work; and
- Is not intended for continuous occupancy.

A permit required confined space is one that meets the definition of a confined space and has one or more of the following characteristics:

- May contain or produce life-threatening atmospheres due to oxygen deficiency the presence of toxic, flammable, or corrosive contaminants;
- Contains a material that has the potential for engulfment;
- Has an internal configuration that may cause an entrant to be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section; and

- Contains any other serious safety or health hazards.

Although Roux personnel will not perform confined space entry, it is expected that subcontractors performing cleaning and mitigation and/or remedial measures activities may be required to enter structures that are considered to be a permit required confined space. Permitting of the confined space as well as hazard mitigation for entry will be completed by the subcontractor in accordance with 29 CFR 1910.146 or 1926.1201-1213 and/or applicable local/client requirements.

8.11 Client and Site-Specific

In addition to the OSHA-specific procedures discussed above, there may be client and site-specific safety procedures that must be adhered to during the performance of remedial activities at the Site.

G.W. Lisk has an established Contractor Safety Plan document entitled ESRP 20.01.08. This document is included in this HASP as Appendix G.

8.12 Unusual or Significant Risks

Field activities that appear to have unusual or significant risks that cannot be adequately managed with existing risk tools such as LMRAs, HASPs, traffic safety plans, work permits, design and O&M practices, equipment HAZOPS or other safety tools must be referred to the CHSD to help with the assessment and management of the associated potential safety risks. Examples include the use of explosives for demolition, use of firearms to control wildlife, rappelling, demolition over water, diving, etc.

8.13 Activity-Specific Hazards

In addition to the general hazards discussed above, there are activity-specific hazards associated with each work activity planned for the Site. An activity-specific JSA has been completed for each of the activities planned for the Site. JSAs are provided in **Appendix A**. In the event that new work activities or tasks are planned, JSAs will be developed and implemented prior to performing the new activities. In the absence of a JSA, the personnel performing work must prepare a field JSA and receive clearance from a designated competent safety official prior to performing any task with significant risk. In emergency situations where time is critical, Risk Assessments (LMRAs) will be utilized to identify the task, associated hazards and mitigative actions to take. For lower risk activities (as deemed by the discretion of a Competent Person) where a JSA is determined to not be needed, the individual(s) conducting the activities must perform LMRAs prior to and during the work.

8.13.1 Electrical and Other Utility Assessment and Accommodations

Roux shall perform a site walk to identify any potential overhead electrical or utility lines. All applicable guidelines will be followed in the vicinity of overhead power and utility lines (see Section 8.13.3 below).

Roux has also reviewed all available Site maps showing buried utility lines to identify potential hazards; the review revealed underground hazards may exist in the vicinity of the areas of the Site pertinent to this HASP. A geophysical survey will be completed to mark out existing private utilities prior to the start of remedial action in accordance with the ISMP and remedial locations will be modified is necessary.

8.13.2 Subsurface Work

Subsurface work activities will require adherence to Roux's Corporate Subsurface Utility Clearance Management program found within Appendix E.

8.13.2.1 Excavations and Trenching

Trenching and excavation work activities carried out by Roux and their subcontractors shall comply with applicable OSHA standards (i.e., 29 CFR 1926.650-652). Regional Notification Centers (i.e., Underground Services Alert) shall be notified at least two working days prior to the start of any digging or excavation work per state requirements (i.e., 811-One Call). Personnel responsible for excavation activities will be trained in their job responsibilities. Additionally, for trenches 4 feet or deeper, where employees will enter, the trench needs to have a stairway, ladder or other safe means of egress, and located so that employees do not have to travel farther than 25 feet horizontally. Where employees will enter trenches greater than 5 feet deep, the trench must have some type of protective system or sloped sidewalls appropriately to prevent cave-ins.

The SHSO or other responsible Roux personnel will be present on-Site during all Roux contracted excavation and backfill operations and will supplement health and safety monitoring conducted by Subcontractor air quality screening to ensure that appropriate levels of protection and safety procedures are utilized. The proximity of chemical, water, sewer, and electrical lines will be identified by Roux and/or their subcontractor before any subsurface activity or sampling is attempted. Prior to any excavation activities, trees, shrubbery, and other objects that can potentially pose as a hazard during excavation should be supported or removed from the excavation area. The following safe work practices will be implemented during this task.

- The proximity of chemical, water, sewer, and electrical lines will be identified by a facility representative prior to beginning any subsurface activity;
- At the start of every day, a competent person will inspect excavations to evaluate if the area is stable and safe to enter. Inspections will be conducted as needed throughout the excavation operations. If deemed necessary, a competent person may also conduct inspections after rainfall or any other event that can potentially affect the integrity of the excavation. Employees will not enter excavations where water has accumulated until protective measures have been implemented.
- Prior to entering excavations greater than 4 feet in depth, air monitoring for oxygen and hazardous atmospheres must be conducted to assure atmospheric conditions are within normal levels described in Section 8.6. Continuous air monitoring with a standard multi-gas detector (O2, LEL%, CO, H2S) shall be used during the course of work within an excavation; if action limits are reached workers shall safely exit the excavation. Upgrades to worker protection should be evaluated with the SHSO and PP in consultation with the CHSD. Emergency rescue equipment, such as breathing apparatuses and safety harnesses connected to an extraction device, will be readily available in the event of hazardous atmospheric conditions;
- While earthmoving, stay out of the excavator's delineated heavy equipment exclusion zone and away from the excavation sides where there is potential for cave in (within excavations that are 6 feet or more in depth, a delineated perimeter 6 feet away from the excavated edge is required);
- During loading and unloading operations, stand away from haul trucks and other vehicles to avoid contact with any falling loads; and
- Traffic cones, caution tape, or other barriers will be set up around the perimeter of the excavation when employees are working along the excavation edge and for any excavation that will be left open overnight or unattended for more than two days.

Maximum Allowable Slopes

Soil or Rock Type	Maximum Allowable Slopes (H:V)[1] for Excavations Less Than 20 Feet Deep[3]
Stable Rock	Vertical (90°)
Type A[2]	3/4 : 1 (53°)
Type B	1 : 1 (45°)
Type C	1 1/2 : 1 (34°)

29 CFR 1926 Subpart P Appendix B Sloping and Benching Table B-1

Notes:

[1] Numbers shown in parentheses next to maximum allowable slopes are angles expressed in degrees from the horizontal. Angles have been rounded off.

[2] A short-term maximum allowable slope of 1/2H : 1V (63°) is allowed in excavations in Type A soil that are 12 feet (3.67 meters) or less in depth. Short-term maximum allowable slopes for excavations greater than 12 feet (3.67 meters) in depth shall be 3/4H : 1V (53°).

[3] Sloping or benching for excavations greater than 20 feet deep shall be designed and stamped by a registered professional engineer.

Proper stockpiling (i.e., 2 feet minimum distance from the excavation edge), containment, transport, storage, and disposal practices will be utilized and is dependent upon the potential type and amount of waste generated during operations. The location of safety equipment and evacuation procedures will be established prior to initiation of operations according to this HASP.

The selected remedial method involving BTEX excavation and mixing will involve a 50-foot by 50-foot excavation area. In order to maintain compliance with excavation safety measures, work will be performed incrementally over the course of multiple days. During this time, work on a section of the overall remedial excavation will be completed such that the excavation will be backfilled by the end of the workday to ensure that no open trenches exist unmonitored on the property. In such a case where this is not possible, measures will be taken to fence off or otherwise make known the excavation area to avoid injury.

8.13.3 Heavy Equipment

Use of heavy equipment at the Site will require adherence to Roux's Corporate Heavy Equipment Exclusion Zone Management Program found within Appendix F. Additionally, operation of the drill rig/other heavy equipment will maintain clearances from overhead power lines in accordance with 29 CFR 1926.1408 Table A Minimum Clearance Distances provided below.

Minimum Required Clearances for Energized Overhead Power Lines

Nominal System Voltage of Power Line (K V)	Minimum Required Clearance (feet)
0-50	10
51-100	12
101-200	15
201-300	20
301-500	25
501-750	35
751-1000	45

1 kilovolt (KV) = 1,000 volts

8.14 Traffic Control

If Site operations encroach upon public streets or highways and a hazard exists to Site personnel because of traffic conditions, a traffic control plan will be implemented in accordance with the United States Department of Transportation's (DOT's) "Manual on Uniform Traffic Control Devices."

8.15 Sanitation

Sanitation facilities will be provided in accordance with the sanitation standards (29 CFR 1910.141, 29 CFR 1926.51 and 29 CFR 1928.110). Sanitation facilities will be maintained and kept in good conditions at all times.

9. Field Team Review

Each person performing work at or visiting this site shall sign this section after site-specific training is completed and before being permitted to access the CRZ or Exclusion Zone.

I have read and understand this Site-Specific Health and Safety Plan. I will comply with the provision contained therein.

Site/Project: 2 South Street, Clifton Springs, New York, 14432

Name & Company	Signature	Date

10. Approvals

By their signature, the undersigned certify that this HASP is approved and will be utilized at the G.W. Lisk – 2 South Street Facility site (Site, C835026), located at 2 South Street, Village of Clifton Springs, Ontario County, New York.

Chelsea Kanaley – Site Health and Safety Officer	Date
Paul Werthman – Office Health and Safety Manager	Date
Charlotte Clark – Project Manager	Date
Lori Riker – Project Principal	Date

TABLES

1. Toxicological Properties of Hazardous Substances Present at the Site

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
VOLATILE ORGANIC COMPOUNDS (VOCs)									
1,1,1-Trichloroethane	71-55-6	TWA 350 ppm STEL 450 ppm	C 350 ppm (1900 mg/m^3) [15-minute]	TWA 350 ppm (1900 mg/m^3)	700 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage	Eyes, skin, central nervous system, cardiovascular system, liver	Colorless liquid with a mild, chloroform-like odor. BP: 165°F Fl.Pt. = NA LEL: 7.5% UEL: 12.5% Combustible Liquid, but burns with difficulty
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	TWA 1000 ppm STEL 1250 ppm	TWA 1000 ppm (7600 mg/m3) ST 1250 ppm (9500 mg/m3)	TWA 1000 ppm (7600 mg/m3)	2000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation skin, throat, drowsiness, dermatitis; central nervous system depression; In Animals: cardiac arrhythmias, narcosis	Skin, heart, central nervous system, cardiovascular system	Colorless to water-white liquid with an odor like carbon tetrachloride at high concentrations. [Note: A gas above 118°F.] BP: 118°F Fl.Pt. = NA LEL: NA UEL: NA
1,1-Dichloroethane	75-34-3	TWA 100 ppm	TWA 100 ppm (400 mg/m^3)	TWA 100 ppm (400 mg/m^3)	3,000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation skin; central nervous system depression; liver, kidney, lung damage	Skin, liver, kidneys, lungs, central nervous system	Colorless, oily liquid with a chloroform-like odor. BP: 135°F Fl.Pt. = 2°F LEL: 5.4% UEL: 11.4% Class IB Flammable Liquid Fl.P. below 73°F and BP at or above 100°F.
1,1-Dichloroethene	75-35-4	TWA 5 ppm	Ca	None	Ca	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty); liver, kidney disturbance; pneumonitis; [potential occupational carcinogen]	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless liquid or gas (above 89°F) with a mild, sweet, chloroform-like odor BP: 89°F Fl.Pt. = -2°F LEL: 6.5% UEL: 15.5% Class IA Flammable Liquid: Fl.P. below 73°F and BP below 100°F
Acetone	67-64-1	TWA 250 ppm STEL 500 ppm	TWA 250 ppm (590 mg/m^3)	TWA 1000 ppm (2400 mg/m^3)	2500 ppm [10% LEL]	Inhalation, ingestion, skin and/or eye contact	irritation eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis	Eyes, skin, respiratory system, central nervous system	Colorless liquid with a fragrant, mint-like odor BP: 133°F Fl.Pt. = 0°F LEL: 12.8% UEL: 2.5% Class IB Flammable liquid: Fl.P. below 73°F and BP at or above 100°F.
Benzene	71-43-2	TWA 0.5 ppm STEL 2.5 ppm	Ca TWA 0.1 ppm ST 1 ppm	TWA 1 ppm ST 5 ppm	Ca [500 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude (weakness, exhaustion); dermatitis; bone marrow depression; [potential occupational carcinogen]	Eyes, skin, respiratory system, blood, central nervous system, bone marrow	Colorless to light yellow liquid with an aromatic odor [Note: Solid below 42 °F] BP: 176°F Fl.Pt. = 12°F LEL: 1.2% UEL: 7.8% Class IB Flammable liquid. Fl.P. below 73°F and BP at or above 100°F.
cis-1,2-Dichloroethene	156-59-2	TWA 200 ppm (All isomers)	TWA 200 ppm (790 mg/m3)	TWA 200 ppm (790 mg/m3)	1000 ppm	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, respiratory system; central nervous system depression	Eyes, respiratory system, central nervous system	Colorless liquid (usually a mixture of the cis & trans isomers) with a slightly acrid, chloroform-like odor. BP: 118-140°F Fl.Pt. = 36-39°F LEL: 5.6% UEL: 12.8% Class IB Flammable Liquid: Fl.P. below 73°F and BP at or above 100°F
Dichlorodifluoromethane	75-71-8	TWA 1000 ppm	TWA 1000 ppm (4950 mg/m3)	TWA 1000 ppm (4950 mg/m3)	15,000 ppm	Inhalation, skin and/or eye contact (liquid)	Dizziness, tremor, asphyxia, unconsciousness, cardiac arrhythmias, cardiac arrest; liquid: frostbite	Cardiovascular system, peripheral nervous system	Colorless gas with an ether-like odor at extremely high concentrations. [Note: Shipped as a liquefied compressed gas.] BP: -22°F Fl.Pt. = NA LEL: NA UEL: NA Nonflammable Gas
Ethyl benzene	100-41-4	TWA 20 ppm	TWA 100 ppm (435 mg/m^3) ST 125 ppm (545 mg/m^3)	TWA 100 ppm (435 mg/m^3)	800 ppm [10%LEL]	Inhalation, ingestion, skin and/or eye contact	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eyes, skin, respiratory system, central nervous system	Colorless liquid with an aromatic odor. BP: 277°F Fl.Pt. = 55°F LEL: 0.8% UEL: 6.7% Class IB Flammable Liquid below 73°F and BP at or above 100°F

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Methylene chloride	75-09-2	TWA 50 ppm [skin] STEL 100 ppm	Ca	[1910.1052] TWA 25 ppm ST 125 ppm	Ca [2300 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; lassitude (weakness, exhaustion), drowsiness, dizziness; numb, tingle limbs; nausea; [potential occupational carcinogen]	Eyes, skin, cardiovascular system, central nervous system	Colorless liquid with a chloroform-like odor. [Note: A gas above 104°F.] BP: 104°F Fl.Pt. = NA LEL: 13% UEL: 23% Combustible Liquid
o-Xylene	95-47-6	TWA 20 ppm (All isomers)	TWA 100 ppm (435 mg/m3) ST 150 ppm (655 mg/m3)	TWA 100 ppm (435 mg/m3)	900 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys	Colorless liquid with an aromatic odor BP: 292°F Fl.Pt. = 90°F LEL: 0.9% UEL: 6.7% Class IC Flammable Liquid: Fl.P. at or above 73°F and below 100°F
Tetrachloroethene	127-18-4	TWA 25 ppm STEL 100 ppm	Ca Minimize workplace exposure concentrations	TWA 100 ppm C 200 ppm (for 5 minutes in any 3-hour period), with a maximum peak of 300 ppm	Ca [150 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eyes, skin, respiratory system, liver, kidneys, central nervous system	Colorless liquid with a mild, chloroform-like odor BP: 250°F Fl.Pt. = NA LEL: NA UEL: NA Noncombustible Liquid, but decomposes in a fire to hydrogen chloride and phosgene
Toluene	108-88-3	TWA 20 ppm (ototoxicant)	TWA 100 ppm (375 mg/m^3) ST 150 ppm (560 mg/m^3)	TWA 200 ppm C 300 ppm 500 ppm (10-minute maximum peak)	500 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage	Eyes, skin, respiratory system, central nervous system, liver, kidneys	Colorless liquid with a sweet, pungent, benzene-like odor. BP: 232°F Fl.P: 40°F LEL: 1.1% UEL: 7.1% Class IB Flammable Liquid Fl.P. below 73°F and BP at or above 100°F.
Trichloroethene (TCE)	79-01-6	TWA 10 ppm STEL 25 ppm	Ca	TWA 100 ppm C 200 ppm 300 ppm (5-minute maximum peak in any 2 hours)	Ca [1000 ppm]	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Eyes, skin, respiratory system, heart, liver, kidneys, central nervous system	Colorless liquid (unless dyed blue) with a chloroform-like odor. BP: 189°F Fl.Pt. = NA LEL(77°F): 8.0% UEL(77°F): 10.5% Combustible Liquid, but burns with difficulty.
Vinyl Chloride (chloroethylene)	75-01-4	TWA 1 ppm	Ca	TWA 1 ppm C 5 ppm [15-minute]	Ca (ND)	Inhalation, skin and/or eye contact (liquid)	Lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]	Liver, central nervous system, blood, respiratory system, lymphatic system	Colorless gas or liquid (below 7°F) with a pleasant odor at high concentrations.[Note: Shipped as a liquefied compressed gas.] BP: 7°F Fl.Pt. = NA (Gas) LEL: 3.6% UEL: 33.0% Flammable Gas
Xylene (m, o & p isomers)	108-38-3, 95-47-6, 106-42-3	TWA 20 ppm	NA	NA	NA	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract, blood, liver, kidneys	Colorless liquid with an aromatic odor BP: 282°F, 292°F, 281°F Fl. Pt. 82°F, 90°F, 81°F LEL: 1.1%, 0.9%, 1.1% UEL: 7.0%, 6.7%, 7.0% Class IC Flammable Liquid at or above 73°F and below 100°F.
SEMI-VOLATILE ORGANIC COMPOUNDS (SVOCs)									
Acenaphthene	83-32-9	https://cameochemicals.noaa.gov/chemical/10358				Inhalation, ingestion, skin and/or eye contact	Irritation of the skin, eyes, mucous membranes and upper respiratory tract, vomiting	Skin, eyes, mucous membranes and upper respiratory tract	White needles BP: 534 ° F Fl.Pt. = NA LEL: 0.6% UEL: NA
Acenaphthylene	208-96-8	https://cameochemicals.noaa.gov/chemical/16157				Inhalation, ingestion, skin and/or eye contact			Colorless crystalline solid BP: 509 to 527 ° F at 760 mm Hg Fl.Pt. = NA LEL: NA UEL: NA
Benzo[a]anthracene	56-55-3	https://cameochemicals.noaa.gov/chemical/16171				Inhalation, injestion, skin and/or eye contact			Colorless leaflets or plates or coarse gold powder with a greenish-yellow fluorescence. May reasonably be expected to be a carcinogen. BP: 815° F at 760 mm Hg Fl.Pt. = NA LEL: NA UEL: NA

Table 1. Toxicological, Physical, and Chemical Properties of Compounds Potentially Present at the Site.

Compound	CAS #	ACGIH TLV	NIOSH REL	OSHA PEL	IDLH	Routes of Exposure	Toxic Properties	Target Organs	Physical/Chemical Properties
Benzo[a]pyrene (as coal tar pitch volatiles)	50-32-8	TWA 0.2 mg/m3 (as Benzene solubles)	Ca TWA 0.1 mg/m3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m3 (benzene-soluble fraction) [1910.1002]	Ca [80 mg/m3]	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue BP: NA Fl.Pt. = NA LEL: NA UEL: NA Combustible Solids
Benzo[b]fluoranthene	205-99-2	None listed	https://cameochemicals.noaa.gov/chemical/16172			Inhalation, injestion, skin and/or eye contact			Needles or yellow fluffy powder BP: NA Fl.Pt. = NA LEL: NA UEL: NA
Benzo[k]fluoranthene	207-08-9	https://cameochemicals.noaa.gov/chemical/16173				Inhalation, injestion, skin and/or eye contact	When heated to decomposition this compound emits acrid smoke and irritating fumes.		Pale yellow needles or yellow crystalline solid BP: 896° F Fl.Pt. = NA LEL: NA UEL: NA
Chrysene (as coal tar pitch volatiles	218-01-9	TWA 0.2 mg/m3 (as Benzene solubles)	Ca TWA 0.1 mg/m3 (cyclohexane-extractable fraction)	TWA 0.2 mg/m3 (benzene-soluble fraction) [1910.1002]	Ca [80 mg/m3]	Inhalation, skin and/or eye contact	Dermatitis, bronchitis, [potential occupational carcinogen]	Respiratory system, skin, bladder, kidneys	Black or dark-brown amorphous residue BP: NA Fl.Pt. = NA LEL: NA UEL: NA Combustible Solids
Dibenzo(a,h)anthracene	53-70-3	https://cameochemicals.noaa.gov/chemical/16192				Inhalation, injestion, skin and/or eye contact	Symptoms of exposure to this compound may include irritation. This compound is harmful if swallowed or inhaled. It may cause irritation. When heated to decomposition it emits acrid smoke, irritating fumes and toxic fumes of carbon monoxide and carbon dioxide.	Lungs	White crystals or pale yellow solid. Sublimes BP: 975° F Fl.Pt. = NA LEL: NA UEL: NA
Indeno[1,2,3-cd]pyrene	193-39-5	https://cameochemicals.noaa.gov/chemical/16218				Inhalation, injestion, skin and/or eye contact			Yellow crystals BP: 997° F Fl.Pt. = NA LEL: NA UEL: NA
Naphthalene	91-20-3	TWA 10 ppm [skin]	TWA 10 ppm (50 mg/m3) ST 15 ppm (75 mg/m3)	TWA 10 ppm (50 mg/m3)	250 ppm	Inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; jaundice; hematuria (blood in the urine), renal shutdown; dermatitis, optical neuritis, corneal damage	Eyes, skin, blood, liver, kidneys, central nervous system	Colorless to brown solid with an odor of mothballs. [Note: Shipped as a molten solid.] BP: 424°F Fl.P: 174°F LEL: 0.9% UEL: 5.9% Combustible Solid, but will take some effort to ignite

References

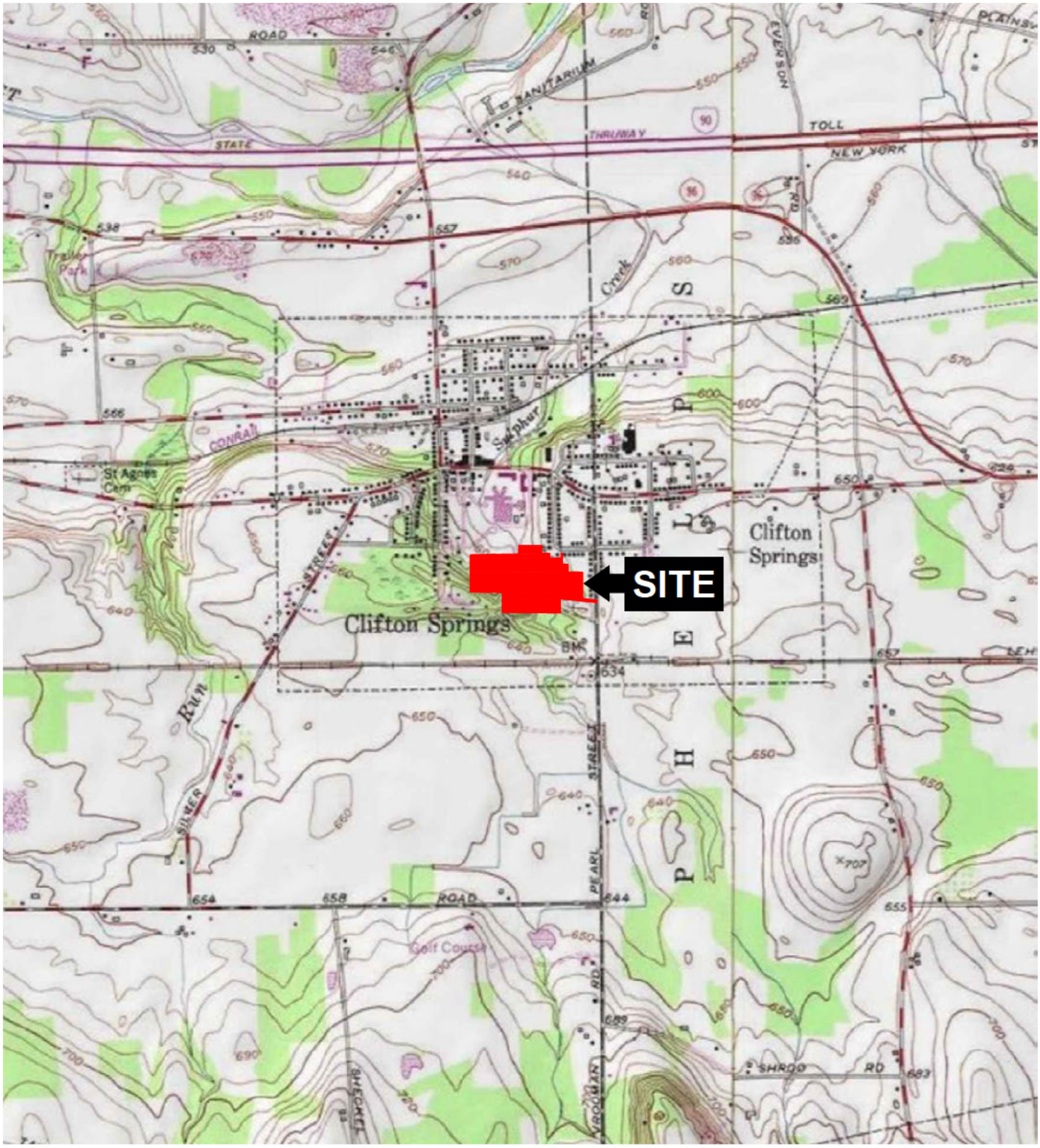
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Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists.
BP – boiling point at 1 atmosphere, °F
C – Ceiling, is a concentration that should not be exceeded during and part of the working exposure.
Ca – Carcinogenic.
CAS# - Chemical Abstracts Service registry number which is unique for each chemical.
DSEN - Dermal Sensitization
Ft Pt. – Flash point
IDLH - Immediately Dangerous to Life and Health concentrations represent the maximum concentration from which, in the event of respirator failure, one could escape within 30 minutes without a respirator and without experiencing any escape-impairing or irreversible health effects.
LEL – Lower explosive (flammable) limit in air, % by volume (at room temperature)
mg/m^3 – Milligrams of substance per cubic meter of air
NIOSH - National Institute for Occupational Safety and Health.
OSHA – Occupational Safety and Health Administration
OTO - Ototoxicant
PEL - OSHA Permissible Exposure Limit (usually) a time weighted average concentration that must not be exceeded during any 8 hour work shift of a 40 hr work week.
ppm – parts per million
REL – NIOSH Recommended Limit indicated a time weighted average concentration that must not be exceeded during any 10 hour work shift of a 40 hr work week
RSEN - Respiratory Sensitization
SG - Specific Gravity
STEL – ACGIH Short-term exposure limit (ST)
TLV - ACGIH Threshold Limit Values (usually 8 hour time weighted average concentrations).
TWA – 8-hour, time-weighted average
UEL – Upper explosive (flammable) limit in air, % by volume (at room temperature)
VP - Vapor Pressure

FIGURES

1. Site Location Map
2. Site Plan with Emergency Muster Area
3. Routes to Urgent Care and Hospital





QUADRANGLE LOCATION

2000' 0 2000'

N

BASE MAP: USGS QUADRANGLE CLIFTON SPRINGS, NY 2023

Title:

SITE LOCATION AND VICINITY MAP

HEALTH AND SAFETY PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

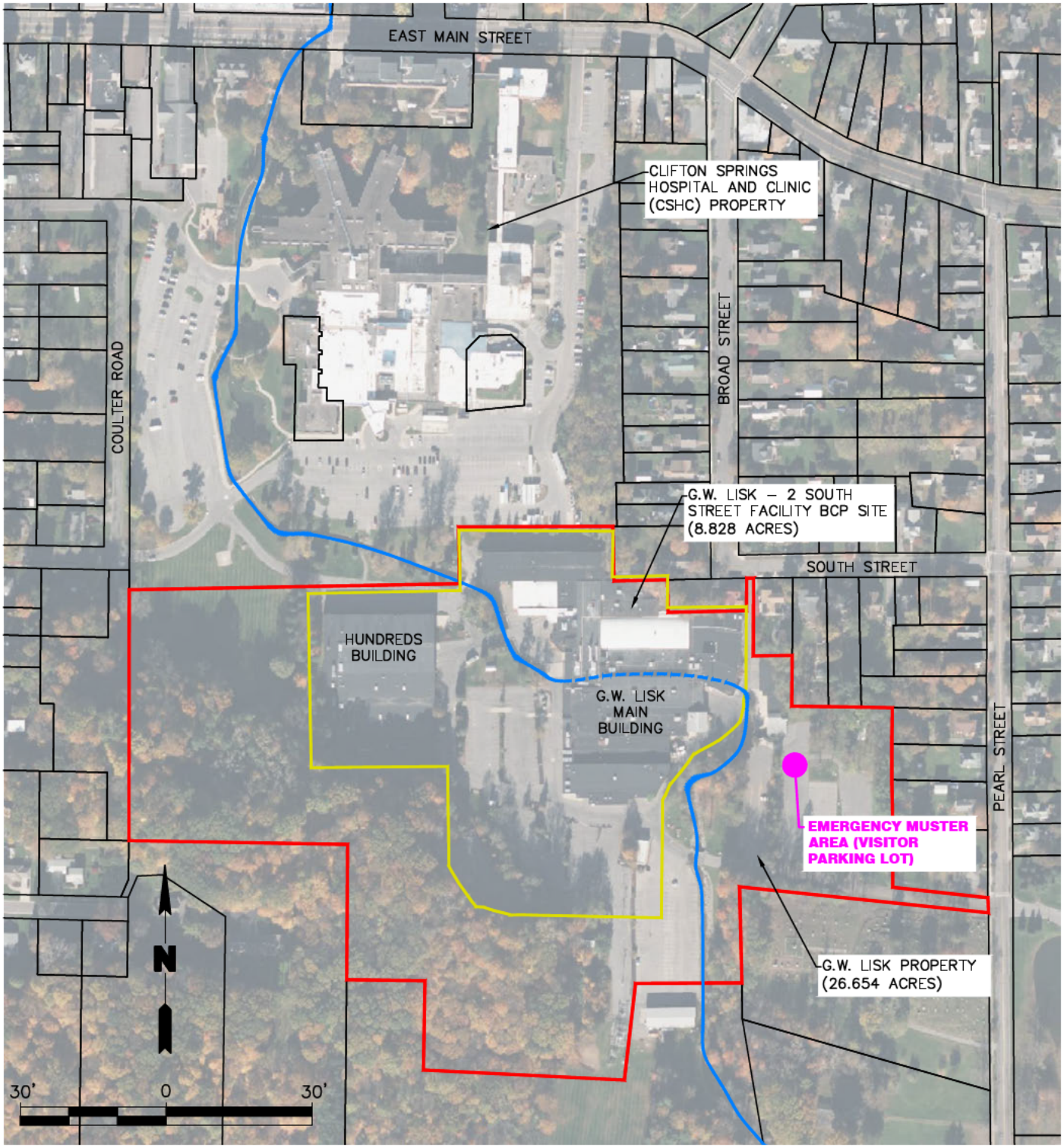
Prepared for:

G.W. LISK COMPANY, INC.

ROUX

Compiled by:	Date: JANUARY 2026	FIGURE 1
Prepared by: JJY	Scale: AS SHOWN	
Project Mgr: LER	Project: 4981.0001B002	
File: FIGURE 1; SITE LOCATION AND VICINITY MAP.DWG		

F:\CAD\0-ROUX\GW LISK\RAWP\HASP\FIGURE 1; SITE LOCATION AND VICINITY MAP.DWG CKANALEY



LEGEND

- BCP BOUNDARY
- G.W. LISK PROPERTY BOUNDARY
- PARCEL BOUNDARIES
- SULFUR CREEK (UNDERGROUND SECTION DASHED)

NOTES

1. IMAGE SOURCE MICROSOFT CORPORATION SATELLITE IMAGERY 2025.
2. BCP BOUNDARY AND PATH OF SULFUR CREEK TAKEN FROM ERM REMEDIAL INVESTIGATION REPORT FIGURE 2: SITE TOPOGRAPHY AND FACILITY LAYOUT.

Title:

SITE PLAN WITH EMERGENCY MUSTER AREA

HEALTH AND SAFETY PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:

G.W. LISK COMPANY, INC.

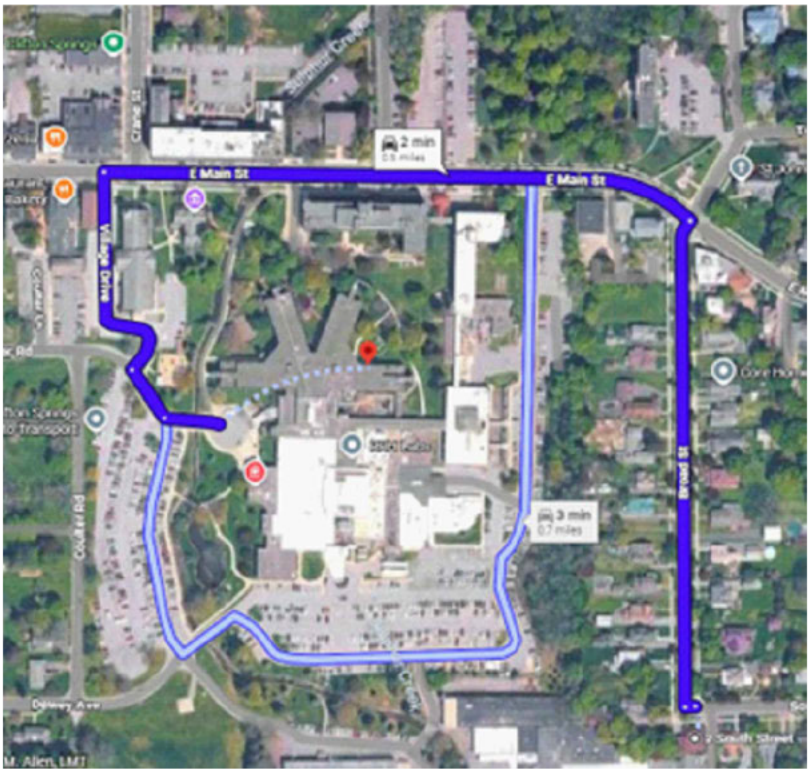
ROUX

Compiled by: CNK	Date: JANUARY 2026	FIGURE
Prepared by: CNK	Scale: AS SHOWN	2
Project Mgr: CMC	Project: 4981.0001B002	
File: FIGURE 2; SITE PLAN WITH EMERGENCY MUSTER AREA.DWG		

F:\CAD\G-ROUX\GW LISK\RAW\HASP\FIGURE 2; SITE PLAN WITH EMERGENCY MUSTER AREA.DWG

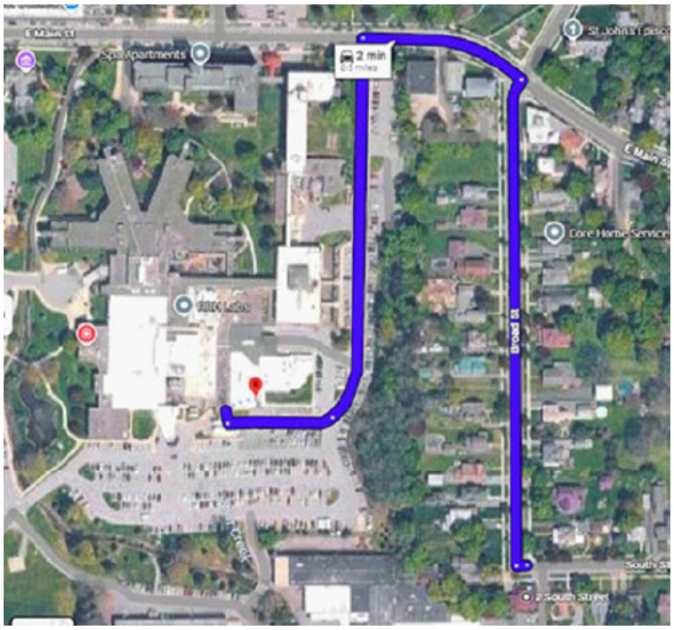
ROUTE TO CLIFTON SPRINGS HOSPITAL AND CLINIC:

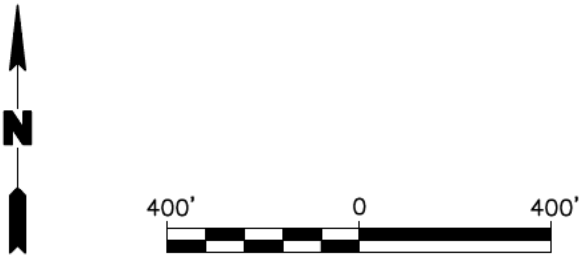
1. HEAD NORTH ON BROAD STREET
2. TURN LEFT ONTO EAST MAIN STREET
3. TURN LEFT ONTO VILLAGE DRIVE
4. TURN LEFT INTO HOSPITAL PARKING LOT



ROUTE TO RRH ROB AND PAMELA SANDS EMERGENCY DEPARTMENT:

1. HEAD NORTH ON BROAD STREET
2. TURN LEFT ONTO EAST MAIN STREET
3. TURN LEFT ONTO AMBULANCE DRIVE
4. TURN RIGHT TO STAY ON AMBULANCE DRIVE
5. TURN RIGHT INTO EMERGENCY ROOM DROP–OFF AREA





Title:

ROUTES TO URGENT CARE AND HOSPITAL

HEALTH AND SAFETY PLAN

G.W. LISK - 2 SOUTH STREET FACILITY (C835026)
VILLAGE OF CLIFTON SPRINGS, ONTARIO COUNTY, NEW YORK

Prepared for:

G.W. LISK COMPANY, INC.

ROUX	Compiled by: CNK	Date: JANUARY 2026	FIGURE 3
	Prepared by: CNK	Scale: AS SHOWN	
	Project Mgr: '	Project: 4981.0001B002	
	File: FIGURE 3; ROUTES TO URGENT CARE AND HOSPITAL.DWG		

F:\CAD\0-ROUX\GW LISK\RAWP\HASP\FIGURE 3; ROUTES TO URGENT CARE AND HOSPITAL.DWG CKANALEY

APPENDICES

APPENDIX A

Job Safety Analysis (JSA) Forms

JOB SAFETY ANALYSIS	Ctrl. No. GEN-003	DATE 05/22/2025	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
GENERIC	**Construction - Excavation**	**Backfilling, Excavation & Compaction**

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST	☐ GOGGLES	☐ AIR PURIFYING RESPIRATOR	☒ GLOVES: cut-resistant level 2
☒ HARD HAT	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	☐ OTHER
☐ LIFELINE / BODY HARNESS	☐ HEARING PROTECTION (as needed)	☒ PPE CLOTHING: ANSI-rated reflective vest	
☒ SAFETY GLASSES	☒ SAFETY TOE BOOTS		

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Payloader, Backhoe, Dump Trucks, Mechanical gas-powered tampers, Excavator with hydraulic tamper. APR when tamping if dust is present. Two-way radios.

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing LMRAs.

EXCLUSION ZONE (EZ): Maintain a Minimum Heavy Equipment Exclusion Zone (HEEZ) around equipment and loads while it is in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, the tip zone of the equipment, the fall zone of the equipment, and the contents

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Pre-construction meeting: Review proposed excavation locations	**1a. CONTACT:** Potential for contact with subsurface utilities and above-ground utilities	1a. Call 811 for mark-out service and a one-call ticket. 1a. Obtain private utility mark-out service, as necessary. 1a. Review and mark proposed excavations with white paint. 1a. Identify all "Critical" zones. A Critical zone is any area within 10 feet of any operating utility. 1a. Complete subsurface clearance checklist. 1a. Soft dig must be conducted within three lateral feet of any suspected underground utility. 1a. Protection of aboveground utilities identified within the work zone must be coordinated with the client and the utility owner.
2. Secure Work Area	**2a. CONTACT:** Potential for personnel to enter the work area. Potential for equipment to contact or crush personnel. **2b. EXERTION:** Potential for muscle strain or tear while installing traffic cones and barrels	2a. Ensure the work area is secure and inform others of work activity. Establish a HEEZ using traffic cones, barrels & snow fencing or telescoping poles. Use of flag persons to maintain clear traffic and to minimize motorist confusion during the set-up of the new traffic pattern. HEEZ is to include the tip/swing radius of the equipment. 2a. Dump Truck/Excavator/Payloader/Backhoe equipment to be set up by personnel who are familiar with the machinery Spotters shall be in place for all equipment. and to control access to the HEEZ 2a. Truck wheels are chocked when the driver is not in the truck and the engine is shut off. 2a. Personnel shall stay out of the exclusion zone (10' minimum or greater than the equipment boom) while equipment is maneuvering. 2b. Keep back straight, keep load close to the body, and bend knees while lifting and working. If over 40 lbs., use 2 or more laborers for lifting or the use of equipment.

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy Source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Backfilling the excavation and compaction	**3a. CONTACT:** Traffic and live equipment.	3a. Equipment and trucks shall be isolated from other workers, subcontractors, and third-party traffic with traffic cones, barricades, snow fencing or telescoping poles, and/or Jersey barriers. Spotters shall direct the dump truck for the placement of fill near the excavation. Pay loader/ Excavator, as directed by a spotter, shall move fill into the trench where it shall be placed in layers and compacted by mechanical means.
		3a. Spotters will wear fluorescent vests at all times.
		3a. Spotters will remain out of the exclusion zone, line-of-fire from equipment and third-party vehicles.
		3a. Spotters and operators will have radios for communication when other visual and/or hand signals are insufficient.
		3a. Locate all overhead utilities. All personnel and machinery should maintain a minimum 10-foot distance from overhead electric lines. Refer to the OSHA chart for distances and voltage.
		3a. For excavations engineered (shored, sloped, benched), all personnel, equipment, and materials must remain a minimum of 2 feet from the edge of the excavation.
	3b. EXPOSURE: Fumes from a gas-powered tamper	3b. Fueling of all equipment will be done outside of the work area in a well-ventilated area. Refueling will be done only after a 5-minute cool-down. Pads and wipes will be available to contain any potential drips from refueling.
	3c. FALL: Slips, trips, and fall hazards.	3c. The work area will be clean and free of any debris to remove slip, trip, and fall hazards. All tools will be kept in designated areas. Ensure the work area is well illuminated.
		3c. Workers' walking paths shall be maintained, and workers will watch their footing while entering and exiting excavation areas for uneven surfaces, loose materials, and debris.
		3c. All persons working at elevations over 6' shall maintain a 6-foot distance or use a guardrail system/ personal fall arrest system while within 6 feet of the edge of the excavation.
	3d. OVEREXERTION: Muscle strain or tear.	3d. Keep knees bent and back straight while transferring/ lifting/lowering the tamper from elevated areas. Utilize a co-worker to avoid straining muscles.
		3d. Keep knees bent and back straight while maneuvering the tamper. Utilize a co-worker to avoid straining muscles.
	3e. EXPOSURE: Noise from the tamper.	3e. Workers will wear hearing protection during compaction tamper activities.
	Dust inhalation.	3e. Wear a NIOSH-approved dust mask for personal comfort. If dust is visible for an extended time, limit by wetting down the area.
		3e. If dust continues, stop work and evaluate if an upgrade to APR is needed. Must have approval and medical clearance.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
4. Secure/leave site.	**4a. FALL:** Slip, trip, fall	4a. Clear work area of all debris and store all equipment in designated areas/containers before opening to traffic. 4a. Replace fencing and barricades as needed to secure the path before opening the roadway or area up to traffic(vehicle, pedestrian, and/or bicycle).

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

JOB SAFETY ANALYSIS	Ctrl. No. GEN-006	DATE 11/13/25	☐ NEW ☒ REVISED	PAGE 1 of 2
JSA TYPE CATEGORY: **Generic**	WORK TYPE: **Drilling**	WORK ACTIVITY (Description): **Direct Push Soil Borings / Well Installation**		

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION: (as needed) ☒ SAFETY SHOES: Composite-toe or steel-toe boots	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing, long-sleeved shirt	☒ GLOVES: Nitrile and cut-resistant ☒ OTHER: Insect Repellant, sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Geoprobe or Truck-Mounted Direct Push Drill Rig, Hand Tools, Photoionization Detector, Multi-Gas Meter (or equivalent), Macrocore liners, Liner Opening Tool, 20 lb. Type ABC Fire Extinguisher, 42" Cones & traffic control paddles, "Work Area" Signs, Water.

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing LMRAs

EXCLUSION ZONE (EZ): Maintain a Minimum Heavy Equipment Exclusion Zone around equipment and loads while in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, the tip zone of the equipment, the fall zone of the equipment, and the contents.

"SHOW ME YOUR HANDS"
The driller and helper should show that their hands are clear of controls and moving parts.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilization of drilling rig (ensure the Subsurface Clearance Protocol and Drill Rig Checklist are completed)	1a. **CONTACT:** Equipment/property damage.	1a. The drill rig's tower/derrick will be lowered and secured before mobilization. 1a. A spotter should be utilized while moving the drill rig. If personnel move into the path of the drill rig, the drill rig will be stopped until the path is again clear. Use a spotter for all required backing operations. 1a. Set up the work area and position equipment to eliminate or reduce the need for backing support trucks and trailers. 1a. When backing up the truck rig with an attached trailer, use a second spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver visibility.
Secure Work Zone		1a. Inspect the driving path for uneven terrain. Level or avoid if needed. 1a. Ensure the work area is secure and inform others of work activity. Establish a HEEZ using traffic cones, barrels & snow fencing or telescoping poles. Use flag persons to maintain clear traffic and minimize motorist confusion during set-up. HEEZ is to include the tip/swing radius of the equipment.
	1b. **FALL:** Slip/trip/fall hazards.	1b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions before mobilizing equipment. 1b. Do not climb over stored materials/equipment; walk around. Practice good housekeeping. 1b. Use established pathways and walk on stable, secure ground.
	1c. **CONTACT:** Crushing from a rollover.	1c Geoprobe should cross all hills/obstructions head-on with the mast down to reduce the risk of rollover.
2. Raising the tower/derrick of the drill rig	2a. **CONTACT:** Overhead hazards.	2a. Before raising the tower/derrick, the area above the drilling rig will be inspected for wires, tree limbs, piping, or other structures that could come in contact with the rig's tower and/or drilling rods or tools. 2a. Maintain a minimum safe distance of 10' from overhead lines, material, or structures.
	2b. **CONTACT:** Pinch Points/Amputation Points when raising the rig, and the instability of the rig	2b. Inspect the equipment before use and avoid pinch/amputation points. 2b. Lower outriggers to ensure stability before raising the rig tower/derrick. 2b. If the rig needs to be mounted, use three points of contact.
3. Advancement of drilling equipment and sound installation	3a. **CONTACT:** Flying debris	3a. Be aware of and avoid potential line-of-fire hazards and wear required PPE such as eye, ear, and hand protection.
	3b. **EXPOSURE:** Noise and dust.	3b. Wet borehole area with sprayer to minimize dust. 3b. Stand upwind and keep your body away from the rig. 3b. If conditions warrant, a disposable dust mask (e.g., N95/P100) should be worn. 3b. Wear hearing protection when the drill rig is in operation.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Advancement of drilling equipment and well installation (Continued)	**3c. FALL:** Slip/trip/fall hazards.	3c. Contain drill cuttings and drilling water to prevent fall hazards from developing in the work area. 3c. See 1b.
	3d. CAUGHT: Limb/extremity pinching; abrasion/crushing.	3d. Ensure all Emergency Safety Stop buttons function properly. 3d. Always wear leather gloves when making connections and using hand tools; wear cut-resistant (i.e., Kevlar) gloves when handling cutting tools. 3d. Inspect the equipment prior to use for potential pinch/amputation points. Keep hands away from pinch/amputation points, and the use of tools is preferable compared to fingers and hands. 3d. Inspect the drill head for worn surface or missing teeth; replace it if damaged or blunt. 3d. Ensure all jewelry is removed, loose clothing is secured, and PPE is correctly fitted and secured close to the body. 3d. All non-essential personnel should stay away from the immediate work area; position the body out of the line-of-fire of equipment. 3d. Drillers and helpers will understand and use the "Show Me Your Hands" Policy. 3d. Spinning rods/casing have an **exclusion zone of 24 inches** while in operation.
	3e. CONTACT: Equipment imbalance during the advancement of drill equipment.	3e. Drillers will advance the borehole with caution to avoid causing the rig to become imbalanced and/or tip. 3e. The blocking and leveling devices used to secure the rig will be inspected by drillers and Roux personnel regularly to see if shifting has occurred. 3e. In addition, personnel and equipment that are non-essential to the advancement of the borehole will be positioned away from the rig at a distance that is at least as far as the boom is high (**minimum exclusion zone**).
	3f. EXPOSURE: Inhalation of contamination/vapors.	3f. Monitor ambient air for dangerous conditions using a calibrated photoionization detector (PID) to monitor the breathing zone of the work area. 3f. If a reading of >5ppm is recorded, the Roux field personnel must temporarily cease work, instruct all Site personnel to step away from the area of elevated readings, and inform the Roux PM of the condition. The Roux PM will then recommend additional precautions in accordance with the site-specific health and safety plan. 3f. Use a multi-gas meter to monitor ambient air for dangerous conditions (i.e., unsafe levels of carbon monoxide when drilling indoors or the presence of explosive vapors).
	3g. EXERTION: Potential for muscle strain/injury while lifting and installing well casings, lifting sand bags, and/or lifting rods.	3g. Keep your back straight and bend at the knees. 3g. Utilize team lifting or mechanical means for objects over 40 lbs. 3g. Use a mechanical lifting device for odd-shaped objects.
4. Remove the sample liner.	**4a. EXERTION:** Potential for muscle strain/injury while removing the liner from the probe rod.	4a Utilize team lifting or mechanical means for objects over 40 lbs. 4a. Use the hydraulic liner extruder if available.
	4b. CONTACT: Pinch points and cuts	4b. Place the liner on the sturdy surface when opening. 4b. Don cut-resistant gloves and use an appropriate liner cutter when opening liners. 4b. Always cut away from the body.
	4c. EXPOSURE: Inhalation and/or dermal contact with contaminants.	4c. Wear chemical-resistant disposable gloves when handling liners. 4c. See 3f.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
5. Decontaminate equipment.	**5a. EXPOSURE/CONTACT**: To contamination (e.g., Separate Phase Hydrocarbons (SPH), contaminated groundwater, vapors).	5a. Wear chemical-resistant disposable gloves and safety glasses. 5a. Contain decontamination water so that it does not spill. 5a. Use an absorbent pad to clean spills, if necessary. 5a. Spray equipment from a side angle, not straight on, to avoid backsplash. 5a. See 3b and 3f.
	5b. EXPOSURE: The chemicals in the cleaning solution.	5b. See 4a. Review the SDS to ensure appropriate precautions are taken and understood.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-007	DATE 05/22/2025	☐ NEW ☒ REVISED	PAGE 1 of 2
JSA TYPE CATEGORY **GENERIC**	WORK TYPE **General Site Activity**	WORK ACTIVITY (Description) **Driving**		

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☐ HARD HAT: when outside vehicle ☐ LIFELINE / BODY HARNESS ☐ SAFETY GLASSES: when outside vehicle	☐ GOGGLES ☐ FACE SHIELD ☐ HEARING PROTECTION ☐ SAFETY TOE BOOTS: when outside vehicle	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☐ PPE CLOTHING: high visibility vest when outside vehicle	☐ GLOVES: Leather/ cut-resistant level 2 ☐ OTHER _____

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Motor Vehicle (i.e., car, truck, SUV)

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing LMRAs

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Driving to/leaving the Site	**1a. CONTACT:** Severe injury/disability, property damage, monetary loss (insurance premiums, deductibles, loss of license/job) caused by collision with or struck by other vehicles, obstructions, pedestrians, animals, etc. *Common factors that may lead to a CONTACT incident, but not limited to: • distracted driving (cell phone, GPS, radio, billboards, "rubbernecking") • lack of situational awareness • unfamiliarity with traffic patterns/road layout • weather conditions (wet/icy roads, hydroplaning, black ice) • weariness • high speeds • obstructed vision (solar glare, debris on windshield, blind spots, large vehicle at the front) • changes in travel pathway (construction, snow banks, non-operational signals, potholes, detours, special events) • improper vehicle maintenance (non-operational signal light, worn tires, cracked windshield, ineffective wipers) • loose or unsecure objects	1a. PLAN AHEAD – review/make yourself familiar with maps and driving directions before beginning the drive to the Site. Do not attempt to drive and review maps/directions at the same time. Pull over and stop your vehicle before looking at maps/directions. 1a. If a Roux vehicle or a Roux-rented vehicle, complete a vehicle inspection form. If a personal vehicle, complete a basic 360 vehicle inspection before driving. Verify Inspection and Registration are current, tires and wipers are in good condition, all lights are functional, all glass/mirrors are undamaged, the horn is functional, roof/hood/trunk are free from accumulated snow, and visibility is not impaired due to snow/ice/frost/fog on windows. 1a. Do not hang items in the car that can obstruct your view or become projectiles in a collision. 1a. Do not get distracted using touch screen radios or GPS units built into newer models. Keep your eyes on the road and stay alert. 1a. Follow posted speed limits and obey traffic signals and roadway signs. 1a. Always wear your seat belt and shoulder harness when driving. 1a. When driving around large vehicles and trucks, maintain extra space as these vehicles may not be able to see a smaller car too close. 1a. Follow the "Rules of the Road," including: using your turn signals, coming to a complete stop, and allowing vehicles the right of way (yield) when required by traffic laws. 1a. Apply the Smith Five Keys® of safe driving • Aim High in Steering® - Expand eye lead time to a minimum of 15 seconds • Get the Big Picture® - Maintain a proper 4-second minimum following distance at all times - Scan mirrors every 5-8 seconds to achieve a circle of awareness - Position your vehicle so you can see relevant/non-relevant objects • Keep Your Eyes Moving® - Try to maintain about 180 degrees of visibility - Avoid blank and fixed stares. Avoid focusing on one object for more than 2 seconds • Leave Yourself an Out® - Avoid traveling in traffic clusters - Surround yourself with space - Anticipate the actions of others

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Driving to/leaving Site (cont'd)	**1a. CONTACT:** Severe injury/disability, property damage, monetary loss (insurance premiums, deductibles, loss of license/job) caused by collision with or struck by other vehicles, obstructions, pedestrians, animals, etc.	• Make Sure They See You® - Maintain eye contact with oncoming vehicles/pedestrians - Use warning devices (e.g., hand signals, high-lights, horns, etc.) - Proper timing is essential 1a. Do not perform reconnaissance or inspections while driving. Your vehicle should be parked in a safe location when viewing or surveying the Site and vicinity 1a. Avoid sudden turns and stops. Do not drive recklessly – be in control of the vehicle at all times. 1a. In inclement weather, first determine if work can be POSTPONED. Otherwise, plan according to weather conditions, including checking the forecast along the entirety of the travel route (especially for long distances). Reduce speed as road conditions warrant. Travelling with winter car equipment in the winter is strongly recommended (i.e., shovel, scraper, brush, blanket, extra clothing, flashlight, bag of sand). If your vehicle has 4-wheel drive, review the operator's manual and understand the operating procedure prior to engaging 4-wheel drive. If at any point on your drive, the weather becomes too severe to proceed safely, pull over if safe to do so or seek nearest cover (e.g., overpass) 1a. If feeling drowsy or sleepy, do not drive. Pull over in a safe place to rest if you experience any signs of drowsiness. Make sure to get adequate sleep the night before an early drive. 1a. Never operate a vehicle under the influence of alcohol, illegal substances, or medications affecting your performance. 1a. Keep your eyes on the road. Do not call, text, or talk on cellular phones. Pull over to a safe location if you must answer or make a call. 1a. When parking, pull through when possible. If backing is required, visually inspect the area to ensure it is free from obstructions prior to backing in and relying solely on mirrors; use spotters when available.
2. Entering/Exiting Vehicle.	**2a. CAUGHT:** Personal injury (broken fingers/hand) while entering or exiting vehicles **2b. FALL:** Personal injury (twisted ankle, deep contusion, concussion, broken wrist/arm, etc.) from a slip/fall on an uneven, unstable, or slippery surface while exiting/entering the vehicle **2c. CONTACT:** Severe injury/disability, property damage, monetary loss (insurance premiums, deductibles, loss of license/job) caused by collision with or struck by other vehicles, obstructions, pedestrians, animals, etc.	2a. Open and close doors slowly. Never put hands or feet in between the door and the vehicle to avoid pinch points. 2b. When exiting the vehicle, make sure your feet are on firm footing and weight is evenly distributed before exiting/standing. In inclement weather, use your hands to support yourself by holding the car door and/or steering wheel when exiting the vehicle. 2c. Check both directions for traffic before opening the door. Do not exit the vehicle if traffic does not permit you to exit safely 2c. Check the anticipated path of the door prior to opening. Do not open the door into any obstructions (e.g., bollards, high curbs)

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-011	DATE: 05/28/2025	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
Generic	**Construction - Excavation**	**Excavation / Trenching**

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST	☐ GOGGLES	☐ AIR PURIFYING RESPIRATOR	☒ GLOVES: cut resistant level II
☒ HARD HAT	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	☐ OTHER
☒ LONG SLEEVED SHIRT	HEARING PROTECTION (as needed)	☒ PPE CLOTHING: Fluorescent reflective vest or high visibility long sleeved clothing	
☐ LIFELINE / BODY HARNESS	☒ SAFETY SHOES: Steel-toe boots		
☒ SAFETY GLASSES			

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Jackhammer, Excavator, Backhoe, Hand Tools, Photoionization Detector, barrels, 42" traffic cones, snow fencing, telescoping poles, temporary chain link fence, ladders, shovels, digging bars, power tools (cut-off saw), Two-way radios, Sheeting, Trench box, Retractable lanyard, Harness

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing LMRAs

EXCLUSION ZONE (EZ): Maintain Minimum Heavy Equipment Exclusion Zone around equipment and loads while it is in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, tip zone of the equipment, fall zone of the equipment and contents, distance that debris may travel during demolition activities and/or footprint of a structure to be demolished.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Pre-Clearance Protocol.	**1a. CONTACT:** Damage to underground utility.	1a. Confirm that (if applicable) "Call Before You Dig" and local utility companies were contacted prior to trenching in order to confirm utility mark outs. Must have a case # before digging.
	1b. ENERGY SOURCE/CONTACT: Property damage; Pressurized water mains may cause lacerations or broken bones. Pressurized gas mains may explode, causing serious injury or death. Underground electric may cause severe burns, shock, or death.	**1b. Complete subsurface clearance checklist.** 1b. For excavations, all utilities need to be marked and then exposed by hand, following the protocols in this program. Pre-clearing for excavations may be performed by the "moat" technique (i.e., soft digging around the perimeter). In these cases, dig in small lifts (<12" for the first five feet) using a dedicated spotter.) For Tolerance Zone work, unless otherwise agreed upon with the Utility Operator, work within the tolerance zone requires verification by means of hand-dug test holes to expose the utility. Once structures have been verified, a minimum clearance of three feet must be maintained between the utility and any powered equipment.
	1c. FALL: Slip, Trip or Fall may cause muscle strains or tears, abrasions, lacerations, or broken bones.	1c. Be aware of the conditions when walking or loading equipment and working. Walk within an established pathway, avoiding uneven surfaces. Remove potential slip/trip/fall hazards.
2. Set up work zone.	**2a. CONTACT/CAUGHT:** Cuts/lacerations from equipment. Broken bones from contact by vehicle/equipment.	2a. Isolate work area from hazards with cones, barricades, snow fencing, telescoping poles, or a temporary chain link fence. Utilize a flag person when necessary (i.e., third-party traffic in the area). Install traffic signs in roadways and for detours. Spotters will maintain and enforce the exclusion zone.
	2b. FALL: Slip, Trip or Fall may cause muscle strains or tears, abrasions, lacerations, or broken bones.	2b. See 1c.

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[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards, energy source; Energy Source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Trenching Activity.	**3a. CONTACT:** Serious injury, including broken bones, muscle strains or tears, and possibly death, due to contact with the machine.	3a. Spotter(s) required for all heavy equipment operation. No worker shall be allowed inside the exclusion zone or along the trench/excavation area while any equipment is in operation. A minimum exclusion zone greater than the length of the equipment boom must be established. Workers are only allowed in the exclusion zone if the operator is in "Hands Off "mode. The operator will not operate the equipment until the worker is out of the exclusion zone. Spotters and operators will have radios for communication when either loses sight of one another, and/or in case of emergency.
	3b. FALL: Slip, Trip or Fall may cause muscle strains or tears, abrasions, lacerations, or broken bones	3b. Any trench/excavation deeper than 3' must have a ladder within 25' of any worker in the excavation. At least 3'(rungs) of the ladder shall be above the top of the excavation. All equipment, tools, material, and spoil piles shall be maintained 2' minimum from the edge of the excavation. 3b. Any trench/excavation deeper than 6' must have fall protection, a retractable lanyard for ladder use, and a 42" high guardrail system along the edge of the trench/excavation.
	3c. EXPOSURE: Noise, Dust, concrete-asphalt, and petroleum hydrocarbon vapors may cause damage to the ears and lungs	3c. Air monitoring using a calibrated photoionization detector (PID) will be used to monitor the breathing zone of the work area. If a reading of >5ppm is recorded, the oversight personnel must temporarily cease work and instruct all Site personnel to step away from the area of elevated readings.
4. Setting Trench protections if necessary.	**4a. CAUGHT:** Injury due to contact with a failed trench may include muscle strains or tears, abrasions or lacerations, broken bones, and possibly death.	4a. To prevent cave-ins and avoid being caught/between, excavations over 5' in depth, unless working in stable rock, shall have engineer-approved shoring, sheeting, or trench box. The top of protection shall be at least 18" above the top of the excavation.
	4b. CONTACT/CAUGHT: Injury due to rigging activities and entering the exclusion zone during lifting and/or transport of shoring/trench box/material may include muscle strains or tears, abrasions or lacerations, broken bones, and possibly death. Pinch/ Amputation points.	4b. Use only inspected rigging with 2, 3, or 4 lift points; wear cut-resistant gloves. Rigging to be hooked up to factory-installed hookup points on equipment. Control load with non-conductive tag lines with workers out of the exclusion zone. Do not stand underneath a suspended load; wear steel-toed boots and a hard hat. Keep hands and extremities out of pinch/amputation points/ line of fire areas.
	4c. FALL: Possible injuries due to a fall into an excavation may include muscle strains or tears, abrasions or lacerations, or broken bones. Impact/ impalement hazard	4c. Shoring to be set and sides will be backfilled to avoid fall hazards before workers are allowed to enter area. The operator will be in "HANDS OFF" mode before workers enter the work area to unhook the rigging. An inspected ladder extending 3' above the top of the shoring will be used to enter and exit the excavation. Workers will use three points of contact when using the ladder. Cover/ cap vertical impalement hazards.
5. Secure/Leave Site. If backfilling, see excavation backfilling and compaction JSA for potential hazards and critical actions.	**5a. FALL:** Potential Slip, Trip or Fall - may cause muscle strains, tears, abrasions or lacerations, or broken bones.	5a. See 1c. 5a. All open excavations must be backfilled or secured prior to departure with steel plates, orange construction fence, or temporary chain link fencing.

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JOB SAFETY ANALYSIS Ctrl. No. GEN-013	DATE 05/28/2025	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE:	WORK ACTIVITY (Description):
Generic	**Gauging and Sampling**	**Gauging and Sampling**

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☒ LIFE VEST	☐ GOGGLES	☐ AIR PURIFYING RESPIRATOR	☒ GLOVES: , Nitrile and cut-resistant level II
☒ HARD HAT	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	
☐ LIFELINE / BODY HARNESS	☐ HEARING PROTECTION	☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ OTHER: Knee pads, Insect Repellant, sunscreen (as needed)
☒ SAFETY GLASSES	☒ SAFETY SHOES: Composite-toed or steel-toed boots		

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Traffic Safety Cones, Caution Tape, Interface Probe with Ground Clamp, and/or Water Level Meter, 20-lb. type ABC Fire Extinguisher, Buckets. Tools as needed: Socket Wrench, Screw Driver, Crow Bar, Mallet, and Wire Brush.

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing LMRAs

Assess [1] JOB STEPS	Analyze [2] POTENTIAL HAZARDS	Act [3] CRITICAL ACTIONS
1. Mobilization to monitoring well(s).	**1a. FALL:** Personal injury from slip/trip/fall due to uneven terrain and/or obstructions.	1a. Inspect the pathway and plan for the most suitable designated pathway prior to mobilization. 1a. Use established pathways, walk and/or drive on stable, secure ground, and avoid steep hills or uneven terrain. 1a. If working near open water with an unguarded edge, wear a personal flotation device (PFD).
	1b. CONTACT: With traffic/third parties.	1b. Identify potential traffic sources and delineate the work area with traffic safety cones. Position the vehicle to protect against oncoming traffic. Use caution tape to provide a more visible delineation of the work area if necessary. 1b. Wear appropriate PPE, including high visibility clothing and reflective vest, when exposed to traffic 1b. Face traffic, maintain eye contact with oncoming vehicles, and establish a safe exit route.
	1c. EXERTION: Muscle strain from lifting equipment	1c. Use proper lifting techniques when handling/moving equipment; bend knees and keep back straight. 1c. Use mechanical assistance or team lifting techniques when equipment is 40 lbs. or heavier. 1c. Make multiple trips to carry equipment.
	1d. EXPOSURE: To biological hazards.	1d. Inspect work area for bees and insects. 1d. Use insect/tick repellent, as necessary. 1d. Treat clothing with permethrin prior to mobilization. 1d. Don Tyvek/mosquito nets, as applicable.
2. Open/close well.	**2a. EXERTION:** Muscle strain.	2a. Use proper lifting techniques; keep back straight, lift with legs, and bend knees when reaching to open/close the well.
	2b. CAUGHT: Pinch/crush points associated with removing/replacing manholes and working with hand tools.	2b. Wear cut-resistant level II gloves when working with well cover and hand tools. 2b. Use proper tools (ratchet and pry bar or magnet for well cover) and inspect before use. 2b. Do not put fingers under the well cover.
	2c. CAUGHT: Pinch points associated with placing the J-plug back onto the PVC pipe.	2c. See 2b. 2c. Keep fingers out of line-of-fire when securing cap.
	2d. EXPOSURE: To potential hazardous vapors.	2d. No open flames/heat sources. 2d. To minimize exposure to vapors, allow the well to vent after opening it and before sampling activities begin. 2d. Stand upwind if possible, to avoid inhaling vapors. 2d. Monitor atmosphere with multi-gas meter/PID.
3. Gauge well.	**3a. CONTACT:** With contamination (e.g., contaminated groundwater).	3a. Wear chemical-resistant disposable gloves (over cut-resistant gloves) and safety glasses when gauging well. 3a. Insert and remove the probe slowly to avoid splashing. 3a. Use an absorbent pad to clean probe.
	3b. CONTACT: With traffic.	3b. See 1b.
	3c. Exposure: To static electricity, fire, or explosion.	3c. Ground interface probe to a designated grounding point/rod, well casing, or electrically conductive surface to dissipate static electricity.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
4. Purge and sample well	**4a. EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors) and/or sample preservatives.	4a. Open and fill sample jars slowly to avoid splashing and contact with preservatives. 4a. Wear cut-resistant gloves and chemical-resistant disposable gloves when sampling. 4a. Fill sample containers over the purge container to avoid spilling water onto the ground. 4a. Use an absorbent pad to clean spills. 4a. When using a bailer to purge a well, pull the bailer slowly from the well to avoid splash hazards. 4a. When sampling or purging the water using a bailer, pour water slowly to reduce the potential for splash hazards with groundwater. 4a. When using a tubing valve, always remove the valve slowly after sample collection to release any pressure and avoid pressurized splash hazards. 4a. When collecting a groundwater sample, always point the sampling apparatus (tubing, bailer, etc.) away from the face and body.
	4b. CONTACT: Personal injury from cuts, abrasions, or punctures by glassware or sharp objects.	4b. To avoid spills or breakage, place sampleware on an even surface. 4b. Do not over-tighten caps on glass sampleware. 4b. Wear chemical-resistant nitrile disposable gloves over cut-resistant (i.e., Kevlar) gloves when sampling and handling glassware (i.e., VOA vials) or when using approved cutting tools.
	4c. EXERTION: Muscle strain while carrying equipment.	4c. Use proper lifting techniques when handling/moving equipment, bend knees, and keep back straight. 4c. Use mechanical assistance or team lifting techniques when equipment is 40 lbs. or heavier. 4c. Make multiple trips to carry equipment.
	4d. CONTACT: With traffic.	4d. See 1b.
	4e. CONTACT: Pinch points with groundwater pump components (i.e., wheel, line, clamps).	4e. Wear cut-resistant gloves when working with groundwater pumps. 4e. Never place hands on or near pinch points such as the wheel, clamps, or other moving parts during pump operations. 4e. Use the correct mechanisms, such as a pump reel, to lower the pump into the well. 4e. Never attempt to manually stop any moving part of equipment, including hose reels and/or tubing.
	4f. EXERTION: Muscle strain from repetitive motion of bailing and sampling a well.	4f. See 4c. 4f. Include a stretch break when repetitive motions are part of the task.
5. Management of purge water.	**5a. EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors).	5a. Do not overfill the container, and pour liquids slowly so that they do not splash. 5a. Properly dispose of used materials/PPE in an appropriate container in the designated storage area.
	5b. EXERTION: Muscle strain from lifting/carrying, and moving containers.	5b. Use proper lifting techniques when lifting/carrying or moving container(s) (see 4c.). 5b. Do not overfill container(s).
6. Decontaminate equipment.	**6a. EXPOSURE/CONTACT:** To contamination (e.g., SPH, contaminated groundwater, vapors).	6a. Work on the upwind side, where possible, of the decon area. 6a. Wear chemical-resistant disposable gloves and safety glasses. 6a. Use an absorbent pad to clean spills.
	6b. CAUGHT: Pinch points associated with handling hand tools	6b. See 2b. 6b. Inspect hand tools for sharp edges before decontaminating.

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-015	DATE: 05/28/2025	☐NEW ☒REVISED	PAGE 1 of 2
JSA TYPE CATEGORY **GENERIC**	WORK TYPE **Site Recon**	WORK ACTIVITY (Description) **Mobilization/Demobilization**		

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☐ GOGGLES ☐ FACE SHIELD ☒ HEARING PROTECTION (as needed) ☒ SAFETY SHOES: Steel Toe or composite toe	☐ AIR PURIFYING RESPIRATOR ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest of high-visibility clothing; long-sleeved shirt; long pants	☒ GLOVES: Cut-resistant Level II, nitrile ☐ OTHER

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Required Equipment: Varies

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing LRAs

EXCLUSION ZONE (EZ): Maintain a Minimum Heavy Equipment Exclusion Zone around equipment and loads while in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, the tip zone of the equipment, the fall zone of the equipment, and the contents.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Mobilize/demobilize and establish a work area	1a. **FALL:** Slip/trips/falls from obstructions, uneven terrain, weather conditions, heavy loads, and/or poor housekeeping.	1a. Use 3 points-of-contact/ensure secure footing when entering and exiting the vehicle. 1a. Inspect walking path for uneven terrain, steep hills, obstructions, and/or weather-related hazards (i.e., ice, snow, and puddles) prior to mobilizing equipment. Use established pathways. Walk on stable/secure ground. 1a. Do not climb over stored materials/equipment; walk around. Practice good housekeeping; organize and store equipment neatly in one area at its lowest potential energy. 1a. Wear boots with adequate treads. 1a. Delineate unsafe areas with traffic safety cones, caution tape, and/or flagging.
	1b. **CONTACT:** Personal injury and/or property damage caused by being struck by Site traffic or equipment used in Site activities.	1b. Observe and maintain the posted speed limits. 1b. When first arriving onsite, park vehicles in designated parking spaces and/or out of the way locations. Use parking brake on all vehicles and tire chocks on work trucks and trailers. 1b. Check in with Site Manager/Supervisor to ensure coordination with other Site activities and to discuss any special hazards. Ensure that short-service employees (SSE) are identified. 1b. Identify potential traffic sources. 1b. Wear PPE, including high visibility clothing or reflective vest, when around vehicles or operating equipment 1b. Use a spotter while moving work vehicles; plan to avoid backing whenever possible. 1b. Maintain a minimum exclusion zone when vehicles are in motion (i.e., greater than the swing/tip radius of the equipment). When backing up the truck rig with an attached trailer, use a second spotter if there is tight clearance simultaneously on multiple sides of the equipment or if turning angles limit driver-to-spotter visibility. 1b. Delineate work area with traffic cones, flags, caution tape, and/or other barriers. 1b. Position "Work Area" signs at Site entrances, if possible, or at either side of the work area. 1b. Position the largest vehicle to protect against oncoming traffic. 1b. Face traffic, maintain eye contact with oncoming vehicles, use a spotter, and establish a safe exit route.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
		1b. Observe potential overhead and ground surface features that may interfere with moving equipment. Clear the path of physical hazards prior to initiating mobilization.
	1c. CAUGHT: Personal injury from pinch points and being in the line of fire of the vehicle and/or equipment.	1c. Make sure the driver has engaged the parking brake and placed wheel chocks in a position to prevent movement. Be sure that the vehicle is parked in front/down gradient (positioned to block oncoming traffic) of the work area. 1c. Wear cut-resistant gloves (Kevlar or similar) when handling objects/tools or equipment, 1c. Keep body parts away from line-of-fire of equipment. 1c. Always carry tools by the handles and/or designated carrier. Ensure sharp-edged tools are sheathed/secure. 1c. Remove any loose jewelry. Avoid wearing loose clothing and/or ensure loose clothing is secure. 1c. Secure all items on the equipment, tighten up any items or features that have the potential to shift or break during mobilization.
	1d. OVEREXERTION: Muscle strains while lifting/carrying equipment.	1d. Use body positioning and lifting techniques that avoid muscle strain; keep back straight, lift with legs, turn with whole body, keep load close to body, and never reach with a load. 1d. Ensure that loads are balanced. Use assistance (mechanical or additional person) to carry equipment that is either unwieldy or over 50 lbs.
	1e. EXPOSURE: Personal injury from exposure to biological and environmental hazards.	1e. Inspect the area to avoid contact with biological hazards (i.e., poisonous plants, stinging insects, ticks, etc.). 1e. Wear long-sleeved clothes that can be treated with Permethrin, apply insect repellent (may contain DEET) to exposed skin, and inspect clothes and skin for ticks during and after work. 1e. Apply sunscreen (SPF 15+) if exposure to the sun for 30 minutes or more is expected.
	1f. EXPOSURE: Weather-related injuries.	1f. Watch for heat stress symptoms (muscle cramping, exhaustion, dizziness, nausea, rapid and shallow breathing). Take breaks in cool places and hydrate as needed. 1f. Watch for cold stress symptoms (severe shivering, slowing body movement, weakness, stumbling or inability to walk, collapse). Take breaks in warm areas as needed. 1f. Wear clothing appropriate for weather and temperature conditions (e.g., rain jackets, snow pants, multiple layers). 1f. If lightning is observed, wait 30 minutes in a sheltered location (car is acceptable) before resuming work.
	1g. EXPOSURE: Personal injury from noise hazards.	1g. Wear hearing protection if sound levels exceed 85 dBA (if you must raise your voice for normal conversation).

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JOB SAFETY ANALYSIS	Ctrl. No. GEN-029	DATE: 05/29/2025	☐ NEW ☒ REVISED	PAGE 1 of 2

JSA TYPE CATEGORY	WORK TYPE	WORK ACTIVITY (Description)
GENERIC	**Preclearing/Sampling**	**Hand Augering**

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST	☐ GOGGLES	☐ AIR PURIFYING RESPIRATOR	☒ GLOVES: Cut Resistant level II / Nitrile / Chemical resistant
☒ HARD HAT	☐ FACE SHIELD	☐ SUPPLIED RESPIRATOR	☐ OTHER
☐ LIFELINE / BODY HARNESS	☐ HEARING PROTECTION	☒ PPE CLOTHING: Long-sleeved high-visibility clothing	
SAFETY GLASSES	☒ SAFETY SHOES: Steel or composite-toed boots		

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Hand Auger Tools (buckets, rods), 5-gallon buckets, hand tools (hammer, etc.)

COMMITMENT TO SAFETY- All personnel onsite will actively participate in hazard recognition and mitigation throughout the day by verbalizing LMRAs.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Drive/walk to hand clearing/hand augering location	1a. **CONTACT:** Property damage and personal injury caused by obstructions/vehicles	1a. Maintain speed limit on-site. 1a. All equipment must be stowed and secured prior to moving. 1a. Drive on established roadways. 1a. Do not back up the vehicle without a spotter where visibility is limited; use pull-through spots or back into parking spots; use an audible signal (horn/back-up alarm) when backing up vehicles.
	1b. **FALL:** Personal injury from tripping/falling due to uneven terrain, weather conditions, and materials/equipment stored at portions of the Site	1b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment. 1b. Do not climb over stored materials/equipment; walk around. Use established pathways and walk on stable, secure ground. 1b. Use the established ramp when descending into/ascending from impoundment areas. 1b. Keep tools and equipment in a designated area. When not in use, tools and equipment must be returned to their proper storage location. Keep the work area clear of obstructions.
	1c. **EXERTION:** Muscle strain/exhaustion while carrying equipment (i.e., hand auger, post-hole digger, shovel, pry bar)	1c. When carrying equipment to/from the work area, use proper lifting techniques; keep back straight, lift with legs, keep the load close to the body, never reach with a load. Ensure that loads are balanced to reduce the potential for muscle strain. Use mechanical assistance or make multiple trips to carry equipment.
	1d. **EXPOSURE:** Exposure to the sun, possibly causing sunburn. Biological hazards - bees/wasps, poison oak, thorns, insects, etc.	1d. Wear sunscreen with an SPF of at least 15 whenever 30 minutes or more of exposure is expected. 1d. Inspect the area to avoid contact with biological hazards. 1d. Wear cut-resistant gloves when handling material, debris, branches, shrubs, etc. that may lie within the walking path. 1d. Avoid any areas on-site that have poison oak.
Assess [1]JOB STEPS	**Analyze [2]POTENTIAL HAZARDS**	**Act [3]CRITICAL ACTIONS**
2. Secure location	2a. **CONTACT:** Personnel and vehicular traffic may enter the work area.	2a. Delineate the work area with traffic cones and/or caution tape to prevent exposure to traffic and inform others of work activity. 2a. Wear a reflective vest and/or fluorescent clothing. 2a. Face the direction of vehicular traffic. Position the vehicle to protect the worker from traffic. 2a. Communicate work activity with adjacent work areas.
	2b. **FALL:** Tripping/falling due to uneven terrain, and materials /equipment stored within the work area	2b. Inspect walking path for uneven terrain, weather-related hazards (i.e., ice, puddles, snow, etc.), and obstructions prior to mobilizing equipment to the impoundments. 2b. Equipment and tools will be staged in a convenient, stable, and orderly manner. 2b. Equipment and tools will be stored at the lowest point of potential energy and out of the walkway and immediate work area (i.e., tools should not be propped against walls or nearby equipment or vehicles). 2b. Equipment and tools that are not anticipated to be used will be returned to an appropriate storage area that is out of the immediate work area.

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Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
3. Verify pre-clearance protocol; review completed Subsurface Utility Checklist and utility verification site walkthrough.	**3a. ENERGY SOURCE:** Underground utility damage; property damage; personal injury	3a. Confirm that "Call Before You Dig"/811 and local utility companies were contacted prior to hand augering. 3a. Walk the Site to evaluate utility markings and review maps.
4. Augering/advancing borehole	**4a. EXPOSURE:** Contaminated soil/water/vapor	4a. Monitor the breathing zone with a PID when VOCs are a concern. If vapors exceed site-specific action levels, upgrade PPE as per the HASP. 4a. Wear chemical-resistant disposable gloves and safety glasses when handling impacted materials. 4a. Place excavated soil on plastic sheeting and store soil waste in a designated area. 4a. Work on the upwind side of the boring.
	4b. EXERTION: Muscle strain from lifting, bending, repetitive motion.	4b. Body positioning and rotating with the auger to reduce strain. Do not twist back.
	4c. CAUGHT: Personal injury as a result of jewelry/loose clothing caught on equipment, well covers, machinery, hand auger, pry bar, etc.	4c. No form of jewelry should be worn while on-site. 4c. Clothing must be appropriately sized so that it is not loose-fitting.
	4d. CONTACT/CAUGHT: Pinch points, abrasions	4d. Keep head and upper body clear when lifting hand auger, pry bar/post-hole digger. Ensure not to be overly aggressive when using the pry bar. 4d. Ensure all jewelry is removed, loose clothing is secured, and PPE is secured close to the body.
5. Lithologic observation and soil sampling	**5a. EXPOSURE:** Contact with contamination (impacted soil and/or lab preservatives)	5a. Wear chemical-resistant disposable gloves to protect hands when handling samples; wear safety glasses when on site and/or goggles when handling any preservatives; use containment material or plastic sheeting to protect surrounding areas. 5a. When collecting a soil sample from a hand auger, put a large zip lock bag over the entire auger to prevent the spillage of soil onto the ground. 5a. Open sample jars slowly and fill them carefully to avoid contact with preservatives.
6. Decontaminate equipment	**6a. EXPOSURE:** Contact with contamination (impacted soil and/or lab preservatives, decontamination solution)	6a. Wear chemical-resistant disposable gloves and safety glasses. 6a. Use an absorbent pad to clean spills. 6a. Properly dispose of used materials/PPE trash bags. 6a. Refer to the SDS for the decontamination solution for proper handling.
	6b. CONTACT/CAUGHT: pinch points and cuts/abrasions	6b. Keep fingers/hands out of pinch points when disassembling the hand auger during decontamination.

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
[2] A hazard is a potential danger. Break hazards into six types: Contact - victim is struck by or strikes an object; Caught - victim is caught on, caught in or caught between objects; Fall - victim falls to ground or lower level (includes slips and trips); Exertion - excessive strain or stress / ergonomics / lifting techniques; Exposure - inhalation/skin hazards; Energy Source – electricity, pressure, compression/tension.
[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

JOB SAFETY ANALYSIS	Ctrl. No. GEN-030	DATE 05/30/2025	☐ NEW ☒ REVISED	PAGE 1 of 2
JSA TYPE CATEGORY **Generic**	WORK TYPE: **Remediation**	WORK ACTIVITY (Description): **In-Situ Chemical Injection**		

REQUIRED AND / OR RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

☐ LIFE VEST ☒ HARD HAT ☐ LIFELINE / BODY HARNESS ☒ SAFETY GLASSES	☒ GOGGLES ☒ FACE SHIELD ☒ HEARING PROTECTION ☒ SAFETY SHOES: Composite-toe or steel-toe boots	☒ AIR PURIFYING RESPIRATOR (as needed) ☐ SUPPLIED RESPIRATOR ☒ PPE CLOTHING: Fluorescent reflective vest or high visibility clothing	☒ GLOVES: Nitrile and cut-resistant Level II ☒ OTHER: sunscreen (as needed)

REQUIRED AND / OR RECOMMENDED EQUIPMENT

Limited-Access Geoprobe or Dolly-Mounted Direct Push Drill Rig, Ventilation Equipment (Ducts, Fans), Hand Tools, Photoionization Detector, Multi-Gas Meter (or equivalent), Macrocore liners, Liner Opening Tool, 20 lb. Type ABC Fire Extinguisher, Traffic Safety Cones & Flags, Signage, Water

COMMITMENT TO SAFETY – All personnel on-site will actively participate in hazard recognition and mitigation throughout the day by verbalizing LMRAs.

EXCLUSION ZONE (EZ) – Maintain a Minimum Heavy Equipment Exclusion Zone around equipment and loads while it is in motion. The HEEZ must be greater than the swing zone of any moving part of the equipment, the tip zone of the equipment, the fall zone of the equipment and its contents, and the distance that debris may travel during injection activities.

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
1. Verify pre-clearance protocol and mobilize/demobilize	**1a. CONTACT:** Property damage, personal injury, or underground utilities.	1a. Check in with Site contact, if applicable. 1a. Confirm that local utility companies were contacted prior to pre-clearance, drilling, and injections. Obtain completed One Call Tickets **1a. Walk the Site to evaluate utility markings, review maps, and complete the subsurface clearance form.**
	1b. CONTACT: With traffic (including any unintended movement of the work truck or drill rig), contact/interference with other site activities.	1b. Identify potential traffic hazards. 1b. Don high-visibility clothing. 1b. Use a spotter while moving work vehicles; plan to avoid backing up when unnecessary. Use additional spotters if necessary. 1b. Ensure that the truck and trailer (if applicable) have wheel chocks in place when parked, and the equipment (e.g., compressor) is chocked if detached from the truck. 1b. Yield right-of-way to traffic where appropriate. Use traffic signals. 1b. Delineate work area with cones, flags, caution tape, and/or other barriers. Construct a pedestrian walkway, if needed. Use a truck to barricade if possible. 1b. Maintain a minimum exclusion zone based on equipment. 1b. Face traffic, maintain eye contact with oncoming vehicles, use a spotter, and establish a safe exit route; wear bright colored clothing/safety vest. 1b. Stay focused on the walking path to avoid slip, trip, and fall hazards. 1b. Where possible, avoid traversing uneven terrain.
	1c. EXERTION/ERGONOMICS: Potential for muscle strain/injury when lifting equipment and injection materials	1c. Personnel shall limit how much they carry at one time when traversing the Site. If needed, use a dolly or portable wagon to transport equipment. 1c. Keep back straight and bend at the knees. 1c. Utilize team lifting for objects over 40 lbs. 1c. Use a mechanical lifting device for odd-shaped objects.
2. Advancement of drilling equipment.	**2.** See GEN-006 Direct Push Soil Boring/Well Installation JSA	2. See GEN-006 Direct Push Soil Boring/Well Installation JSA
3. Handling and injection of ISCR chemicals into injection points	**3a. EXPOSURE:** Ground water/Chemicals on body/clothing, inhalation	3a. Refer to the manufacturer's safety data sheet for chemicals used during ISCR injections and don appropriate task-specific PPE (e.g., Tyvek suit, chemically resistant gloves, goggles/safety glasses, face shield, respiratory protection) 3a. Do not place your face near areas where chemicals are being poured or mixed. 3a. If wind is present, always stand on the upwind side of your equipment. 3a. Maintain an exclusion zone around the injection equipment.
	3b. EXERTION/ERGONOMICS: Potential for muscle strain/injury when lifting equipment and injection materials	3b. See 1c.

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
	3c. ENERGY/CONTACT: Pressurized lines/Electrical, Pressurized well plugs and/or well packer assemblies	3c. Follow the recommended maintenance procedure for the equipment prior to the event. Maintenance involves inspecting and replacing worn components. Checking hose connections, ensuring whip checks are in place. Maintain pressure below the maximum operating pressure of the equipment. 3c. A minimum exclusion zone of 10 feet will be maintained around any active injection points in the event of back pressure buildup, which could cause the projection of injection media. Elevated operating pressures may require a larger exclusion zone. 3c. Keep electrical components (cords, generator, mixer, and pump) dry. 3c. Use a power source with a ground-fault circuit interrupter (GFCI) outlet. 3c. If well packers are used, they must be secured to the well casing or other permanent structure to ensure no projectile incidents due to pressure build-up from injections. Prior to starting injections each day, well plugs on all wells within 50 feet of the injections shall be loosened to relieve any possible pressure buildup behind the plug.
	3d. EXPOSURE: Groundwater/Chemicals "Daylighting"	3d. Monitor wellhead pressure, daylighting, and injection lines. Stop pumping if any leaks or pressures are above equipment action levels.
	3e. EXPOSURE: Noise from equipment	3e. Wear hearing protection when air compressor/injection equipment is in operation if noise is more than 85 dBA.
	3f. CONTACT/CAUGHT: Heavy equipment and hand tools	3f. Safety toe boots, cut-resistant gloves, long pants, high visibility clothing, and safety glasses will be worn by on-site personnel during injection activity to mitigate the potential for pinches, cuts, abrasions, etc. to limbs or extremities from equipment or hand tools. 3f. Keep hands out of the line of fire and pinch points when making hose connections. Use whip-checks and secure all hose couplings.
	3g. FALLS: Slips, trips, and falls from hoses and potential daylighting	3g. The work area will be clean and free of debris to remove slip, trip, and fall hazards. All tools and hoses will be kept in designated areas. Ensure the work area is well illuminated. 3g. Hoses connecting fire hydrant/mixing tank/geoprobe/wells will be delineated with cones and/or caution tape. 3g. Immediately clean up any wet areas with appropriate absorbent. 3g. Designate a walking path that avoids walking directly over hoses.
4. Disconnect/Move Injection Hose	**4a. EXPOSURE:** Injection chemicals	4a. Wear appropriate PPE as specified by the manufacturer's SDS. See 3a. 4a. Double-check valves before detaching components. (e.g., Before disconnecting the line, check that the corresponding manifold outlet valve is closed and the pressure in the line is relieved.) 4a. Relieve pressure in the system before detaching the hose components. 4a. Drain hoses into an approved container away from personnel. Secure caps on the ends of hoses to prevent additional contents from escaping. 4a. Utilize appropriate absorbents to clean up spills.
	4b. CONTACT/CAUGHT: Heavy equipment, hand tools, and injection hoses	4b. See 3f.
	4c. FALLS Slips, trips, and falls from hoses and potential daylighting.	4c. See 3g.
	4d. EXPOSURE Loud noises associated with heavy machinery	4d. See 3e.

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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

Assess [1]JOB STEPS	Analyze [2]POTENTIAL HAZARDS	Act [3]CRITICAL ACTIONS
5. Secure/leave site.	**5a. FALL:** Slip/trip/fall	5a. See 3g. 5a. Be aware of the conditions when walking.
	5b. EXPOSURE: Poor communication can create Site Risk	5b. Notify the site manager and project manager when leaving the Site. 5b. Make sure to lock any gates/doors/wells that have been opened during injections. 5b. Return keys to the site manager.

[1] Each Job or Operation consists of a set of tasks / steps. Be sure to list all the steps needed to perform job.
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[3] Using the first two columns as a guide, decide what actions or procedures are necessary to eliminate or minimize the risk. List the recommended safe operating procedures. Say exactly what needs to be done - such as "use two persons to lift". Avoid general statements such as, "be careful".

APPENDIX B

SDSs for Chemicals Used

SAFETY DATA SHEET

1. Identification

Product identifier **3-D Microemulsion® Factory Emulsified**

Other means of identification 3DME

Recommended use Remediation of soils and groundwater.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name REGENESIS

Address 1011 Calle Sombra
San Clemente, CA 92673 USA

General information 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

USA, Canada 1-800-424-9300

International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Fatty acid esters	-	40 - 60
Water	7732-18-5	35 - 45
Lactate oligomers	-	2 - 10
Sodium lactate	867-56-1	2 - 10
Surfactant	-	< 1

Composition comments All concentrations are in percent by weight unless otherwise indicated.
Contains no hazardous ingredients according to OSHA 29 CFR 1910.1200.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation. Prolonged skin contact may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, phosphorus oxides, metal oxides.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. Water spray should be used to cool containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	The product is an aqueous solution. After the water component evaporates, the remaining material will burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Spilled product may create a slipping hazard. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, reinforced fiberglass.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection	
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	White.
Odor	Odorless.
Odor threshold	Not available.
pH	6 - 8
Melting point/freezing point	Property has not been measured.
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	> 199.94 °F (> 93.3 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Property has not been measured.
Explosive limit - upper (%)	Property has not been measured.
Vapor pressure	Property has not been measured.
Vapor density	Property has not been measured.
Relative density	1 - 1.2
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	Property has not been measured. Property has not been measured.
Auto-ignition temperature	Property has not been measured.
Decomposition temperature	Not applicable as the product is not unstable.
Viscosity	Not available.
Other information	
Density	Property has not been measured.
Explosive properties	Not explosive.
Kinematic viscosity	Property has not been measured.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Undergoes hydrolysis in water to form lactic acid and soybean oil.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Bases. Acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Spray mists may cause respiratory tract irritation.

Skin contact May cause mild or temporary skin irritation upon prolonged and excessive contact.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation. Prolonged skin contact may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Fatty acid esters (CAS -)			
Aquatic			
Acute			
Algae	EL50	Selenastrum capricornutum	> 854.9 mg/l, 72 hours
Fish	LL50	Pimephales promelas	> 1000 mg/l, 96 hours
Other	EL50	Daphnia sp.	> 1000 mg/l, 48 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil The product is completely soluble in water. Expected to be mobile in soil.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA)	All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 09-April-2015

Revision date 06-May-2022

Version # 04

HMIS® ratings

Health: 1
Flammability: 1
Physical hazard: 0
Personal protection: B

NFPA ratings



Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier	**RegenOx® Part A**
Other means of identification	None.
Recommended use	Soil and Groundwater Remediation.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name	REGENESIS
Address	1011 Calle Sombra San Clemente, CA 92673 USA
General information	949-366-8000
E-mail	CustomerService@regenesis.com

Emergency phone number	For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:
USA, Canada	1-800-424-9300
International	+1 703-741-5970

2. Hazard(s) identification

Physical hazards	Oxidizing solids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2

OSHA defined hazards Not classified.

Label elements



Signal word	Danger
Hazard statement	May intensify fire; oxidizer. Harmful if swallowed. Causes serious eye damage. Toxic to aquatic life.

Precautionary statement

Prevention	Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection/face protection. Avoid release to the environment.
Response	If swallowed: Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Rinse mouth. In case of fire: Use appropriate media to extinguish.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium carbonate peroxyhydrate	15630-89-4	≥95
Silicic acid, sodium salt, sodium silicate	1344-09-8	<1

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. Contact with combustible material may cause fire. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water spray, fog (flooding amounts).

Unsuitable extinguishing media Dry chemical, CO2, halon. Foam.

Specific hazards arising from the chemical Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, metal oxides.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

General fire hazards May intensify fire; oxidizer. Contact with combustible material may cause fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Collect dust using a vacuum cleaner equipped with HEPA filter. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. This product is miscible in water. Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Large Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Shovel the material into waste container. Minimize dust generation and accumulation. Avoid the generation of dusts during clean-up. Prevent product from entering drains. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not get this material in contact with eyes. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep away from heat. Store in a cool, dry place out of direct sunlight. Store at temperatures not exceeding 40°C/104°F. Store in original tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Unvented, tight fitting goggles should be worn in dusty areas.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Frequent change is advisable. Rubber, neoprene or PVC gloves are recommended.
Skin protection	
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear respirator with dust filter.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Powder.
Color	White.
Odor	Odorless.

Odor threshold	Not available.
pH	10.5 (3% solution/water)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	May intensify fire; oxidizer.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	14.5 g/100g water @ 20 ºC (minimum)
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	122 °F (50 °C)
Viscosity	Not available.
Other information	
Bulk density	0.9 - 1.2 g/ml
Explosive properties	Not explosive.
Oxidizing properties	May intensify fire; oxidizer.

10. Stability and reactivity

Reactivity	Greatly increases the burning rate of combustible materials.
Chemical stability	Product may be unstable at temperatures above: 50°C/122°F. Decomposes on heating.
Possibility of hazardous reactions	Reacts slowly with water.
Conditions to avoid	Moisture. Heat. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials	Acids. Bases. Salts of heavy metals. Reducing agents. Combustible material. Water.
Hazardous decomposition products	Oxygen. Steam. Heat.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity	Harmful if swallowed.

Components	Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)		
Acute		
Oral		
LD50	Mouse	1100 mg/kg
	Rat	1.1 g/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Components		Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	>= 0.28 - <= 0.57 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	1800 mg/l, 96 hours

Persistence and degradability Decomposes in the presence of water. The product contains inorganic compounds which are not biodegradable.

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Mobility in soil This product is water soluble and may disperse in soil.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN3378
UN proper shipping name	Sodium carbonate peroxyhydrate
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
Packing group	III
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B120, IB8, IP3, T1, TP33
Packaging exceptions	152
Packaging non bulk	213
Packaging bulk	240

IATA

UN number	UN3378
UN proper shipping name	Sodium carbonate peroxyhydrate
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	5L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3378
UN proper shipping name	SODIUM CARBONATE PEROXYHYDRATE
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-Q
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories	Oxidizer (liquid, solid, or gas) Acute toxicity (any route of exposure) Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	26-March-2015
Revision date	15-July-2022
Version #	03
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 2 Personal protection: E

NFPA ratings



Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier **RegenOx® Part B**

Other means of identification None.

Recommended use Soil and Groundwater Remediation.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name REGENESIS

Address 1011 Calle Sombra
San Clemente, CA 92673 USA

General information 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

USA, Canada 1-800-424-9300

International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.

Response If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Silicic acid, sodium salt, sodium silicate	1344-09-8	25-40
Silicon dioxide (amorphous silica gel)	63231-67-4	<10

Chemical name	CAS number	%
Ferrous sulfate	7720-78-7	2-5

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First-aid measures

Inhalation Move to fresh air. Keep victim at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Spray mist may irritate the respiratory system. Symptoms may include coughing, difficulty breathing and shortness of breath.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Combustion products may include: silicon oxides, metal oxides, sulfur oxides.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store in a cool, dry, well-ventilated place. Maintain storage temperatures between 50°F to 140°F (10°C to 60°C). Store away from incompatible materials (see Section 10 of the SDS). Recommended storage containers: steel or plastic. Do not use containers made of aluminum, fiberglass, copper, brass, zinc or galvanized containers.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Silicon dioxide (amorphous silica gel) (CAS 63231-67-4)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		0.8 mg/m3	
		20 mppcf	

US. ACGIH Threshold Limit Values

Components	Type	Value
Ferrous sulfate (CAS 7720-78-7)	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ferrous sulfate (CAS 7720-78-7)	TWA	1 mg/m3
Silicon dioxide (amorphous silica gel) (CAS 63231-67-4)	TWA	6 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles are recommended. Wear a face shield if there is a risk of splashing.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear NIOSH approved respirator appropriate for airborne exposure at the point of use.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Green to dark blue.

Odor Odorless.

Odor threshold Not available.

pH 11 (10% solution/water)

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.2 - 1.4
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 10,000cP
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Hydrogen fluoride. Fluorine. Oxygen difluoride. Chlorine trifluoride. Strong acids. Strong bases. Oxidizers. Aluminum metal. Copper. Brass. Zinc. Galvanized metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. Spray mists may cause respiratory tract irritation.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Ingestion may cause irritation and malaise.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Spray mist may irritate the respiratory system. Symptoms may include coughing, difficulty breathing and shortness of breath.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	> 2.06 mg/l, 4 Hours
Oral		
LD50	Rat	2000 - 2500 mg/kg
		3400 mg/kg

Components	Species	Test Results
		3200 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Silicon dioxide (amorphous silica gel) (CAS 63231-67-4) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)	> 159 mg/kg Result: NOAEL Species: Rat

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	1700 mg/l, 48 hours
Fish	LC50	Danio rerio	1108 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil This product is water soluble and may spread in the water system.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ferrous sulfate (CAS 7720-78-7) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Ferrous sulfate (CAS 7720-78-7)

US. New Jersey Worker and Community Right-to-Know Act

Ferrous sulfate (CAS 7720-78-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Ferrous sulfate (CAS 7720-78-7)

US. Rhode Island RTK

Ferrous sulfate (CAS 7720-78-7)
Silicon dioxide (amorphous silica gel) (CAS 63231-67-4)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-April-2015

Revision date 15-July-2022

Version # 04

HMIS® ratings
Health: 2
Flammability: 0
Physical hazard: 0
Personal protection: D

NFPA ratings



Disclaimer Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier **S-MicroZVI or S-MZVI**

Other means of identification None.

Recommended use Remediation of contaminants in soil and groundwater.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name REGENESIS

Address 1011 Calle Sombra
San Clemente, CA 92673 USA

General information 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

USA, Canada 1-800-424-9300

International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Contact with acids liberates very toxic gas.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Glycerol	56-81-5	40 - 50
Zero valent iron	7439-89-6	30 - 50
Iron(II) sulfide	1317-37-9	1 - 4

Composition comments All concentrations are in percent by weight unless otherwise indicated.
Components not listed are either non-hazardous or are below reportable limits.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, iron oxides.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	This material will not burn until the water has evaporated. Residue can burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Skin protection	
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Viscous metallic suspension.
Color	Dark gray
Odor	Slight.
Odor threshold	Property has not been measured.
pH	10 (As shipped) 7 - 8 (When mixed with water)
Melting point/freezing point	Property has not been measured.
Initial boiling point and boiling range	Property has not been measured.
Flash point	Property has not been measured.
Evaporation rate	Property has not been measured.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Property has not been measured.
Explosive limit - upper (%)	Property has not been measured.
Vapor pressure	Property has not been measured.
Vapor density	Property has not been measured.
Relative density	Property has not been measured.
Solubility(ies)	
Solubility (water)	Property has not been measured.
Partition coefficient (n-octanol/water)	Property has not been measured.
Auto-ignition temperature	Property has not been measured.
Decomposition temperature	Property has not been measured.
Viscosity	3000 cP (77 °F (25 °C))
Other information	
Density	Property has not been measured.
Explosive properties	Not explosive.
Kinematic viscosity	Property has not been measured.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Contact with acids will release highly flammable and highly toxic hydrogen sulfide gas. Can react with some acids with the evolution of hydrogen.
Conditions to avoid	Contact with incompatible materials. Avoid drying out product.
Incompatible materials	Strong oxidizing agents. Acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Spray mist may irritate the respiratory system. For dry material: Dust may irritate respiratory system.
Skin contact	Prolonged or repeated exposure may cause minor irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Glycerol (CAS 56-81-5)		
Acute		
Dermal		
LD50	Rabbit	> 18700 mg/kg
Oral		
LD50	Rat	27200 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Further information	Contains an ingredient known to produce adverse effects in a small percentage of hypersensitive individuals exhibited as respiratory distress and allergic skin reactions.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Glycerol (CAS 56-81-5)		
Aquatic		
Acute		
Crustacea EC50	Daphnia magna	> 10000 mg/l, 24 Hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Glycerol (CAS 56-81-5)	-1.76

Mobility in soil No data available.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Glycerol (CAS 56-81-5) Other Flavoring Substances with OSHA PEL's

US state regulations

US. Massachusetts RTK - Substance List

Glycerol (CAS 56-81-5)

US. New Jersey Worker and Community Right-to-Know Act

Glycerol (CAS 56-81-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Glycerol (CAS 56-81-5)

US. Rhode Island RTK

Glycerol (CAS 56-81-5)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Zero valent iron (CAS 7439-89-6)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 27-December-2018

Revision date 25-May-2022

Version # 02

HMIS® ratings Health: 1
Flammability: 1
Physical hazard: 0
Personal protection: B

NFPA ratings



Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

APPENDIX C

Heat Illness Prevention Program

HEAT ILLNESS
PREVENTION PROGRAM

CORPORATE HEALTH AND SAFETY DIRECTOR	:	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	:	**10/2019**
REVISION DATE	:	**03/2025**
REVISION NUMBER	:	**4**

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1. PURPOSE

Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C, and Remedial Engineering (collectively, "Roux"), have established this heat illness prevention program to assist in preventing workplace accidents, injuries, and illnesses associated with temperature extremes. Roux is committed to taking every precaution to protect employees who might be exposed to heat stress, including establishing safe work practices, heat illness prevention controls, and emergency preparedness, which will be detailed in this plan.

2. SCOPE AND APPLICABILITY

Roux's Heat Illness Prevention Program applies to all employees and subcontractors who may be exposed to heat stress in the field.

3. ROLES AND RESPONSIBILITIES

The Heat Illness Prevention Program Administrator for Roux is the Corporate Health and Safety Director (CHSD), Brian Hobbs, CIH, CSP. The daily administration of the program is delegated to the Operations Manager (OM) , Office Health and Safety Manager (OHSM), and Site Health and Safety Officer (SHSO). The CHSD has the authority, responsibility, and overall accountability for the comprehensive implementation of this program.

All managers and supervisors shall implement and maintain the heat illness prevention program in work areas where there is a potential for heat stress.

Management Responsibilities

Management (i.e., Project Managers, Project Principals, OM) must provide the following to promote compliance and foster a good safety culture:

- Comply with applicable standards.
- Inform employees of the provisions of the heat illness prevention program and ensure understanding.
- Provide sufficient water, shade, rest areas, and other heat illness controls for employees.
- Assist with establishing work practices to minimize heat stress risks, such as acclimatization, required rest periods, employee monitoring, and strategic scheduling.
- Encourage employees to report hazardous conditions or heat illness symptoms.
- Provide training to any employee who could possibly be exposed to the risk of heat illness.

Employee Responsibilities

Employees are expected to actively participate in the organization's heat illness prevention program, which includes the following responsibilities:

- Receive appropriate training with regard to heat stress.
- Understand core concepts of heat illness prevention and follow guidelines to mitigate risks.
- Recognize the signs and symptoms of heat illness and immediately report them.
- Cooperate with workplace inspections and incident investigations.

Effective Communication

All Roux employees shall be accountable for ensuring there is effective communication with both the field team and their subcontractors. Communication between Roux employees, project leads (e.g., Project Principal, Project

Managers), and subcontractors (if applicable) will be established and maintained so that employees can quickly contact should there be a change in condition or someone at the Site exhibits signs/symptoms of heat stress. These types of incidents would follow Roux's Incident Investigation and Reporting Management Program 2.12 and Roux's Injury Illness Prevention Program 2.22.

4. HAZARD IDENTIFICATION AND ASSESSMENT

Prior to scheduled fieldwork, the project team shall ensure a hazard assessment is conducted as it relates to heat stress. This will include a determination of how much heat and exertion employees are likely to be exposed to based on the work activity.

Factors that can increase heat stress include the following:

- Temperatures at the work site;
- Humidity;
- A lack of air movement or exchange;
- The amount of time employees spend working in the heat;
- The time of day work takes place;
- Sources of radiant heat (e.g., sunlight, fire, or hot furnace);
- Work activities that produce heat (e.g., welding);
- Physical contact with warm or hot objects or liquids;
- The clothing and PPE employees are required to wear; and/or
- Physically strenuous work.

Results of the hazard analysis should be used to determine appropriate controls for mitigating heat stress, whenever possible, for planning acclimatization, and for developing work schedules that rotate workers to limit employee exposure. Typically, the Site Supervisor (SS) or Site Health and Safety Officer (SHSO) shall conduct worksite observations to ensure all employees follow heat illness prevention procedures and that hazards are sufficiently controlled. However, all employees should be continuously evaluating work site conditions and be able to recognize heat stressors in order to prevent heat illnesses.

5. TRAINING

All Roux employees shall be trained on the topics listed below prior to beginning work, which may potentially expose workers to heat stress.

Training Topics

- The environmental, behavioral, and personal risk factors for heat illness, such as radiant heat sources, exertion, clothing and PPE, and use of alcohol or drugs.
- Types of heat illnesses, common symptoms, and appropriate emergency response for each.
- The knowledge that mild symptoms may quickly become more severe or life-threatening.
- The importance of immediately reporting any signs or symptoms of heat illness to the supervisor.
- The employer's responsibility to provide shade, water, access to first aid, and cool-down rests during work and the employee's freedom to exercise their rights under this standard without fear of retaliation.

- The employer's heat stress plan and its procedures:
  - Procedures for employees who are newly assigned to work in high-heat areas.
  - The organization's acclimatization methods, as applicable.
  - Heatwave procedures.
  - Heat illness and emergency response, including contact information.
- The importance of frequent consumption of water and the taking of rest breaks.
- How heat illness prevention applies to employees' specific tasks.

Increasing Training Effectiveness:

- The SS/SHSO will hold daily tailgates with the field team to go over daily work tasks and basic safety information, including Job Safety Analysis (JSA) review, as well as incorporate elements such as current weather and effects on the work activities for the day.
- If a heat wave or high heat is anticipated, OHSMs and/or OMs will provide communications to Roux employees prior to their shifts and remind them of any special high heat procedures.

6. DRINKING WATER

Employees shall be given access to potable drinking water. Access to water will be provided as near as possible to where employees are working, and there shall be enough locations so employees will have sufficient water. Water should be fresh and pure, free of taste or smell that would discourage employees from drinking, comfortably cool, and obtained from an approved source.

The recommendation is that during warm or hot weather, employees drink four 8-ounce glasses of water, or a total of one quart per hour, throughout the entire work shift. Easy access to sufficient potable drinking water throughout the work shift encourages employees to drink.

During a heat wave, water shall be replenished more often to keep it available and cool. Water containers (and all spouts and levers) must be kept clean. If able, provide single-use drinking cups with appropriate waste receptacles. Accessible sanitation facilities shall also be maintained at work Sites as appropriate.

SS/SHSO is responsible for the following:

- Drink sufficient water before, during, and after work shifts to maintain hydration.
- Encourage frequent drinking of small amounts of water throughout the shift. In high-heat environments, remind field staff and subcontractors that drinking extra water may be necessary.
- Discourage the choice of drinks with caffeine or sugar that may possibly dehydrate employees instead of water. Also, discourage the drinking of alcohol.
- Monitor the water supply.
- If employees become dehydrated and are unable to alleviate symptoms with the steps below, get them immediate medical attention.

Field Staff/Subcontractors are responsible for the following:

- Drink sufficient water before, during, and after work shifts to maintain hydration. Drink up to 4 cups of water per hour, especially during hot weather.
- Be aware that in high-heat situations, you may need to drink more water.

- Monitor yourself and others for signs of dehydration. If you feel dehydrated:
  - Follow Roux's Incident Notification Flowchart;
  - Rest in the shaded resting area; and
  - Drink water in small amounts, but frequently.

7. ACCESS TO SHADE

Access to shaded areas will be provided to Roux staff, as needed. Employees are encouraged to use these areas when they feel overheated. Roux's SS/SHSO shall oversee the proper implementation of shaded areas and will communicate these locations on a daily basis with the Field Team.

Depending on the Site, shaded areas can include the following:

- Pop-up Tents
- Canopies
- Umbrellas
- Structures mechanically ventilated or open to air movement
  - Garage
- Conex-mounted RV canopies
- Full and thick tree canopies that block direct sunlight
- Buildings
- Enclosed areas only if they provide cooling comparable to shade in open-air
  - Vehicles with air conditioning

Shaded Area Requirements

The shade shall be strong enough to cool employees down and other shadows should not be visible in the shade. The shade will be provided by Roux when the air temperature exceeds 80°F. If the temperature is less than 80°F, shade will be available and provided upon request. The SS/SHSO will monitor conditions to determine when the air will exceed (and is exceeding) 80°F. For most Sites, air will be monitored hourly and shade will be set up immediately if 80°F is exceeded.

Shade shall be located as close as practical to areas where employees are working and is easily accessible. These areas will be considered safe and free from other hazards. Shaded areas should be large enough to accommodate all employees who are on a break, resting, or recovering without crowding. Should natural vegetation be used for shade, the SS/SHSO will evaluate shade for effectiveness.

Field Staff Responsibilities

Field Staff should take ordinary rest breaks in the shaded areas and monitor themselves for signs of heat stress, and go to the shaded area when they need to cool down. Any issues or problems with shaded areas should be reported to the SS/SHSO for the Site.

If shaded areas are used for a preventative cool-down, the SS/SHSO will ensure the affected employees will remain in the shade until they begin to feel better. The SS/SHSO will continue to monitor the employees and ask them if

they are experiencing symptoms of a heat illness. Employees shall not be sent back to work before symptoms have ended and at a minimum at least 10 minutes of rest.

8. MONITORING AND SCHEDULING

Monitoring

The SS/SHSO and Field Team will continue to monitor themselves and others for signs of heat illness. The SS/SHSO will monitor when the air temperature exceeds 80°F. Throughout the summer, weather and temperature will be monitored at least two weeks ahead, and the work schedule will be planned to accommodate the expected weather.

Scheduling

Scheduling accommodations may include:

- Working during cooler hours of the day
- Working at night
- Stopping work early
- Rescheduling work activities
- Increasing frequency of breaks

In general, strenuous work activities shall be rescheduled to the coolest parts of the day.

Special precautions are required for temperatures above 80°F, 95°F, and heat waves. These precautions are provided in the sections below.

9. ACCLIMATIZATION AND NEW EMPLOYEE PROCEDURES

Roux requires employees to be acclimatized in order for them to better tolerate heat in the workplace. Acclimatization is the physical process of adapting to a different thermal environment, allowing a better toleration of heat. Acclimatization procedures require gradual exposure that gives the employee time to adjust to each level of exposure. Acclimatization is essential for new employees but is necessary for all employees when the temperature significantly changes. Heat stress is much more likely if these procedures are not followed.

The SS/SHSO is responsible for observing new employees during their first 14 days of employment in high-heat areas.

Re-acclimatization is necessary if employees are absent from high-heat environments for a week or more or the temperature increases significantly.

10. HEATWAVE AND EXTREME HEAT PROCEDURES

Heat Wave Procedures

A heat wave is defined as consistent temperatures over 80°F or if the temperature is 10° higher than the average daily temperatures in the preceding 5 days.

SS/SHSO and Project Management (e.g., PP, PM) shall closely observe and monitor employees during a heat wave. The Field Teams should institute a ratio of one SS to 20 or fewer employees, a mandatory buddy system, or

a consistent practice for supervisors to check on employees. Pre-shift meetings to review high-heat procedures with employees will be carried out to emphasize work-rest schedules, drinking water, shade, etc.

Extreme Heat Procedures

When work-site temperatures equal or exceed 95°F, the employer will enact extreme heat procedures:

- Employees will be closely observed by the SS/SHSO for signs of heat illness. New employees will be supervised for acclimatization.
- Effective communication and monitoring will be ensured through the use of periodic check-ins via phone with the SS/SHSO. Communications between employees and Project Management (e.g., PP/PM) will be established and maintained. Mandatory 10-minute break periods are required for every two hours worked. SS/SHSO must enforce this rule.
- Pre-shift safety tailgate meetings will occur to review procedures and to remind employees to drink water and take cool-down rests if needed. SS/SHSO shall remind employees to rest and drink water. Employees should drink more water than usual.

11. EMERGENCY RESPONSE PROCEDURES

Roux is dedicated to providing prompt appropriate care for all employees who report or show symptoms of heat illness. If an employee shows signs of heat illness, they will be monitored and shall not be left alone or sent home without being offered first aid or emergency medical services. If on-site personnel require any medical treatment, the following steps will be taken:

1. Notify Roux's Project and Corporate Management Team for any work-related injury and/or illness occurrence, and communicate with the contracted Occupational Health Care Management Provider, AllOne Health (AOH), immediately following the notifications provided above.
2. Based on discussions with the Project Team, Corporate Management, and the AOH evaluation, if medical attention beyond onsite First Aid is warranted, transport the injured/ill person (IP) to the Urgent Care Center, or notify the Fire Department or Ambulance Emergency service and request an ambulance or transport the victim to the hospital, and continue communications with Corporate Management Team. An Urgent Care/Hospital Route map with locations and directions is provided within Site Specific Health and Safety Plans.
3. First aid medical support will be provided by onsite personnel trained and certified in First Aid, Cardio Pulmonary Resuscitation (CPR), Automatic External Defibrillation (AED), and Blood-Borne Pathogens (BBP) Awareness, until relieved by emergency medical services (EMS).
4. The SHSO and Project Manager will perform a Loss Investigation (LI), and the Project Team will complete the final Loss Report.

12. HEAT-RELATED ILLNESSES

Heat Stress

Heat stress is a significant potential hazard and can be associated with heavy physical activity and/or the use of personal protective equipment (PPE) in hot-weather environments. For these reasons, the company will provide potable drinking water and access to shade or other areas of relief (i.e., air-conditioned vehicles and work trailers). Supervisors, prior to supervising personnel in the field as well as all personnel involved with the fieldwork of a project, are trained in this HASP that includes preventing heat-related illnesses and the below procedures in response to heat-related symptoms and illness. Since much of our work is dependent upon environmental factors beyond our control, we must closely monitor air temperature and humidity and be aware of avoiding radiant heat sources and providing as much air circulation as possible wherever we work. Physical factors that need to be evaluated as part of our Job Safety Analysis (JSA) reviews include the level of physical activity and duration of work

and the type (i.e., color, weight breathability) of the clothing we select. In addition, personal factors such as age, weight, fitness, drug/alcohol use, and prior history of heat-related illness need to be considered.

Heat cramps are brought on by prolonged exposure to heat. As an individual sweats, water and salts are lost by the body, resulting in painful muscle cramps. The signs and symptoms of heat stress are as follows:

- Severe muscle cramps, usually in the legs and abdomen;
- Exhaustion, often to the point of collapse; and
- Dizziness or periods of faintness.

First aid treatment includes, but is not limited to, shade, rest, and fluid replacement. Typically, the individual should recover within one-half hour while being monitored constantly. If the individual has not improved substantially within 30 minutes and the body temperature has not decreased, the individual should be transported to a hospital for medical attention.

Heat Exhaustion

Heat exhaustion may occur in a healthy individual who has been exposed to excessive heat while working or exercising. The circulatory system of the individual fails as blood collects near the skin to rid the body of excess heat through transference. The signs and symptoms of heat exhaustion are as follows:

- Rapid and shallow breathing;
- Weak pulse;
- Cold and clammy skin with heavy perspiration;
- Skin appears pale;
- Fatigue and weakness;
- Dizziness; and
- Elevated body temperature.

First aid treatment includes, but is not limited to, cooling the victim, elevating the feet, and replacing fluids. If the individual is not substantially improved within 30 minutes and the body temperature has not decreased, the individual should be transported to the hospital for medical attention.

Heat Stroke

Heat stroke occurs when an individual is exposed to excessive heat and stops sweating. This condition is classified as a MEDICAL EMERGENCY requiring immediate cooling of the victim and transport to a medical facility. The signs and symptoms of heat stroke are as follows:

- Dry, hot red skin;
- Body temperature approaching or above 105 degrees F;
- Confusion, altered mental state, slurred speech;
- Seizures;
- Large (dilated) pupils; and
- Loss of consciousness – the individual may go into a coma.

First aid treatment requires immediate cooling and transportation to a medical facility. Heat stress is a significant hazard if any type of protective equipment (semi-permeable or impermeable) that prevents evaporative cooling is worn in hot-weather environments.

13. OTHER HEAT CONTROLS

Clothing and PPE

Employees should choose clothing that is reflective, light-colored, lightweight, loose-fitting, and breathable. Clothing should cover the exposed parts of the body. In direct sun, hard hats with a brim or bill may be helpful. Should specialized cooling garments be applicable, please consult with your OM/OHSM/CHSD.

Managing Employee Risk Factors

It is recommended that employees are aware of how their health can affect their risk of heat stress. The following increases personnel's risk for a heat-related illness:

- A poor level of physical fitness
- Obesity
- Chronic or acute illnesses
- Conditions such as diabetes, heart disease, or high blood pressure
- Certain medications, such as diuretics
- Age (60+)

Employees should:

- Maintain their health outside of work
- Be aware of the effects of medications
- Drink adequate amounts of water
- Eat light, cool meals during work shifts and save heavy meals until after the shift is over
- Do not skip meals: food helps replace electrolytes when sweating
- Take breaks as needed
- Do not consume alcohol prior to working in a hot environment

APPENDIX D

Personal Protective Equipment (PPE) Management Program

PERSONAL PROTECTIVE EQUIPMENT MANAGEMENT PROGRAM

CORPORATE HEALTH AND SAFETY DIRECTOR	:	**Brian Hobbs, CIH, CSP**
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1. PURPOSE

Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C., and Remedial Engineering (collectively, "Roux"), have instituted the following program to establish guidelines for the selection of personal protective equipment (PPE) for use by Roux personnel performing field activities in hazardous environments. PPE is not meant to be a substitute for engineering, work practice, and/or administrative controls, but PPE should be used in conjunction with these controls to protect employees in the workplace. Clothing, body coverings, and other accessories designed to prevent worker exposure to workplace hazards are all types of PPE. To ensure adequate PPE,, employee-owned PPE is assessed on a case-by-case basis to ensure its adequacy, maintenance, and sanitation.

2. SCOPE AND APPLICABILITY

These guidelines apply to all PPE selection decisions to implement the Roux program. The foundations for this program are the numerous Occupational Health and Safety Administration (OSHA) standards related to PPE cited in 29 CFR 1910 Subpart I, 29 CFR 1926 Subpart E, and the hazardous environment work employee protection requirements under the OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) standard at 29 CFR 1910.120 and 1926.65 as well as California OSHA (Cal/OSHA) Title 8 5192 HAZWOPER. To ensure hazard assessments are documented, the levels of protection, types of protection, and tasks requiring protection are covered in site-specific Health and Safety Plans (HASPs) and Job Safety Analyses (JSAs).

3. PROCEDURES

Due to the varied nature of site activities and the different potential hazards associated with different sites, several aspects must be considered when selecting PPE. The following text describes PPE selection logic and provides guidelines and requirements for the appropriate selection and use of PPE.

3.1 Introduction

To harm the body, chemicals must first gain entrance. The intact skin and respiratory tract are usually the first body tissues that are exposed to chemical contaminants. These tissues provide barriers to some chemicals but, in many cases, are damaged themselves or are highly permeable by certain chemical compounds. PPE, therefore, is used to minimize or eliminate chemical compounds from coming into contact with these first barrier tissues.

Proper PPE selection is essential in preventing exposure. The Project Manager (PM) or health and safety personnel making the selection will have to consider several factors. The level of protection, type, and kind of equipment selected depends on the hazardous conditions. In some cases, additional selection factors include cost, availability, compatibility with other equipment, and performance. All these factors must be accurately assessed before work can be safely carried out.

3.1.1 Training

Training shall be provided to all field-based employees on how to properly use and care for PPE. Training shall include, but not be limited to, the initial 40-hour HAZWOPER training, annual 8-hour HAZWOPER refresher training, and site-specific PPE training. The training program includes when PPE is necessary, what types of PPE are required; how to don, doff, adjust, and wear PPE; the limitations of PPE; the proper care, maintenance, useful life, signs of PPE failure and emergency procedures to follow in the event of PPE failure and disposal of PPE. In addition, retraining shall be conducted when workplace changes require a change in PPE when an employee demonstrates a lack of knowledge or improper use of PPE is identified.

3.2 Types of PPE

The type and selection of PPE must meet certain general criteria and requirements as required under OSHA 29 CFR 1910.132 (General Industry) and 1926.95 (Construction). In addition to these general requirements, specific requirements and specifications exist for some types of PPE that form the basis of the protective clothing scheme. All manufacturer's recommendations for PPE care and use shall be followed. All PPE shall be maintained in a sanitary and reliable condition. Additionally, proper fit and size shall be evaluated to ensure adequate employee protection. Should PPE become defective, it shall be immediately removed from service and discarded.

The following is a list of the common types of specific PPE and the specific requirements for the PPE type, where applicable:

1. Hard Hats - Regulated by 29 CFR 1910.135 and 1926.100; and specified in ANSI Z89.1.
2. Face Shields and Safety Glasses - Regulated by 29 CFR 1910.133 and 1926.102; and specified in ANSI Z87.1.
3. Respiratory Protection - Regulated by 29 CFR 1910.134 and 1926.103.
4. Hand Protection - Regulated by 29 CFR 1910.138
5. Foot Protection - Regulated by 29 CFR 1910.136 and 1926.96; and specified in ANSI Z41.1.
6. Protective Clothing (e.g., fully encapsulated suits, aprons) - Specified in NFPA 1991/1992/1994.

3.2.1 PPE Inspection, Cleaning Maintenance, and Storage

The Office Health and Safety Manager (OHSM) or their designee is responsible for procuring PPE, in accordance with this management program. Single-use/disposable PPE should be purchased and used whenever practicable.

3.2.1.1 PPE Inspection

Roux employees must inspect PPE regularly, before and after each use, to check for defects and damage. Garments and other PPE in central storage must be inspected at least annually or as recommended by the manufacturer by the OHSM, Equipment Manager, and/or their designee. Defective or damaged equipment must be tagged as out-of-service, immediately removed from the work site, and discarded.

3.2.1.2 PPE Cleaning and Maintenance

All Roux employees are responsible for routine cleaning of their assigned PPE. Decontamination of PPE is addressed within Roux's Site Control and Decontamination Program as specified within site-specific health and safety plans. As appropriate, Roux employees should be issued single-use PPE when practicable to minimize the requirement for decontamination. When performing routine cleaning of reusable PPE:

- Always follow the manufacturer's recommendations to avoid damaging the PPE. For example, some cleaning solutions compromise the integrity of protective helmets shell.
- Clean and maintain PPE according to the manufacturer's recommendations. Before being re-issued, PPE should be thoroughly sanitized.
- Disassemble, wash and sanitize reusable respirators after each use. For more information, refer to Roux's Respiratory Protection Management Program.

Employees are not authorized to repair PPE without prior approval from the Health and Safety Department. Reusable PPE may require maintenance by the manufacturer to maintain integrity and certification. Many

manufacturers specify which repairs, if performed by the end-user, will void the product warranty. Therefore, Roux employees are not authorized to perform such maintenance or repairs.

3.2.1.3 PPE Storage

Certain equipment failures can be directly attributed to improper storage. The OHSM or Equipment Manager (or another designated person) is responsible for implementing procedures for appropriate PPE storage, for equipment that is centrally stored. Both central storage and dedicated PPE provided to employees should be stored using the following:

- Store goggles and safety glasses in protective cases.
- Store PPE (such as helmets, boots, etc.) in clean, dust-proof containers or bags out of direct sunlight.
- PPE should ideally be stored under climate-controlled conditions. PPE, stocked gear bags, and/or go-kits should not be stored in hot, cold, or other extreme environmental conditions, and they should not be stored in vehicles (government-owned or rentals) for even short periods of time. Do not store helmets on the rear window shelf of a vehicle.
- Store different kinds of clothing and gloves separately to prevent errors in selection.
- Hang or fold protective clothing in accordance with manufacturers' recommendations.
- Never store contaminated PPE near new protective clothing or street clothing. Potentially contaminated, reusable clothing must be stored (usually bagged) away from new PPE in a well-ventilated area with good airflow around each item until the garment is decontaminated or disposed.
- See Roux's Respiratory Protection Management Program for detailed respirator storage procedures.

3.3 Fitting, Donning, and Doffing PPE

Roux shall provide appropriately sized PPE for Roux employees. Improper fitting such as tight-fitting garments, can tear, especially at the knees, crotch, shoulders, back, and elbows due to movement. Protective clothing that is too large can easily snag and/or limit a user's dexterity. The Roux PM shall ensure site/project-specific PPE is kept in a sufficient stock of appropriately sized PPE (e.g., Level C ensembles). The OHSM, Equipment Manager, and/or their designee shall maintain a sufficient stock of appropriately sized PPE in central storage locations.

The Site Supervisor (SS)/Site Health and Safety Officer (SHSO) is responsible for ensuring that site-specific procedures for donning and doffing PPE are incorporated into site-specific HASPs. Donning and doffing procedures may differ depending on the type of PPE and clothing (e.g., Level D, Modified Level D, Level C) utilized. Site-specific conditions may warrant adjustments to such procedures. Consult the CHSD for additional information. Roux's Site Control & Decontamination Management Program can be referenced for the development of such procedures, which provide additional information on doffing and decontamination procedures related to Level A-D work.

Site-specific donning and doffing procedures should include using an assistant where necessary. Donning and doffing certain types of PPE without assistance could risk failure or damage. Care must be taken to prevent the spread of contaminants on the PPE. Decontamination procedures should limit the potential for cross-contamination and may include gross decontamination of outer boots, gloves, and suits as necessary to prevent contaminants from tracking into the contamination reduction zone (CRZ) and clean zone(s).

3.4 Controlling Hazards Associated with PPE Use

PPE use can pose potential health and safety hazards, which range from minor discomfort to life-threatening height stroke. The magnitude of the potential hazard can vary and will depend on various factors, including an individual's fitness level, the type of PPE worn, the work demands, individual work practices, duration of work, and environmental conditions. The use of PPE can also lead to reduced efficiency and work performance.

Among hazards associated with PPE use, heat stress emerges as a prevalent and significant hazard. Particularly, the use of substantial and/or impermeable attire, such as heavy coveralls, Tyvek suits, splash suits, or Level A or B suits, alongside strenuous work, amplifies the risk of heat stress. Regular monitoring for indications of heat stress is imperative for workers operating in such conditions. Roux's Heat Illness Prevention Program lays out requirements for signs and symptoms as well as preventative measures to mitigate the potential for heat illness. In addition, cold environments can pose adverse risk, such examples include use of non-insulated steel-toe safety shoes in frigid conditions which has the potential to increase the risk of frostbite, while safety gloves worn for chemical protection may inadequately insulate hands from the cold.

It is the responsibility of Project Teams to integrate site-specific protocols to manage PPE hazards into such site-specific HASPs. These protocols can encompass considerations like work/rest ratios, crew rotations, and other accommodations for exceptionally demanding conditions.

The following measures are recommended for controlling hazards posed by PPE use:

- Prioritize through the hierarchy of controls with a focus on elimination, substitution, engineering, work practice and administrative control implementation rather than sole reliance on PPE. PPE shall be considered the last line of worker protection.
- Workers should maintain physical fitness to be able to withstand the potential physical strain of PPE use. A physically fit individual will endure less physiological strain, manifesting in a lower heart rate, reduced body temperature (indicating diminished retained body heat), more effective sweating, slightly lower oxygen consumption, and carbon dioxide production. Furthermore, acclimatization to extreme environmental conditions, such as high temperatures, can influence work performance and physical capacity.
- Understand the symptoms of PPE failure. Workers encountering any of these symptoms while donning PPE should promptly notify their onsite SHSO and/or SS:
    - Perception of odors when wearing a respirator
    - Skin irritation
    - Acute discomfort
    - Difficulty breathing
    - Unusual fatigue
    - Dizziness
    - Inability to see, hear, or speak clearly
    - Uncomfortable restriction of movement
    - Rapid pulse, nausea, or chest pain
- Implement a buddy system. Especially in situations where there is a need for increased level of protection (e.g., Level A-C) workers should work in pairs or teams, and are instructed to monitor the integrity of their team/partners gear and remain alert for symptoms of PPE failure.

3.5 PPE Selection

For site-specific work, the Project Manager, in consultation with the Health and Safety Department, has overall responsibility for coordinating the selection and distribution of PPE to field staff and for ensuring that the selected PPE is appropriate for the site-specific hazards. Generally speaking, Roux employees are not engaged in emergency response or perform work at uncontrolled hazardous waste sites; if this is the case, the CHSD shall be made aware of the work and consult with the Project Team on appropriate PPE selection. Most work falls under environmental sampling of low-concentration contaminants in water/soil/perimeter air. Therefore work is carried out in Level D PPE. Upgrades would be based on more information as it becomes available. The United States Environmental Protection Agency (EPA) has created Guidelines for PPE Ensemble Selection to assist workers in selecting PPE ensembles for specific activities and tasks and determining which ensembles and air monitoring equipment should be used to address specific chemicals. Guidelines to Ensembles for Specific Activities/Tasks Where Chemical Exposure is Possible is provided as a reference in Appendix A.

3.6 Protective Clothing Selection Criteria

3.6.1 Chemicals Present

The most important factor in selecting PPE is the determination of what chemicals the employee may be exposed to. The number of chemicals on field investigations may range from a few to several hundred. The exact chemicals or group of chemicals present at the site (certain groups tend to require similar protection) can be determined by collecting and analyzing air, soil, water, or other site media samples. When data are lacking, research into the hazardous materials used or stored at the site can be used to infer potential chemical exposures on the site.

The most appropriate clothing shall be selected once the known or suspected chemicals have been identified and considered based on the type of work to be performed.

Protective garments are made of several different substances for protection against specific chemicals. There is no universal protective material. All will decompose, permeate, or otherwise fail to protect under given circumstances. Fortunately, most manufacturers make guides to using their products (i.e., Dupont's Tyvek™ Permeation Guide). These guides are usually for gloves and coveralls and typically provide information regarding chemical degradation rates (failure of the material to maintain structural integrity when in contact with the chemical) and may provide information on the permeation rate (whether or not the material allows the chemical to pass through). When permeation tables are available, they shall be used with degradation tables to determine the most appropriate protective material for the specific chemical hazard(s).

During most site work, chemicals are usually in mixed combinations, and the protective materials are not in continuous contact with pure chemicals for long periods; therefore, the selected material may be adequate for the particular chemical of most concern and the type of work being performed, yet not the "best" protecting material for all site chemicals and activities. Selection shall depend upon the most hazardous chemicals based on their hazards and concentrations. Sometimes, layering (i.e., using several layers of protective materials) affords the best protection.

3.6.2 Concentration of the Chemical(s)

One of the major criteria for selecting protective material is the concentration of the chemical(s) in air, liquid, and solid state. Airborne and liquid chemical concentrations should be compared to the OSHA standards, American Conference of Governmental Industrial Hygienists (ACGIH) and National Institute for Occupational Safety and Health (NIOSH) guidelines to determine the level of skin or other absorptive

surface (e.g., eyes) protection needed. While these standards are not designed specifically for skin exposed directly to the liquid, they may provide skin designations indicative of chemicals known to have significant skin or dermal absorption effects. For example, airborne levels of PCBs on-site may be low because they are not very volatile, so the inhalation hazard may be minimal; however, PCB-containing liquid coming in direct contact with the skin may cause overexposure. Thus, PCBs have been assigned a skin designation in the OSHA and ACGIH exposure limit tables.

3.6.3 Physical State

The characteristics of a chemical may range from nontoxic to highly toxic, depending on its physical state. Inorganic lead in soil would not be considered toxic to site personnel unless it became airborne since it is generally not absorbed through the intact skin. However, organic lead in a liquid could be readily absorbed through the skin. Soil is frequently contaminated with hazardous materials. Concentrations will vary from a few parts per million to nearly one hundred percent by volume. The degree of hazard depends on the type of soil and concentration of the chemical. Generally speaking, “dry” soils that have not become airborne do not pose a hazard to site personnel if they take minimal precautions, such as wearing lightweight gloves.

3.6.4 Length of Exposure

The length of time a material is exposed to a chemical increases the probability of a breakthrough. Determinations of actual breakthrough times for short-term exposures indicate that several materials that would be considered inadequate under long-term exposures can be used. Different materials that would be considered inadequate under long-term exposures can be used. It should be kept in mind that during the manufacturer’s permeation testing, a pure (100% composition) liquid is usually placed in direct contact with the material, producing a worst-case situation.

3.6.5 Abrasion

When selecting protective clothing, the job the employee is engaged in must be taken into consideration. Persons moving drums or performing other manual tasks may require added protection for their hands, lower chest, and thighs. Using leather gloves and a heavy apron over other normal protective clothing will help prevent damage to the normal PPE and thus reduce worker exposures.

3.6.6 Dexterity

Although protection from skin and inhalation hazards is the primary concern when selecting PPE, the ability to perform the assigned task must be maintained. For example, personnel cannot be expected to perform work that requires fine dexterity if they must wear thick gloves. Therefore, the PPE selection process must consider the task being performed and provide PPE alternatives or techniques that maintain dexterity while still protecting the worker (e.g., wearing tight latex gloves over more bulky hand protection to increase dexterity).

3.6.7 Ability to Decontaminate

If disposable clothing cannot be used, the ability to decontaminate the materials selected must be taken into consideration. Once a chemical makes contact with the material, the PPE must be cleaned before reusing it. If the chemical has completely permeated the material, the clothing cannot be adequately decontaminated, and the material should be discarded.

3.6.8 Climactic Conditions

The human body works best with few restraints from clothing. Protective clothing adds a body burden by increasing weight, restricting movement, and preventing the body's natural cooling process. In severe situations, a modified work program must be used.

Some materials act differently when they are very hot and very cold. For example, PVC becomes almost brittle in frigid temperatures. If there are any questions about the stability of the protective materials under different conditions, the manufacturer should be contacted before using PPE in the field.

3.6.9 Work Load

Like climactic conditions, the type of work activity may affect work duration and personnel's ability to perform certain tasks. Similarly, the amount of protective materials a person wears will affect their ability to perform certain tasks. For example, a person in a total encapsulating suit, even at 72˚F, cannot work for more than a short period of time without requiring a break.

The work schedule should be adjusted to maintain the health of the employees. Modified work practices may include allowing more time for individual job tasks and implementing work/rest cycles per NIOSH and ACGIH thermal stress recommendations. Special consideration should be given to the selection of clothing that protects the worker and adds the least burden when personnel are required to perform strenuous tasks. Excessive bodily stress frequently represents the most significant hazard encountered during fieldwork.

3.6.10 Types of Protective Materials

1. Cellulose or Paper: suitable for nuisance dust and coarse fibers.
2. Natural and Synthetic Fibers
    a. Tyvek™: suitable small-sized hazardous particles, including lead, asbestos, and mold.
    b. Tychem™: is suitable for a variety of hazards, from light liquid splashes to heavy exposures to industrial chemicals and agents.
    c. Nomex™: is suitable for flame-resistance, radiation resistance, acids, alkalis, fluorocarbon refrigerants (CFCs), and non-polar solvents.
3. Elastomers
    a. Polyethylene: suitable for polar substances and solvents.
    b. Saran™ : suitable for flame-resistance, acids, alkalis, oils, and organic solvents.
    c. Polyvinyl Chloride (PVC): suitable for alcohols, oils, inorganic acids, alkalis, and salts.
    d. Neoprene: suitable for polar/non-polar substances, petroleum mixtures, and ≤ 200 F heat resistance.
    e. Butyl Rubber: suitable for polar substances and solvents.
    f. Viton: suitable for non-polar substances, petroleum mixtures, and ≤ 200 F heat resistance.
    g. Nitrile: suitable for polar/non-polar substances and petroleum mixtures.

3.7 Protection Levels

3.7.1 Level A Protection

Level A protection (a fully encapsulated suit) is used when skin hazards exist or when no known data positively rule out skin and other absorption hazards. Per the Roux Respiratory Protection Management Program, Roux employees are not authorized to enter an IDLH atmosphere; therefore, the program does

not allow supplied air respirators (SARs) or self-contained breathing apparatus (SCBA). At no time will Level A work be performed without the consent of the CHSD and OM.

The following conditions warrant the use of Level A protection:

- Hazardous substances have been identified and require the highest level of protection for skin, eyes, and the respiratory system;
- The atmosphere contains less than 19.5% oxygen or an atmosphere immediately dangerous to life and health (IDLH) that have not been ruled out;
- Site operations involve a high potential for splash, skin immersion, or exposure to suspected skin hazards;
- Direct-reading instruments indicate high levels of unidentified but potentially hazardous vapors or gases in the air (e.g., Total atmospheric readings on the Photoionization Detector (PID), Flame Ionization Detector (FID), and similar instruments indicate 500 to 1,000 ppm of unidentified substances); and
- Direct-reading instruments are not available to test the air and suspected highly toxic substances may be present.

It may be necessary to base the decision to use Level A protection on indirect evidence. Other conditions that may indicate the need for Level A protection include:

- Confined spaces;
- Sites containing known skin hazards;
- Sites with no established history to rule out skin and other absorption hazards;
- Site exhibiting signs of acute mammalian toxicity (e.g., dead animals, illnesses associated with past entry into the site by humans);
- Sites at which sealed drums of unknown materials must be opened;
- Visible indicators such as leaking containers or smoking chemical fires; and
- Extremely hazardous substances (e.g., cyanide compounds, concentrated pesticides, Department of Transportation Poison "A" materials, suspected carcinogens, and infectious substances) are known or suspected to be present, and skin contact is possible.

Table 1: Recommended Level A Ensemble Components

Component	Type	Manufacturer / Recommended Material	Notes
Respirator	Positive-pressure full-facepiece SCBA or positive-pressure supplied-air respirator with escape SCBA[1]	NIOSH approved respirator	See Roux's Respiratory Protection Program. Roux employees are not approved to utilize Supplied Air (SAR) and/or Self-contained breathing apparatus (SCBA).
Suit	Totally encapsulated chemical- and vapor-protective suit	DuPont® Tychem™ or Responder CSM™	Other material types may be substituted based on known contaminants.
Inner Gloves	Lightweight	Nitrile, Neoprene, PVC, or Viton®	Other material types may be substituted based on known contaminants.
Outer Gloves	An integral part of the suit	See Appendix A for additional information	Confirm chemical performance rating for suspected contaminants. Glove material may have different performance ratings than suit material. All fully-encapsulating suit materials must be compatible with substances involved.
Inner Boot	Integral Part of Suit	-	-
Outer Boot	HazMat boot[2]	–	Confirm chemical performance rating of outer boot for suspected contaminants. Provides slip/abrasion resistance.
Hard Hat	Standard[3]	-	-

[1] Must be NIOSH approved.
[2] Must meet NFPA 1991/NFPA 1994 requirements depending on the site hazard assessment.
[3] Must comply with the applicable ANSI standard.

3.7.2 Level B Protection

Level B protection is utilized when the highest level of respiratory protection is needed, but hazardous material exposure to the few unprotected areas of the body is unlikely. At no time will Level B work be performed by Roux personnel without the consent of the CHSD and OM.

The following conditions suggest a need for Level B protection:

- The type and atmospheric concentration of toxic substances have been identified, and they require the highest level of respiratory protection;

- IDLH atmospheres where the substance or concentration in the air does not present a severe skin hazard;
- The type and concentrations of toxic substances do not meet the selection criteria permitting the use of air-purifying respirators and
- It is highly unlikely that the work being done will generate high concentrations of vapors, gases, particulates, or splashes of materials that will affect personnel's skin.

Table 2: Recommended Level B Ensemble Components

Component	Type	Manufacturer / Recommended Material	Notes
Respirator	Positive-pressure full- facepiece SCBA or positive-pressure supplied-air respirator with escape SCBA[1]	NIOSH approved respirator	See Roux's Respiratory Protection Program. Roux employees are not approved to utilize Supplied Air (SAR) and/or Self-contained breathing apparatus (SCBA).
Suit	Chemical-resistant clothing (liquid-splash protective suit with integral boot and hood)[2]	DuPont® Tychem® CPF 3	Other material types may be substituted based on known contaminants.
Inner Gloves	Light/medium weight	Nitrile, Neoprene, PVC, Viton®, or PE/EVAL	Other material types may be substituted based on known contaminants.
Outer Gloves	Medium/heavy weight	Butyl MIL-G12223, Nitrile, Neoprene, PVC, Viton®, PE/EVAL, or heavy weight Nitrile or Neoprene	Confirm chemical performance rating. Other material types may be substituted based on known contaminants.
Inner Boot	Safety work boot	–	Other boot types may be substituted based on known contaminants and physical hazards. Puncture resistant shanks may be required.
Outer Boot	Heavy weight Latex booties or outer boots[2]	Latex booties are used to protect suit for light duty applications. NFPA-rated outer boots may be required based on anticipated site conditions and tasks.	Other outer boot coverings may be substituted based on known contaminants/anticipated tasks.
Hard Hat	Standard[3]	-	-

[1] Must be NIOSH approved.
[2] Must meet NFPA 1991/NFPA 1994 requirements depending on the site hazard assessment.
[3] Must comply with the applicable ANSI standard.

3.7.3 Level C Protection

Level C protection is utilized when skin and respiratory hazards are well defined, and the criteria for using negative pressure respirators have been fulfilled (i.e., known contaminants and contaminant concentrations, acceptable oxygen levels, approved filter/cartridge available, known cartridge service

life, etc.). Level C protection may require an emergency escape respirator during specific initial entry and site reconnaissance situations or when applicable after that.

Table 3: Recommended Level C Ensemble Components

Component	Type	Manufacturer / Recommended Material	Notes
Respirator	Full-face air-purifying respirator with appropriate cartridge[1]	NIOSH approved respirator	See Roux's Respiratory Protection Program for information about the brand, model, acceptable configurations, and specific care instructions for the standard issue respirator. Half-faced respirators may be donned if hazard assessment warrants.
Suit	Puncture/tear resistant suit material with boot and hood[2]	DuPont® Tychem® CPF 2/CPF 3 or Saranex	Other material types may be substituted based on known contaminants, if considered more appropriate.
Inner Gloves	Light weight	Nitrile, Neoprene	Other material types like Neoprene, PVC, Viton®, or PE/EVAL may be substituted based on known contaminants, if considered more appropriate.
Outer Gloves	Medium/heavy weight	Butyl, Nitrile, or other work glove	Confirm chemical performance rating. Other material types may be substituted based on known contaminants, if considered more appropriate.
Inner Boot	Safety work boot	–	Other boot types may be substituted based on known contaminants and physical hazards. Puncture resistant shanks may be required.
Outer Boot	Heavy weight Latex booties or outer boots[2]	Latex booties are used to protect suit for light duty applications. NFPA rated outer boots may be required based on anticipated site conditions and tasks.	Other outer boot coverings may be substituted based on known contaminants.
Hard Hat	Standard[3]	-	-
Eye Protection	Safety glasses/goggles[3,4]	-	-

1 Must be NIOSH approved.
2 Must meet NFPA 1991/NFPA 1994 requirements depending on the site hazard assessment.
3 Must comply with the applicable ANSI standard.
4 In the case a ½ face respirator is worn eye protection is required.

3.7.4 Level D Protection

Level D is the basic work uniform. Level D is worn when the atmosphere contains no known hazard. Work functions preclude splashes, immersion, potential for inhalation, or direct contact with hazard chemicals. For most Roux field jobs Level D is the standard minimum level of protection worn.

Table 4: Recommended Level D Ensemble Components

Component	Type	Manufacturer / Recommended Material	Notes
Respirator	None	-	-
Suit	Coveralls, street clothes, or disposable Tyvek suit	–	Other types may be substituted as appropriate.
Inner Gloves	N/A		
Outer Gloves	As appropriate for physical hazards and for comfort	–	-
Boot	Safety work boot	–	Roux's standard safety boot is 6", steel/composite safety toe, and electrical hazard (EH) rated.
Outer Boot Covering	As appropriate	–	–
Hard Hat	Standard[3]	-	-
Eye Protection	Safety glasses/goggles[3]	-	-
High Visibility Clothing	High Visibility Vest /Jacket[3]	-	ANSI Class 2 Safety Vests/Jackets are the standard. Class 3 Safety vests/jackets shall be worn in worksites with 50+ MPH traffic.
Hearing Protection	Ear muffs/plugs	-	Workers exposed to excessive noise shall don hearing protection. Refer to Roux's Hearing Conservation Program for more information.

[1] Must be NIOSH approved.
[2] Must meet NFPA 1991/NFPA 1994 requirements depending on the site hazard assessment.
[3] Must comply with the applicable ANSI standard.

3.7.5 Level E Protection

Level E protection is used when radioactivity above 10 millirems per hour (mrems/hr) is detected at the site. Personal protective equipment for Level E includes:

- Coveralls;
- Air purifying respirator (i.e., P100 or equivalent);
- Time limits on exposure;
- Appropriate dermal protection for the type of radiation present, and

- Radiation dosimetry and ambient monitoring.

3.7.6 Additional Considerations

Fieldwork will contain a variety of situations due to chemicals in various concentrations and combinations. These situations may be partially ameliorated by following the work practices listed below:

1. Foot protection is needed on every site. If the ground to be worked on is contaminated with liquid, and it is necessary to walk in the chemicals, some sort of protective shoe coverings or "booties" can be worn over the boots. Shoe coverings should be designed with soles to help prevent slips. Using disposable shoe coverings when contacting liquid contamination can on and reduce overall decontamination requirements. If non-liquids are to be encountered, a Tyvek™ bootie could be used. The advantage of booties is questionable if the ground contains any sharp objects. Boots should be worn with either cotton or wool socks to help absorb perspiration.
2. If the site requires hard hats, chin straps should be used if a person is stooping over where his/her hat may fall off. Respirator straps should not be placed over the hard hats, as this will affect the respirator's fit.

   Some types of protective materials conduct heat and cold readily. In cold conditions, natural material clothing should be worn under protective clothing. Protective clothing should be removed before allowing a person "to get warm." Applying heat, such as with a space heater, to the outside of the protective clothing may drive contaminant permeation. In hot weather, under clothing will absorb sweat. It is recommended that workers use all cotton undergarments.
3. Body protection should be worn and taped to prevent anything from running into the top of the boot. Gloves should be worn and taped to prevent substances from entering the top of the glove. Duct tape is preferred, but masking tape can be used. When aprons are used, they should be taped across the back for added protection. However, this should be done so that the person has mobility.
4. Atmospheric conditions such as precipitation, temperature, wind direction, humidity, wind velocity, and pressure determine the behavior of contaminants in air or the potential for volatile materials to become airborne. These parameters should be considered in determining the need for and the level of protection.
5. A program must be established for periodic air monitoring during site operations. Without an air monitoring program, any changes to air quality would go undetected and might jeopardize on-site personnel. Monitoring can be done with various types of air pumps and filtering devices, followed by laboratory analysis of the filtration media, personnel dosimeters, and periodic walk-throughs by personnel carrying real-time direct-reading survey instruments.
6. For operations in the exclusion zone, different levels of protection may be selected, and various types of chemical-resistant clothing may be worn. This selection should be based on the job function, reason for being in the area, and the potential for skin contact with, or inhalation of, the chemicals present.
7. Escape masks must be readily available when levels of respiratory protection do not include an SCBA and the possibility of an IDLH atmosphere exists. The use and placement of escape masks should be made on a case-by-case basis. Escape masks should be strategically located at the site in areas with a higher potential for vapors, gases, or particulates.

3.8 Decontamination of PPE

Roux prefers the use of single-use PPE to minimize the requirement for significant decontamination. The following procedures shall be considered should a field project require the need for decontamination of PPE. Roux has also developed a Site Control and Decontamination Management Program.

3.8.1 Site-Specific Decontamination Plans

The Project Manager (or another authorized individual) is responsible for formulating the site-specific PPE decontamination plan as an integral part of the Health and Safety Plan (HASP). The SHSO/SS' responsibilities include ensuring the plan's implementation and adapting it as site conditions evolve. Refer to Roux's Site Control and Decontamination Management program for additional requirements.

The decontamination plan, often created in conjunction with PPE selection, must be established prior to workers entering potentially contaminated areas. The plan should address the following key aspects:

- Decontamination Hazard Evaluation and Risk Assessment: Assessing risks associated with decontamination processes.
- PPE for Decontamination Line Assistants: Specifying appropriate PPE for personnel involved in decontamination.
- Roles and Responsibilities During Decontamination: Defining tasks and duties during the decontamination process.
- Layout and Quantity of Decontamination Stations: Determining the number and arrangement of decontamination stations, along with the designated PPE decontamination procedures at each station.
- Decontamination Equipment: Identifying the necessary equipment for effective decontamination.
- Decontamination Methods: Describing the methods and protocols for decontaminating personnel and equipment.
- Preventing Contamination of Clean Areas: Outlining procedures to prevent contamination of uncontaminated zones.
- Minimizing Contact with Contaminants During CPC Removal: Providing guidelines to reduce wearer exposure during the removal of Chemical Protective Clothing (CPC).
- Disposal Procedures for Inadequately Decontaminated Clothing and Equipment: Ensuring proper disposal practices for items that have not been adequately decontaminated.

The initial decontamination plan, which is developed in conjunction with the initial site hazard assessment, should be based on worst-case assumptions about the extent and type of contamination.

3.8.2 Emergency Decontamination of PPE

The designated SHSO/SS (or another authorized individual) assumes responsibility for addressing emergency decontamination within the site-specific Health and Safety Plan (HASP). Emergency decontamination may become necessary due to events such as fires, explosions, sudden violent storms, or medical emergencies. The emergency decontamination plan must clearly delineate emergency egress routes, as well as procedures for both decontamination and egress.

Some key points to consider regarding emergency decontamination.

- Immediate Notification: The SHSO/SS (or their designated counterpart) must be promptly informed of any circumstances requiring emergency decontamination. Additionally, they are accountable for tracking all personnel during the process.
- Urgent Medical Treatment: If urgent medical attention is necessary, decontamination of PPE may be delayed until the victim's condition stabilizes.
- Balancing Priorities: When feasible, decontamination should occur without hindering essential first aid. However, if a worker is exposed to an extremely toxic or corrosive substance, immediate decontamination is crucial to prevent severe injury or fatality.

- Heat-Related Illness: In cases of heat-related illness, protective clothing must be promptly removed (refer to Roux's Heat Illness Prevention Program).

Emergency Facilities:

- For workers potentially exposed to corrosive materials, quick drenching or flushing facilities must be provided in accordance with 29 CFR 1910.151(c) and 1926.50(g).
- Similarly, if workers face other hazards (such as splash or dust) that could harm the eyes or body, readily accessible wash stations are essential. These stations should be properly located and maintained, including regular water changes, as per the manufacturer's instructions.

3.8.3 Protection of Decontamination Line Assistants

Should work require a decontamination corridor the following shall be used as guidance. The SHSO/SS (or other designated person) must for ensuring that decontamination line assistants receive appropriate PPE and addressing their protection within the site-specific HASP. Key zones—namely, the Exclusion Zone (EZ), Contamination Reduction Zone (CRZ), and Clean Support Zone—must be clearly marked both in the field and within the site-specific HASP. The following should be considered when preparing for protection of decontamination line assistants.

1. Task Hazard Analysis: A thorough analysis must be conducted for line assistants to determine the optimal PPE level required. Factors influencing this decision include:
    - Expected or Visible Contamination on Responders
    - Type of Contaminant and associated respiratory and skin hazards
    - Total Vapor/Gas Concentrations in the CRZ
    - Presence of Particulates and specific inorganic or organic vapors in the CRZ
    - Results of Wipe Tests (refer to Section 5.4)
    - Slope and Configuration of the CRZ
2. PPE Levels: Depending on the situation:
    - Line assistants may need to wear the same PPE level as workers in the EZ.
    - Alternatively, line assistants may be adequately protected by using PPE one level lower (e.g., wearing Level C protection while decontaminating workers who are wearing Level B)."

3.8.4 Procedures to Minimize PPE Contamination

Proper work practices and procedures should be implemented at sites to minimize the potential for contact with chemicals of concern while onsite. The following guidance should be considered when developing site-specific procedures:

- Opt for single-use Personal Protective Equipment (PPE) when feasible to minimize decontamination needs.
- Ensure complete sealing of PPE closures and interfaces, including pockets, zippers, and other potential openings.
- Position gloves and boots underneath the sleeves and pant legs of outerwear to reduce exposure.
- Place hoods outside the collar if they are not already attached.
- Utilize disposable outerwear and equipment when suitable to facilitate easy disposal and reduce decontamination efforts.
- Secure all junctions with tape to block contaminants from entering gloves, boots, jackets, and suits.

- Adopt work practices that limit contact with hazardous substances, such as avoiding unnecessary exposure.
- Employ remote techniques for sampling, handling, and opening containers, like using drum grapples and pneumatic impact wrenches.
- Store monitoring and sampling devices in bags designed with openings for sample ports and sensors.
- Cover contaminant sources with plastic sheeting or overpacks to shield PPE from contamination.

3.8.5 PPE Disposal

The PM, in coordination with the field team, shall ensure the safe disposal of all wastes generated from PPE use. PPE must be placed in appropriate containers, labeled, and prepared for disposal separately from other forms of waste. Refer to Roux's General Waste Corporate Management Program for further guidance.

APPENDIX A
EPA's Emergency Responder Health and Safety Manual

GUIDELINES TO ENSEMBLES FOR SPECIFIC ACTIVITIES/TASKS WHERE CHEMICAL EXPOSURE IS POSSIBLE

GUIDELINES TO ENSEMBLES FOR SPECIFIC ACTIVITIES/TASKS WHERE CHEMICAL EXPOSURE IS POSSIBLE

IMPORTANT: READ FOOTNOTES AND ASSUMPTIONS/JUSTIFICATIONS PRIOR TO USING TABLE

Notes:

1. This table is for use by trained environmental professionals only. To use this table:
   a. Scan the activity description to find activities (bolded) that most closely matches those you plan to engage in.
   b. Review Hazard/Conditions section to make sure the hazards of the planned activity match those listed. Note the Required Work Practices and be ready to follow them.
   c. For those activities most likely to be conducted as part the response, select Targeted Minimum PPE (Personal Protective Equipment).
   d. Necessary equipment needs to be available and used unless other information becomes available which necessitates an upgrade or allows a downgrade in the protection level. The work area must be continuously re-evaluated to ensure workers have the proper safety equipment.
   e. When working in hazardous environments, workers must always be aware of their surroundings. In addition to this Table, workers entering these environments need to use “common sense” prior to proceeding.
2. These ensembles focus on chemical protection and may not be adequate for all hazards. This Table can be used as a starting point but does not circumvent proper evaluation by an industrial hygienist in appropriate situations. See Table 2 for more specific chemical agents.
3. Suits, gloves, boots listed in the Minimum PPE column will not be appropriate for all activities, hazards and conditions. The listings should be used as a guide only. Confirm PPE compatibility with specific chemical contaminants.
4. A comprehensive Task Hazard Analysis must be performed prior to final selection of ensembles/PPE material types.
5. Hardhat (Class A or C), safety glasses/other eye protection are typically required but may not be specified here. In noisy environments (above 85dB) hearing protection is required. In areas where there is traffic, heavy machinery, or other hazards involving worker visibility problems a Class 2 High Visibility Vest must be worn. Activities requiring vests include natural disaster responses, demolitions, and excavations.
6. PPE makes and models referenced in these tables are only suggestions. Other comparable, adequate makes and models may be used.

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Emergency Response and/or Initial Entry/Assessment – Low Hazard Expected (Sites/Facilities): • Air and Radiation Monitoring Sweep • Visual Assessment • Note Taking • Photo-documentation	• Suspected low hazard based on site history/visual evidence. • No CBRN suspected. • No visible/suspected vapors. • No potential for IDLH atmosphere. • Unknown physical hazards. • Some site background information. • No intrusive work expected. • Low potential for chemical splash/contact (based on expected tasks/ known conditions). • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Level B** (Downgrade/upgrade based on knowledge of contaminants and monitoring with PID/FID, radiation detector, LEL/O_2 per HASP/ SOSGs) **Respirator: Scott or MSA Full Face** **Suit Type:** [I]Tychem CPF-3 (with boot, hood)/ChemTape **Inner Glove:** [II]Nitrile (6 mil min recommended) **Outer Glove:** [II]Neoprene, Nitrile, (28 mil min recommended) **Outer Steel Toe Boot:** [IV]Tingley HazProof Model 82330 **or** **Steel Toe Boot Cover**: [V]Latex HazMaster Booty and rely on suit boot material for permeation protection. **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON**: Dry or soap & water

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Emergency Response and/or Initial Entry/Assessment of Unknown – Potential Moderate Hazard (Sites/Facilities): • Air and Radiation Monitoring Sweep • Visual Assessment • Note Taking • Photo-documentation	• Possible high hazard chemicals based on site history/visual evidence (spills, corrosion, industrial practices, etc.). • No CBRN suspected. • No visible/suspected vapors. • **No** reasonable potential for **IDLH** atmosphere. • Unknown physical hazards. • Little/ no site background information. • No intrusive work expected. • Low potential for chemical splash/contact. • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Level B** (Downgrade/upgrade based on knowledge of contaminants and monitoring with PID/FID, radiation detector, LEL/O_2 per HASP/ SOSGs) **Respirator: Scott or MSA Full Face** **Suit Type:** [I]Tychem Responder (with boot, hood)/ChemTape **Inner Glove:** [II]Nitrile (6 mil min recommended) **Outer Glove:** [II]Neoprene, Nitrile, (28 mil min recommended) **Outer Steel Toe Boot:** [IV]Tingley HazProof Model 82330 **or** **Steel Toe Boot Cover**: [V]Latex HazMaster Booty and rely on suit boot material for permeation protection. **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON**: Dry or soap & water

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Emergency Response and/or Initial Entry/Assessment of Unknown - Suspected High Hazard (Sites/Facilities): • Air and Radiation Monitoring Sweep • Visual Assessment • Note Taking • Photo-documentation	• Potential for high hazard chemicals/ IDLH based on site history/visual evidence (visible/expected reactions, spills, vapors, fumes, smoke, known releases, etc.). • No CBRN suspected. • Potential for chemical reactions. • Unknown physical hazards. • Little/ no site background information or information suggesting high hazard. • Intrusive work possible. • Potential for chemical splash/contact. • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Level A** (Downgrade/upgrade (Trelleborg, etc.) based on knowledge of contaminants and monitoring with PID/FID, radiation detector, LEL/O_2 per HASP/ SOSGs) **Respirator: Scott or MSA Full Face** **Suit Type:** Encapsulating [I]Tychem Responder/Responder CSM (with boot, hood, gloves)/ChemTape **Inner Glove:** [II]Nitrile (6 mil min recommended) **Outer Glove:** [II]Neoprene, Nitrile, (28 mil min recommended) **Outer Steel Toe/Steel Shank Boot:** [IV]Tingley HazProof Model 82330 and rely on suit boot material for permeation protection. (ASTM F-2413/ANSI Z41) **DECON**: Dry or soap & water: water source for emergency DECON; other DECON agents on hand.

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Drum/Tank Sampling • Container opening • Continuous air monitoring • Product sampling	• Unknown chemicals. • No CBRN. • Potential splash hazard. • Physical hazard controls in place. • Assumes no initial hazardous atmosphere. • Ensure availability of water source for emergency DECON/shower/eyewash. • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Level B** (Upgrade/Downgrade based on knowledge of contaminants and monitoring with PID/FID, radiation detector, LEL/O_2 per HASP/ SOSGs) **Respirator: Scott or MSA Full Face** **Suit Type:** [I]Tychem Responder (with boot, hood)/ChemTape **Inner Glove:** [II]Nitrile, Neoprene, Viton, PVC **Outer Glove:** [II]Heavy Duty Butyl, Nitrile, **Other:** ANSI Approved Splash Shield **Outer Steel Toe Boot:** [IV]Tingley HazProof Model 82330 **or** **Steel Toe Boot Cover**: [V]Latex HazMaster Booty and rely on suit boot material for permeation protection. **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry DECON or soap and water; water source for emergency DECON and eyewash suggested.

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Hazardous Categorization Testing (**HAZCAT**) • Opening sample containers in controlled environment • Working with small sample quantities in well ventilated area • Conducting HAZCAT testing with appropriate lab equipment	• Assumes known chemical classes and site situation/background. • No CBRN suspected. • Assumes immediate suit removal if contaminated and frequent glove changes. • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Level B** (Upgrade/Downgrade based on knowledge of contaminants and monitoring with PID/FID, radiation detector, LEL/O_2 per HASP/ SOSGs) **Respirator: Scott or MSA Full Face** **Suit Type:** [I]Tychem CPF4 (with hood, boot) **Inner Glove:** [II]Nitrile **Outer Glove:** [II]Viton or 4-H (use surgie over the 4-H for dexterity) **Outer Steel Toe Boot:** [IV]Tingley HazProof Model 82330 **or** **Steel Toe Boot Cover**: [V]Latex HazMaster Booty and rely on suit boot material for permeation protection. **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry or soap and water; water source for emergency DECON and eyewash suggested

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Oil Spill Response/Recovery Operations – Fresh Product: • Recovery operations (vac truck, skimmers, boom deployment where direct contact expected) • Product sampling • Continuous air monitoring at/near source of spill	• Crude oil/diesel/kerosene/gasoline spill. • Assumes fresh/ongoing spill, close proximity to source. • Assumes early phase while evaporation of light organics, benzene/other aromatics is still occurring (24-48 hours or if spill is on-going). • Assumes down-wind location. • Continuous air monitoring required for %LEL, Organics, $\%O_2$ (and H_2S as necessary for sour crude). • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Modified Level C:** 1/2 face respirator w/safety glasses/goggles as needed for splash protection. Downgrade as appropriate based on air monitoring. **Respirator: Scott or MSA ½ Face** **Respirator Cartridge:** [III] Multi-Phase Cartridge (Scott 642 Multi-purpose; MSA with/GME P-100 or equivalent). **Suit Type:** [I]Tychem CPF4 w/boot [jet fuel use Tychem BR] **Inner Glove:** [II]Neoprene (for protection at DECON line only, not for prolonged contact) **Outer Glove:** [II]Viton-Butyl Rubber (assumes potential for direct contact with fresh material – based on benzene/aromatic constituents) SEE NEXT ROW FOR WEATHERED PRODUCT. **Outer Steel Toe Boot:** [IV]Tingley HazProof Model 82330 **or** **Steel Toe Boot Cover**: [V]Latex HazMaster Booty and rely on suit boot material for permeation protection. **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry DECON/ Soap and water as feasible

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Oil Spill Response Assessment/Recovery – Weathered Product • Shoreline clean-up assessment (SCAT) • Environmental sampling/weathered product sampling • Recovery Operations for weathered material • Assessment via boat/on or near water – use appropriate flotation device with ensemble.	• Crude oil/diesel/kerosene/gasoline spill. • Assumes weathered oil (over 24-48 hours, depending on spilled material and ambient temperatures). • Assumes operations are remote from source of spill. • Assumes no other potential for airborne aromatics/benzene/flammable vapors.	**Modified Level D** (Upgrade/Downgrade based on potential for contact and air monitoring with FID/PID, LEL/O_2 Meter. **If contact with material suspected, use following:** **Suit Type:** [I]Tychem F w/boot [jet fuel-Tychem BR] (Tychem SL may be an option for weathered crude/diesel – see manufacturer's information) **Inner Glove:** [II]Nitrile **Outer Glove:** [II]Nitrile (Best Nitri-solv 727) **Outer Boot Cover:** [V]Latex HazMaster Booty **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry DECON/Soap and water as feasible

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Demolition/Excavation Operations: • Heavy equipment operation • Excavation/Trenching • Continuous air monitoring when soil is disturbed or demolition activities conducted. • Fuel Oil underground tank removal. • Drum Excavation activities EXCLUDED.	• Demolition activities generating potentially hazardous particulates (asbestos, lead, silica, etc.). • Excavation activities that could expose soil contaminated with low levels of known hazardous chemicals to the surrounding area /in the trench/ excavation. • No potential for IDLH atmosphere. • Site background information available. • Known physical hazards. • Workers will have minimal/ no contact with contaminants (i.e., operators in a cab, inspectors/ observers at a safe distance). • Continuous air monitoring required in trench for %LEL, Toxics, and $\%O_2$ when workers are in trench and for particulate when activities generating particulate are conducted. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Modified Level C:** 1/2 face respirator w/safety glasses. Downgrade or upgrade as appropriate based on air monitoring. **Respirator: Scott or MSA ½ Face** **Respirator Cartridge:** [III] Multi-Phase Cartridge (Scott 642 Multi-purpose P-100; MSA with/GME P-100 or equivalent). **Suit Type:** [I]Proshield Next Gen **Inner Glove:** NA **Outer Glove:** Leather **Outer Steel Toe Boot: NA** **Steel Toe Boot Cover**: [V]Latex HazMaster Booty (if chemical in soil is possible) **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry DECON/ Soap and water as feasible

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Natural Disaster Response (Hurricane, Tornado, Flood, Earthquake) - Orphan Container Recovery: • Routine hand collection/pick-up of small containers from debris piles/lines • Land based operations - conducted on foot **Note:** Physical Hazards may necessitate PPE modifications.	• Unknown materials – confident identification based on visual observations. • **Required Work practice:** re-evaluate prior to moving suspicious containers. Air monitoring and PPE upgrade may be required. • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Modified Level D:** Upgrade/downgrade based on suspicious containers (not easily identified visually) and air monitoring with PID/FID, radiation detector, LEL/O_2 per HASP/ SOSGs **Suit Type:** [I]Tychem CPF-3 w/boot **Inner Glove:** [II]Nitrile **Outer Glove:** [II]Nitrile (Best Nitri-solv 727) or Leather **Outer Boot Cover:** [V]Latex HazMaster Booty **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry DECON/Soap and water as feasible
Natural Disaster Response (Hurricane, Tornado, Flood, Earthquake) - Orphan Container Recovery: • Routine Drum recovery from debris lines/piles/ other – conducted on land **Note:** Physical Hazards may necessitate PPE modifications.	• Unknown materials – confident identification based on visual observations. • **Required Work practice:** re-evaluate prior to moving suspicious containers. Air monitoring and PPE upgrade may be required. • **Required Work Practice:** Immediate PPE Change-out (i.e., gloves, etc.) upon contact with chemicals. • **Required Work Practice:** Must follow standard air monitoring protocol.	**Modified Level D:** Upgrade/downgrade based on suspicious containers (not easily identified visually) and air monitoring with PID/FID, radiation detector, LEL/O_2 per HASP/ SOSGs **Suit Type:** [I]Tychem CPF-3 w/boot **Inner Glove:** [II]Nitrile **Outer Glove:** [II]Nitrile (Best Nitri-solv 727) or Leather **Outer Boot Cover** [V]Latex HazMaster Booty **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry DECON/Soap and water as feasible

Activity Description	Hazards/Conditions	Targeted Minimum PPE
Natural Disaster Response (Hurricane, Tornado, Flood, Earthquake) – Flood water sampling: • Water Sampling of flood waters where potential for contact with hands/feet is high **Note:** Physical Hazards may necessitate PPE modifications.	• Unknown contaminants • Potential for pathogens suspected • Low potential for acute exposure to hazardous chemicals • Assumes open air/well ventilated areas **Required Work Practice:** Monitor all poorly ventilated areas in appropriate PPE/Respiratory Protection for organic vapors (PID & FID), %LEL/flammable atmospheres, H_2S prior to entry	**Modified Level D:** Upgrade based on more information as it becomes available. **Suit Type:** [i]Proshield Next Gen **Inner Glove:** [ii]Nitrile **Outer Glove:** [ii]Nitrile (Best Nitri-solv 727) **Outer Boot**: Waders (butyl, neoprene) as needed. **Steel Toe/Steel Shank Boots:** ASTM F-2413/ANSI Z41 **DECON:** Dry DECON/Soap and water as feasible
Environmental Sampling (Low Concentration Water/Soil/Perimeter Air): • Multi-media Sampling • Documentation (written/photo) • Inspection of clean-up operations	• Known Chemical Contaminants. • Airborne concentrations well below PELs. • Minimal chance of skin exposure to chemicals. • Insects possible.	**Level D:** Upgrade based on more information as it becomes available. **Suit Type:** [i]Proshield 1 (if ticks, etc. maybe a problem) **Inner Glove:** [ii]Nitrile **Outer Glove:** NA **Outer Boot:** NA **Steel Toe Boots:** ASTM F-2413/ANSI Z41 **DECON:** NA

i. Tychem and Proshield suits can be purchased from Safeware: 800-331-6707, http://www.safewareinc.com , (see also LSS, http://www.labsafety.com, Dupont: 1-800-931-3456, http://www2.dupont.com/Personal_Protection/en_US/index.html)

ii. Nitrile Inner/Outer Gloves; Viton; Butyl Rubber; 4-H (polymeric) can be purchased from Safeware: 800-331-6707, http://ww.safewareinc.com ; Airgas: 1-866-718-0685, http://www.airgas.com (see also North Safety, http://www.northsafety.com); Best Gloves, http://www.bestglove.com ; Lab Safety Supply (LSS), http://www.labsafety.com; Airbill, http://www.airbill.com)

iii. Multi-Phase Cartridge (Scott 642 Multi-purpose; MSA with/GME P-100 or equivalent) can be purchased from LSS: 1-800-356-0673, http://www.labsafety.com (see also Safeware, http://www.safewareinc.com; Scott Safety, http://www.scotthealthsafety.com/; MSA, http://www.msanet.com/)

iv. Tingley HazProof Overboots or similar can be purchased from LSS: 1-800-356-0673, http://www.labsafety.com; National Safety, Inc.: 1-800-213-7092, http://www.nationalsafetyinc.com

v. Latex Hazmaster Booties, Nuke Boot or similar can be purchased from Safeware: 800-331-6707, http://www.safewareinc.com; Airbill: 1-215-632-2000, http://www.airbill.com; (see also Airgas, http://www.airgas.com; LSS, http://www.labsafety.com

APPENDIX E

Subsurface Utility Clearance Management Program

SUBSURFACE UTILITY CLEARANCE MANAGEMENT PROGRAM

CORPORATE HEALTH AND SAFETY DIRECTOR	**:**	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	**:**	**01/2019**
REVIEW DATE	**:**	**03/2025**
REVISION NUMBER	**:**	**5**

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APPENDICES

Appendix A – Roux Subsurface Utility Clearance Checklist/ Utility Verification/Site Walkthrough Record

Appendix B – Private Utility Technology Applications and Considerations

1. PURPOSE

Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C., and Remedial Engineering (collectively, "Roux"), have instituted the following program for completing proper utility mark-outs and for conducting subsurface clearance activities. This establishes a method to ensure, to the greatest extent possible, that utilities have been identified and contact and/or damage to underground utilities and other subsurface structures will be avoided. For the purpose of this program, a structure is defined as any underground feature that may present a potential source(s) of energy, such as, but not limited to, utility vaults, bunkers, piping, electrical boxes, wires, conduits, culverts, utility lines, underground tanks, and ducts.

2. SCOPE AND APPLICABILITY

The Subsurface Utility Clearance Management Program applies to all Roux employees, as well as their contractors and subcontractors. Employees are expected to follow this program for all intrusive work involving Roux or other personnel (e.g., contractors, subcontractors) working for Roux, unless the client's requirements are more stringent. Intrusive work activities can include, but are not limited to, digging or scraping the ground surface, including, but not limited to, excavation; test pitting or trenching; soil vapor sampling or the installation of soil borings, soil vapor monitoring points and wells, or monitoring wells; and drilling within concrete slabs on grade.

Deviation from the program, regardless of the specific work activity or location, must be pre-approved based on the client's site knowledge, experience, site conditions, and additional documentation on the site. Any exceptions shall be documented through the Roux Subsurface Utility Clearance Variance Form, located within the Roux Health & Safety Online Application or via OKTA. Approval is required from the Project Principal (PP) and the Operations Manager (OM), in consultation with the Office Health and Safety Manager (OHSM) or Corporate Health and Safety Director (CHSD), prior to mobilization. Depending on the work location, more stringent federal, state, local, or client requirements may apply. It is the responsibility of the Project Team to identify such requirements prior to mobilization.

3. PROCEDURES

3.1 Before Intrusive Activities/Job Planning Process

Prior to intrusive work at a site, the Project Manager (PM) shall ensure that the notification of the State One Call or equivalent service (Nationwide-811) is completed a minimum of 48-72 hours (One-Call State Law Directory) before intrusive work activities (this timeline excludes Saturdays, Sundays, Legal Holidays and 811 observed holidays). This notification is required by law for all states. State-specific or local laws related to utility location may vary. The project team is responsible for understanding requirements that may affect their work site.

Obtain, review, and field verify relevant historical site data that may include: as-builts/site plans; easement/right-of-way information; historical aerial photos/development plans; local/state permitting records; previous site investigation/boring logs; and/or interviews with site representative/client. Interviews with site or client personnel should ask the following:

- Employee(s) Name and Relationship with the site;
- Types of utilities, including structure and location of utilities on-site;
- Depth of known utilities; and
- Any other relevant information as it pertains to the site.

Prior to intrusive work activities, information pertaining to the site should be included in Roux's Subsurface Utility Clearance Checklist and Utility Verification/Site Walkthrough forms. This form is located within the Roux Health & Safety Online Application or through OKTA.

If there is the potential for unexploded ordnances or munitions, consultation with your OM and CHSD is required prior to site operations.

3.1.1 Project Kick-Off Meeting

During the project kick-off meeting for intrusive activities, the PM will review the Roux Subsurface Utility Clearance Checklist, Utility Verification / Site Walkthrough Record (Appendix A) and the below bullet points with the project field team:

- Confirm that the State One Call or equivalent is received and that the ticket number is confirmed, reviewed, and valid for the time of work. If intrusive work activities are not conducted during this valid time period, the One Call ticket must be renewed, and the site must be remarked;
- Review the work scope to be performed with the site owner/tenant to determine if it may impact any utilities;
- Determine the need for utility owner companies to be contacted or to have their representatives on site;
- Where mark-outs terminate at the property boundary, consider the use of private utility locating / (e.g., Radio Frequency Detection, Electromagnetic Induction), Ground Penetrating Radar (GPR) , and other applicable geophysical inspection services. The use of private utility locating firms, however, does not eliminate the legal requirement for the subcontractor (e.g., driller, excavation firm) to submit a request for Public Utility Mark-outs. Also, the information provided by the service may be inaccurate and unable to locate subsurface utilities and structures in urban areas, landfills, urban fill areas, below-reinforced slabs, etc. They should not be relied upon as the only means of performing utility clearance;
    - A mark-out is defined as the process of contracting with a competent and qualified company to confirm the presence or absence of underground utilities and structures. This process will clearly mark out and delineate identified utilities so that intrusive work activities can be performed without causing disturbance or damage to the subsurface utilities and structures. After utility mark-outs are completed, soft Digging must completed prior to intrusive work. Section 3.4 Preferred Methods of Clearing the Subsurface (Pre-Clearing) outlines requirements for pre-clearing techniques in order of preference.
- Documented description of the dig site, which is included in the project's Health and Safety Plan (HASP), and one call report will be maintained in the field and distributed amongst Roux personnel, its contractors, and subcontractors; and
- Documentation of the actual placement of mark outs in the field shall be collected using dated pictures, videos, and/or sketches with distance from markings to fixed objects. All documentation shall be maintained within the project file.

3.2 Utility Mark Out

- Ensure the Mark-out / Stake-out Request Information Sheet (or one-call report) is complete and accurate for the site, including address and cross streets, and review for missing utilities. Ensure ticket life is still valid for work.
    - Note: Utility mark-out organizations do not have contracts with all utilities, and it is often necessary to contact certain utilities separately, such as the local water and sewer authorities, local transportation departments, and railroad operators. In the event the Project Teams

anticipate subsurface work will impact public utilities, railroad operations, or public roadways, coordination with the utility owners/operators is required.

- Have written confirmation prior to mobilizing to the site that the Project Team or Roux personnel performing the intrusive activity has correctly completed the mark-out notification process, including requesting mark-outs, waiting for mark-outs to be applied to ground surfaces at the site, and receiving written confirmation of findings (via fax or email) from utility operators for all known or suspected utilities in the proposed area of intrusive activity, and provided utility owner written confirmation to Roux personnel for review and project files documentation.
- Do not begin any intrusive activity until all utility mark-outs have been completed (i.e., Did all utilities mark-out the site?) and any unresolved mark-out issues are finalized. Perform a site walk to review the existing utilities and determine if the utility locators have located said utilities.

  (Note: The Tolerance Zone is defined as three feet from the outside edge of any subsurface structure.)
- For non-subscribing utility owners or if public one-call service is not available, perform due diligence and request further information regarding utility type, construction details, location, and burial depth directly from public service providers/utility owners. Request utility mark-out by each public service provider/utility owner as applicable. Confirm contact and response by each public utility owner on the Subsurface Utility Clearance Checklist.
- If utilizing a Private Mark out, ensure the contractor has a plan regarding what types of technology will be used based on Table 1 in Appendix B: Private Utility Technology Applications and Considerations. If possible, it is recommended that multiple technologies be used to sweep each location/work area. Use a tracer wire to locate the utility (when tracer wires are present). Record the results of the private utility mark-out on the Utility Verification/Site Walkthrough Record form.

3.3 Site Visit/Utility Walkthrough

Before mobilization with the subcontractor or during the pre-work safety tailgate with the subcontractor, perform a site walkthrough after utility mark-outs have been completed to determine whether additional potential hazards are present and look for visible signs of utilities that may be present. Outlined below are considerations regarding a site walk before intrusive activities. Before initiating any intrusive work, verify that the utilities marked on-site align with the information provided in the One Call response notification/ticket and with site plans and documents. If any discrepancies arise, address them promptly to ensure accuracy and do not start intrusive work until they are rectified.

- Identify overhead utilities that may impede equipment mobilization or work zones to ensure adequate Occupational Safety and Health Administration (OSHA) clearance distance(s), as specified within the site-specific Health and Safety Plan (HASP) and 29 CFR 1926.1408 Table A.

The presence of any of the following may indicate potential subsurface structures:

- Locations of buildings, equipment, and features like area lights, signs, sprinkler systems, phones, drains, natural gas meters, manholes, etc.;
- Warning tape, which is often a sign of underground services;
- Material like pea gravel, sand, or other non-native materials can indicate the presence of tanks or lines or any deviations from the established native soil or backfill conditions;
- Red concrete that is often used for electrical duct banks;
- Evidence of damaged utilities, such as piping materials, insulation, or odors present in the work area; and

- Other utilities, including fire hydrants, electrical transformers, pipeline markers, valve covers, steam lines, valve box covers, clean-outs, etc.

By observing the path between the main service line and the connection point (e.g., a utility meter at the exterior of the site building), it may be possible to determine the likely routing of on-site utilities. However, this method should not be relied upon solely, and proper risk mitigation strategies should be in place before proceeding with any ground disturbance activities. Look outside your work zone for other potential utilities that may cross through it.

For sites with potential underground storage tanks present (UST), the following guidance applies:

- Identify if the product piping is either rigid or flexible.
- Conduct a visual examination of the tank field, observation wells, dispensers, vent stacks, and UST fill points to determine their location.
- Locate and become familiar with the emergency shutoff button/switch, if present.
- Determine the orientation, arrangement, and location of the tanks, as well as their size and capacity, through the examination of visible features at grade, such as fill ports and extractor covers, and by consulting any available as-built drawings.

Before commencing any subsurface intrusive work, field staff should thoroughly address any discrepancies in utility company mark-outs or the absence of mark-outs.

3.3.1 Project Management - Field Personnel

Whenever possible, it is advisable to assign the same project personnel to both utility location and clearance tasks as well as intrusive activities. This continuity ensures that site knowledge and utility information gathered during the clearance phase remain up-to-date. Having this historical perspective helps minimize the risk potential of utility strikes.

In cases where maintaining the same personnel throughout the project is not feasible, a thorough knowledge transfer regarding site utilities, locations, clearance results, and proposed intrusive activities becomes essential. The PM must ensure that there is a successful handoff of information when there is a change in field personnel.

3.3.2 Utility Markings

The utility marking color code includes various uniform colors. The following APWA uniform color code (ANSI Z535.1) is provided below. While certain government agencies or large industrial facilities may use additional colors, Roux's policy is to consider any unlisted paint marking or pin flag color as a subsurface utility marking unless proven otherwise.

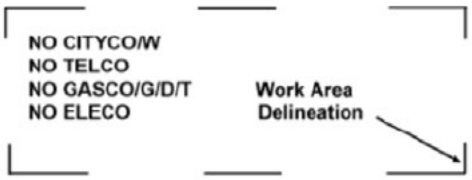
If utilities or subsurface anomalies are identified but their type or classification remains uncertain, it is advised to employ pink paint or pin flag (Temporary Survey Marking) for marking. Once the utility type is definitively established, the pink marks should be updated to represent the correct type of utility accurately.

White	Proposed Excavation
Pink	Temporary Survey Markings
Red	Electric Power Lines, Cables, Conduit, and Lighting Cables
Yellow	Gas, Oil, Steam, Petroleum, or Gaseous Materials
Orange	Communication, Alarm or Signal Lines, Cables, or Conduit
Blue	Potable Water
Purple	Reclaimed Water, Irrigation, and Slurry Lines
Green	Sewers and Drain Lines

Understanding the markings left by locators during the 811 process is crucial for avoiding utility-related issues. Typically, these markings are done when Roux staff members are not physically present on-site. To enhance understanding/accuracy, it is advisable for staff to be present during the 811 process or engage in conversations with locators, both public and private, while on-site. Additionally, utility marks must adhere to the proper standards outlined in the Uniform Color Code.

Common Abbreviations *(Source: Common Ground Alliance)*

Facility Identifier		Underground Construction Descriptions		Infrastructure Materials	
CH	Chemical	C	Conduit	ABS	Acrylonitrile - Butadiene - Styrene
E	Electric	CDR	Corridor	ACP	Asbestos Cement Pipe
FO	Fiber Optic	D	Distribution Facility	CL	Cast Iron
G	Gas	DB	Direct Buried	CMC	Cement Mortar Coated
LPG	Liquefied Petroleum	DE	Dead End	CML	Cement Mortar Lined
PP	Petroleum Products	JT	Joint Trench	CPP	Corrugated Plastic Pipe
RR	Railroad Signal	HP	High Pressure	CMP	Corrugated Metal Pipe
S	Sewer	HH	Hand Hole	CU	Copper
SD	Storm Drain	MH	Manhole	CWD	Creosote Wood Duct
SS	Storm Sewer	PB	Pull Box	HDPE	High Density Polyethylene
SL	Street Lighting	R	Radius	MTD	Multiple Tile Duct
STM	Steam	STR	Structure (vaults, junction inlets, lift station)	PLA	Plastic (conduit or pipe)
SP	Slurry System	T	Transmission Facility	RCB	Reinforced Concrete Box
TEL	Telephone			RCP	Reinforced Concrete Pipe
TS	Traffic Signal			RF	Reinforced Fiberglass
TV	Television			SCCP	Steel Cylinder Concrete Pipe
W	Water			STL	Steel
W	Reclaimed Water "Purple"			VCP	Vitrified Clay Pipe



3.4 Preferred Methods of Clearing the Subsurface (Pre-Clearing)

At least one of the methods listed below shall be carried out during pre-clearing activities. The Project Team is responsible for evaluating risks associated with the Scope of Work to determine which method is selected.

If none of the following pre-clearing activities are performed, a Subsurface Utility Clearance Variance must be submitted to the OM. This Subsurface Utility Clearance Variance must provide clear lines of evidence that there are no utilities present within the intrusive work zone. Examples include demolition permits of the site, utility closure documents indicating no live utilities on-site, as-builts, site history, etc.

The following approaches shall be considered and implemented based on the Scope of Work.

- ***Soft Digging***
  - This is the preferred method of utility clearance when clearing higher-risk utilities. Soil should be cleared through the use of a vacuum truck/equivalent, an accompanying air knife (preferred), or a water lance to break up and loosen the soil for removal with the vacuum.
- ***Hand Digging***
  - Soil should be broken up and removed using a shovel or other appropriate hand tools without excessive force. Limit the use of dig bars or other tools that, if used incorrectly, can significantly damage utilities.
- ***Hand Augering***
  - The hand auger must be turned slowly using even hand pressure without excessive force. Rounded-edge augers are preferred. Hand augers should not be used in pea stone/pea gravel where utilities may be present and could potentially be damaged by the hand auger. The abrupt absence of soil recovery in a hand auger could indicate utilities as pea gravel or sand may have spilled out of the auger (exception: native soil conditions that typically result in poor hand auger recoveries). If any resistance is encountered while operating the hand auger for pre-clearance, the equipment will be removed, and the exploratory test hole will be visually inspected by onsite personnel for any obstructions or indications of subsurface structures.

3.4.1 Guidance for Tools and Equipment

Personnel performing pre-clearance activities shall keep tools and equipment in safe working order and be properly inspected before use. If tools or equipment are broken, they will be tagged and removed from service. The following specify additional guidelines regarding tools and equipment:

- Hand-digging tools must have a non-conductive handle, such as fiberglass, wood, or composite, or fully insulated handles and potential contact surfaces.
- Blades on shovels and post-hole diggers should have rounded or blunt edges.
- Pick axes or pointed spades should not be used for physical clearance.
- Crowbars, pinch-bars, or pry bars should not be used to break hardened soil or backfill except when authorized by the Site Supervisor (SS). This should only be used to loosen materials like bricks or larger stones.
- Electric-powered equipment must have ground-fault protection.
- Should there be refusal or difficulty with advancing hand tools, the contractor shall stop work and notify the Roux SS or Site Health and Safety Officer (SHSO) immediately.

3.5 During Intrusive Activities

3.5.1 Concrete/Paving Surface Removal

Remove any surface coverings (i.e., pavement, brush, debris, etc.) to ensure workers have clear visibility of the work area and subsurface conditions. Avoid mechanical jackhammering over known lines unless they are de-energized, locked-out/tagged-out, and potential repairs are planned or if the utility has been completely disconnected prior. When cutting or coring, go only as far as needed to penetrate the surface cover. When removing a large surface area, begin at the perimeter of the removal zone. This initial step helps identify any utilities passing through the work zone. For extensive areas, using a concrete saw might not be practical. Instead, heavy equipment is often employed. During this process, a designated spotter should guide the heavy equipment. Their role is to watch for warning signs of utilities. It is crucial that the heavy equipment does not have “teeth” that could potentially pass through the surface and damage utilities.

3.5.2 Pre-Clearance Procedures

Install pre-clearance exploratory test holes using one of the techniques, as outlined in Section 3.4, for the first 5-ft below land surface (BLS) at each location before conducting intrusive mechanized activities. Should utilities be located at a greater depth than 5-ft BLS consult with the OM, OHSM and CHSD regarding adjustments to the pre-clearance requirements to go greater than 5-ft BLS. Some Clients may require greater than 5-ft BLS for pre-clearance test holes; Project teams should be aware of such Client requirements prior to work.

Pre-clearance exploratory test holes should be defined in the SOW/proposal provided to the client to prevent project delays and to allow adequate time for the PM and PP to evaluate alternative approaches for the project. Alternative approaches will need to be pre-approved by the OM through a Subsurface Utility Clearance Variance.

Both single-point and three-point clearance are acceptable as long as the following criteria are met below. For single-point clearance, the exploratory test hole is advanced at the exact location of the proposed borehole. If three-point clearance is performed, it must be done in a triangular pattern around the proposed borehole and in a configuration that would not allow utilities to enter the borehole.

- The size of the pre-clearance exploratory test hole should be, at a minimum, twice the diameter of any downhole tool or boring device.
- For direct push applications (CPT, Geoprobe®, etc.), the borehole clearance diameter shall be at least 125% of the diameter of the largest tool being pushed through the subsurface (e.g., tip, rod, sampler, etc.), to the minimum required depth.
- For excavations, all utilities need to be marked and then exposed by soft-digging or by hand, following the protocols in this program. Pre-clearing for excavations may be performed by the “moat” technique (i.e., soft Digging around the perimeter). In these cases, dig in small lifts (<12” for first 5 feet using a dedicated spotter.
- For Tolerance Zone work, unless otherwise agreed upon with the Utility Operator, work within the tolerance zone requires verification by means of pre-clearance test holes specified in Section 3.4 to expose the utility. Once structures have been verified, a minimum clearance of three feet must be maintained between the utility and any powered equipment. If considered a high-risk utility, additional requirements may be necessary and required by the Operator of the utility. Consultation with the OM and CHSD may be appropriate.

The PM, field team lead, or personnel performing oversight is to:

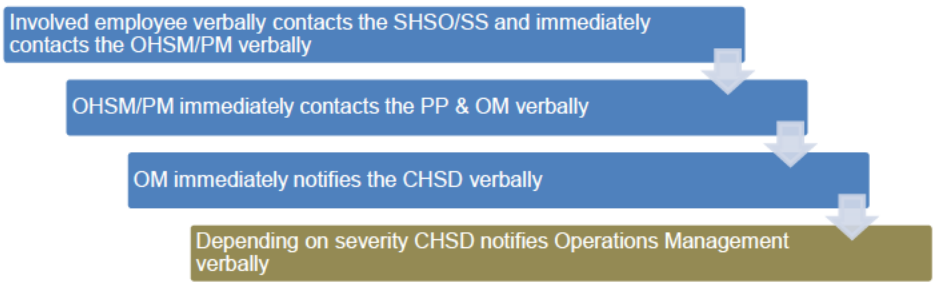
- Ensure the mark-out remains valid. (In certain states, there are limits regarding the duration of time after the mark-out was applied to the ground surface work can be started or interrupted.) Additionally, the mark-outs must be maintained, documented, and in many cases, refreshed periodically to be considered valid. This will be accomplished through calls to the one call center.
- Ensure intrusive activities are only performed within the safe boundaries of the mark-out as detailed in the One-Call Report.
- Halt all work if intrusive activities have resulted in the discovery of an unmarked utility. Roux personnel shall notify the facility owner/operator and the one call center. All incidents such as this will be reported as per Roux Incident Investigation and Reporting Management Program.
- Halt all work if intrusive activities must take place outside of the safe boundaries of a mark-out and only proceed after new mark-outs and subsurface utility clearance are performed.
- Halt the intrusive activities and immediately consult with the PP if an unmarked utility is encountered.
- Complete any loss reports associated with subsurface utility strikes, as necessary.
- If a utility cannot be found as marked, Roux personnel shall notify the facility owner/operator directly or through the one-call center. If the facility operator is not responsive, then the one-call center must be notified. Following notification, the excavation/mechanical intrusive work may continue unless otherwise specified in state law.
- Contractors/subcontractors must contact the one-call center to refresh the ticket when the excavation continues past the life of the ticket. State law dictates ticket life. Project teams must be aware of their state-specific requirements.

3.6 Stop Work Authority

Each Roux employee has Stop Work Authority that he or she will execute upon determination of any imminent safety hazard, emergency situation, or other potentially dangerous situation, such as hazardous weather conditions. This Stop Work Authority includes subsurface clearance issues such as the adequacy of a mark-out or identification during intrusive operations of an unexpected underground utility. Authorization to proceed with work will be issued by the PM/PP in consultation with the OHSM after such action is reviewed and resolved. The PM will initiate and execute all management notifications and contact emergency facilities and personnel when this action is appropriate.

3.7 Reporting Utility Incidents

Roux field personnel engaged in any utility strike (e.g., subsurface/aboveground) must promptly stop work, shutdown any equipment and get to a safe location at the Site. Then notify the PM to discuss the incident. In case of injuries, field personnel must call 911 or the local emergency services number and then inform the PM. Additional notifications shall follow Roux's Incident Notification Process. Depending on the utility strike additional notifications shall be made to utility operators and/or clients/site contacts.



Appendix A
Roux Subsurface Utility Clearance Checklist

Appendix A

Roux Subsurface Utility Clearance Checklist/Utility Verification/Site Walkthrough Record

Roux Subsurface Utility Clearance Checklist ***Date of Revision: 3/2024***

Work site set-up and work execution

ACTIVITY	Yes	No	N/A	COMMENTS INCLUDING JUSTIFICATION IF RESPONSE IS NO OR NOT APPLICABLE
Daily site safety meeting conducted, SPSAs performed, JSAs reviewed, appropriate work permits obtained (if applicable).				
HASP is available and reviewed by site workers / visitors.				
Subsurface Utility Clearance Procedure has been reviewed with all site workers.				
Mechanical intrusive work activities may not be performed at any location without authorization from the Roux Site Supervisor (SS). Clearance activities may not be performed at any location unless the SS is physically present.				
Work area secured; traffic control established as needed. Emergency shut-off switch located. Fire extinguishers / other safety equipment available as needed.				
Utility mark-outs (public / private) clear and visible. Provide Excavator's Stake-Out Reference Number / Request Date / Time.				
Tolerance zone work identified. Intrusive work activities cannot be performed in areas that are in direct conflict with any markings made by public or private locators.				
Unless the PP & OM authorizes it, all boreholes and test pit locations must be physically cleared before using mechanized equipment. Required minimum physical clearance depths and diameters are as follows: • Physically clear to a depth of 5 feet bls. • The size of the pre-clearance exploratory test hole must be, at a minimum, twice the diameter of any downhole tool or boring device. • For direct push applications (CPT, Geoprobe®, etc.) the borehole clearance diameter shall be at least 125% to the diameter of the largest tool being pushed through the subsurface (e.g., tip, rod, sampler, etc.).				
Work execution plan reviewed and adhered to (ground disturbance methods, clearance depths, any special utility protection requirements, or any other execution requirements; especially for Tolerance Zone work).				

Mechanical intrusive work is prohibited within 3-feet distance in all directions from subsurface structures that will be intentionally exposed during pre-clearance. Any removal of material within 3-feet of the subsurface structure may only proceed by hand using non-conductive tools/compressed air if authorized by state law and the owner/operator of the utility.				
All equipment onsite must maintain the appropriate horizontal distance from any point on the equipment to the nearest overhead electrical power line. Refer to site-specific HASP and local/utility company requirements.				
Verbal endorsement received from Roux PM and OM for any required field deviations to work execution plan.				

Key Reminders for Execution

The Subsurface Utility Clearance Protocol should be referenced to determine all requirements while executing subsurface work. The bullet points below are intended as general reminders only and should not be relied upon solely.

- The size of the pre-clearance exploratory test hole must be at a minimum twice the diameter of any downhole tool or boring device to minimum required depth of 5 feet bls.
- For direct push applications (CPT, Geoprobe®, etc.) the borehole clearance diameter shall be at least 125% of the diameter of the largest tool being pushed through the subsurface (e.g., tip, rod, sampler, etc.), to the minimum required depth of 5 feet bls.
- The tolerance zone is defined as three feet plus half of the diameter or half of the greatest dimension (for elliptical sewers, duct banks, and other non-cylindrical utilities) of a utility and three feet from the outside of any subsurface structure.
- For excavations, all utilities need to be marked and then exposed by hand, following the protocols in this program. Pre-clearing for excavations may be performed by the “moat” technique (i.e., soft digging around the perimeter). In these cases, dig in small lifts (<12” for first five feet) using a dedicated spotter.) For Tolerance Zone work, unless otherwise agreed upon with the Utility Operator, work within the tolerance zone requires verification by means of hand-dug test holes to expose the utility. Once structures have been verified, a minimum clearance of three feet must be maintained between the utility and any powered equipment.

Utility Verification/Site Walkthrough Record

Employee Name:_____

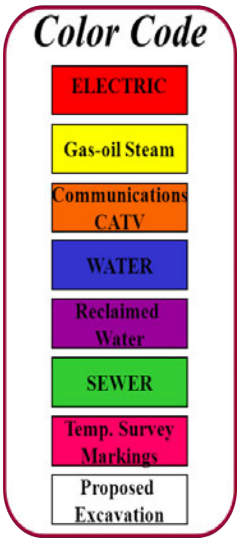
Date: _____

Instructions: For each utility suspected at the job site, indicate the location on the job site, approximate burial depth, and means of detecting the utility. Leave blank if that utility is not believed to be present.

Utility	Description of Utility Location Identified Onsite	Approx. Depth (bls)	Method / Instrumentation used to determine Utility Location	Utility Owner Response (Date/Time)	Mark Out Indicates (Clear / Conflict)
Electrical Lines					
Gas Lines					
Pipelines					
Steam Lines					
Water Lines					
Sanitary and Stormwater Sewer lines					
Pressured Air-Lines					
Tank Vent Lines					
Fiber Optic Lines					
Underground Storage Tanks					
Phone Lines/ Other					

* bls - below land surface

Site Sketch Showing Utilities:



Other Comments / Findings:

Completed by: _____

Signature: _____ Date: _____

Appendix B
Private Utility Technology Applications and Considerations

Appendix B – Private Utility Technology Applications and Considerations

Technology ⇒ **Utility/Object** ⇓	Radio Frequency Electro-Magnetic Detector (connection to utility, or induction without connection)	Radio Frequency Electro-Magnetic Detector (passive sweep)	Ground Penetrating Radar (GPR)⊙	Acoustic Plastic Pipe Locator	Beacon, Sonde or Conductive Rodder Insertion	EM-61 (time domain electromagnetics) Ξ	
Power/Instrument Line (Energized/Signaled) □	✸ G	G	G	R	R	G	
Power Line (Non-energized) □	✸ G	R	G	R	R	G	
Sewer/Water Line (Metallic) □	✸ G	Y	G	Y	G	G	
Sewer/Water Line (Non-metallic)	R	R	G	G	✸ G	R	
Instrument / Telecomm Lines (Non-energized)	✸ G	R	G	R	R	Y Only if metallic	
Hydrocarbon Transmission Line (Pipeline)◆ □	✸ G	R	G	R	R	G	
Metallic/Non-Metallic Line (with Tracer Wire)	✸ G	Y	G	Y	Y	G metallic	Y non-metallic
Metallic/Non-Metallic Line (without Tracer Wire)	G metallic	R non-metallic	R	✸ G	Y	Y	G metallic	R non-metallic
Metal or Fiberglass UST	R		R	✸ G	R	R	G metallic	R non-metallic

Additional Considerations

Technology ⇒ **Variable** ⇓	Radio Frequency Electro-Magnetic Detector	Ground Penetrating Radar (GPR)⊙	Acoustic Pipe Locator	Beacon, Sonde, or Conductive Rodder Insertion	EM-61 Ξ
Moist Soil	G	Y	G	G	G
Dry Soil	Y	G	Y	G	G
Clay	Y	R	G	G	G
Concrete w/Rebar	R	Y	G	G	R
Long Horizontal Profile	G	G	G	G	G
Short Horizontal but Deep Vertical Profile	Y	G	R	R	G
Access to Line✚	G	N/A	G	G	G
No Access to Line✚	G (induction or passive) R (direct connect)	G	R	R	G G
Ferrous Metal	G	G	G	G	G
Non-ferrous Metal	Y	G	G	G	G
Adjacent or crossing conductive utility(ies)	Y	N/A	N/A	N/A	Y

Each site will be unique. Do not use this table as the sole criteria for technology selection. Use it as a starting point to assess available, applicable technology(s).

✸ Indicates best technology for given object. Site structures, rebar in concrete, shallow groundwater tables, perched storm water, etc. can significantly affect performance and reliability of any electro/magnetic method. Other utilities which cross or are adjacent to the target line can cause the EM signal to bleed or jump to the other utility line.

□ Metallic lines that have power running through them or can be connected to a tracer signal generator.

◆ Natural gas pipeline locating technicians must be trained/certified (in the U.S. requires DOT and Office of Pipeline Safety standards, other regions may have similar certification or requirements).

⊙ Most sensitive to interpretation. The skill, training and experience of operator are critical.

Ξ Emerging technology with limited availability.

✚ Access: induce unique electronic signature, apply acoustical impulse or insert conductive rodder/beacon/sonde.

Green Generally, an applicable technology **Yellow** May or may not be applicable **Red** Not generally applicable

APPENDIX F

Heavy Equipment Exclusion Zone Policy

HEAVY EQUIPMENT EXCLUSION ZONE MANAGEMENT PROGRAM

CORPORATE HEALTH AND SAFETY DIRECTOR	:	**Brian Hobbs, CIH, CSP**
EFFECTIVE DATE	:	**01/2019**
REVIEWED DATE	:	**03/2025**
REVISION NUMBER	:	**4**

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1. PURPOSE

The Exclusion Zone Management Program aims to establish the minimum clearance distance that must be maintained between workers and heavy equipment while the equipment is in operation (i.e., engaged or in motion). The intent is to have no personnel or equipment entering the Exclusion Zone while the equipment is in operation or moving to ensure that Roux and Subcontractor employees are unnecessarily exposed to the hazards of the equipment.

2. SCOPE AND APPLICABILITY

This Management Program applies to all Roux Associates, Inc. and its affiliated companies, Roux Environmental Engineering and Geology, D.P.C., and Remedial Engineering (collectively, "Roux") employees and their subcontractors performing fieldwork and are potentially exposed to heavy equipment. Heavy equipment includes, but is not necessarily limited to, excavation equipment, drill rigs, vacuum trucks, forklifts, lull telehandlers, man lifts, bobcats, delivery trucks, etc.

3. PROCEDURES

As specified in the following sections of this program, Exclusion Zones must be established and maintained during activities involving the movement/operation of heavy equipment. The Exclusion Zone requirements apply to all personnel on the site but are primarily focused on personnel required to work near the equipment. The exclusion zone is in effect when heavy equipment is moving or engaged (e.g., movement of an arm or bucket of an excavator, rotation of an auger, lifting of a load with a forklift, raising/lowering of a man lift, etc.).

1. The Exclusion Zone must meet the following minimum requirements:
   - A minimum distance of 10 feet from all heavy equipment and loads being moved by the equipment;
   - Greater than the swing/reach radius of any moving part on the heavy equipment (i.e., for large equipment, this may mean an exclusion zone distance larger than 20 feet);
   - Greater than the fall zone of equipment and their contents; and
   - Greater than the tip-over distance of the heavy equipment.

   The size of the Exclusion Zone will need to be determined on a task-specific basis considering the size of the heavy equipment in use and the task being performed. Prior to all heavy equipment operations, the Exclusion Zone(s) distance must be specifically identified in the Job Planning Process and incorporated in the pre-job tailgate meeting with the subcontractor(s), including any updates to our Job Safety Analysis (JSA).
2. The spotter (or another authorized individual) is responsible for enforcing the Exclusion Zone and not conducting any other task. The spotter should be positioned immediately outside of the Exclusion Zone within a clear line of sight of the equipment operator. The spotter must signal the operator to stop work if anyone or anything has the potential to enter or compromise the Exclusion Zone. The operator should stop work if the spotter is not within their line of sight. If a spotter must be within the Exclusion Zone, they must be in a designated area outside the swing/tip radius, fall zone, line of fire of lifted loads, etc. If multiple pieces of equipment are being used, one spotter may be adequate so long as there is a clear line of sight and the spotter can control the zone(s). Radios would be required since hand signals would not be adequate if two pieces of equipment are in operation at the same time in the Exclusion Zone.

3. If an individual must enter the Exclusion Zone, the designated Spotter must signal the Equipment Operator to stop the equipment. Once the equipment is no longer moving (e.g., movement of an arm of an excavator is STOPPED, lifting of a load with a forklift STOPPED, raising/lowering of a man lift is STOPPED, etc.), the operator must bring the boom/arm to the ground ensuring a “Zero Energy State” and DISENGAGE THE CONTROLS and STOP and SIGNAL BY “SHOWING HIS HANDS.” This signal will indicate that it is safe for the person to enter the limits of the Exclusion Zone to perform the required activity. The equipment must remain completely stopped/disengaged until all personnel exited the Exclusion Zone's boundaries and the designated Spotter has signaled by “SHOWING HIS HANDS” to the Equipment Operator that it is safe to resume operations.
4. When entering the limits of the Exclusion Zone, personnel must, at a minimum:
    - Establish eye contact with the operator and approach the heavy equipment in a manner that is in direct line of sight to the Equipment Operator;
    - Never walk under any suspended loads or raised booms/arms of the heavy equipment; and
    - Identify a travel path free of Slip/Trip/Fall hazards.
5. The Exclusion Zone should be delineated using cones with orange snow fences or solid poles between the cones, barrels, tape, or other measures. For work in rights-of-way, rigid barriers, such as Jersey barriers or temporary chain link fences, should be used. For certain types of widespread or moving/mobile equipment operations, such delineation may not be practicable around equipment or individual work areas. In such instances, it is expected that the entire operation will be within a larger secure work area or that additional means will be utilized to ensure the security of the work zone.

All subcontractors who provide heavy equipment operations to field projects must implement a program that meets or exceeds the expectations described above, as well as any additional requirements that may be required on a client or site-specific basis. Logistics involving heavy equipment should be understood and discussed prior to the field event during the job planning phase.

3.1 Exceptions

It is recognized that certain heavy equipment activities may require personnel to work within the limits of the Exclusion Zone as specified in this program. Such activities may include certain excavation clearance tasks, drill crew activities, or construction tasks. However, any such activity must be pre-planned, emphasizing limiting the amount and potential exposure of any activity required within the zone. The critical safety steps to mitigate the hazards associated with working within the Exclusion Zone must be defined in the JSA and potentially other project-specific plans (i.e., critical lift plans, etc.), and approved by the Roux Project Principal (PP), Office Health and Safety Manager (OHSM) and client representative, if required, prior to implementation.

4. TRAINING

Many Roux projects have different requirements that are client-specific or site-specific in nature. However, all Roux employees are provided initial training, as well as annually thereafter, on our Heavy Equipment Exclusion Zone policy.

5. STOP WORK AUTHORITY

All Roux employees and their subcontractors have stop-work authority. Upon initial hire, all Roux employees are provided initial safety orientation, including stop work authority. All Roux employees and subcontractors are encouraged to stop work whenever any task or operation presents an unreasonable risk or employees

are unsure how to carry out work safely. This includes upon observing any questionable safety-related behavior or condition, they are to stop work immediately and discuss the behavior or condition with the individual(s) involved. Upon stopping work, the following actions will be taken:

- Notify the affected parties to include the Project Manager (PM) and Site Health and Safety Officer (SHSO);
- Work to correct the situation or not proceed until the situation is corrected by the PM or SHSO;
- Resume work only when told to proceed by either the PM or SHSO;
- The SHSO will document the Stop-Work intervention in the field logbook;
- Stop-Work interventions will be reported to the PP for review to ensure the interventions are closed; and
- The PP will share learnings from the interventions, as appropriate, throughout the firm, to demonstrate the importance of the Stop-Work interventions.

Please note: Any form of retribution or intimidation directed at any individual or company for exercising their right to issue a stop work authority will not be tolerated.

APPENDIX G

Contractors Safety Plan (ESRP-21.01.08)

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G. W. Lisk Company Inc.

Contractors Safety Agreement

Rev O

ESRP 21.01.08

28 Oct 2025

G. W. Lisk Company Inc.

2 SOUTH STREET
CLIFTON SPRINGS, NEW YORK 14432
(315) 462 – 2611

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Introduction

Excellence in safety and loss prevention performance is an important objective of all operations at G.W. Lisk Company, Inc. This includes operations in which an outside contractor is performing work on a specific project or providing a service for the Company.

The contractor is responsible for the safety program associated with their assigned portion of the project. The Company Project Coordinator reviews the contractor safety and loss prevention program. This document is provided to assist in fulfilling this obligation.

It is the legal responsibility of contractors to comply with all government regulations. This document augments requirements and expectations of contractor safety programs when doing business with the Company. Requirements of the Occupational Safety and Health Act or Administration (OSHA) will be the foundation for such safety programs.

The safety and loss prevention program demonstrated by a contractor is always an important consideration in any selection of bidders and awarding contracts.

Objectives

1. To prevent accidents involving contractor personnel and property.
2. To prevent accidents which affect Company personnel / property.
3. To prevent loss to the Company or the contractors personal property as well as interruption to company business.

Definition of Responsibilities

Contractor

1. The contractor shall perform his/her contract agreement as an independent contractor, and as such, shall have and maintain control over all of their employees, agents and operations. Neither the contractor nor their employees shall be or be deemed to be the agent, representative or employee of the Company.

   These requirements for the contractor are made as a part of our contractor agreement and are issued for guidance to the contractor and any subcontractor of the contractor while performing work for the Company. It is the contractor's responsibility to inform his employees and employees of the subcontractors that these requirements are to be carefully observed.

2. The contractor shall be solely responsible for safety at the work site and shall assure the protection of their employees and of any other person visiting or working at the site. This includes the proper understanding and use of PPE (personal protective equipment) required for the job. Ex. fall protection, safety glasses, and gloves. **Safety glasses are required in most areas of G.W. Lisk.**

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3. The contractor is responsible to see that tools and equipment used on Company jobs are in proper working condition.

4. To the fullest extent permitted by law, the contractor agrees that it and its subcontractors will indemnify and hold harmless G.W. Lisk Company, Inc. and their employees, from and against claims, damages and expenses, including attorney fees, arising out of or resulting from performance of the work on any project, provided that such claim was caused in whole or in part by the negligent acts or omissions of the contractor, subcontractor or their employees or agents

5. The contractor and their subcontractor shall purchase and maintain throughout their work on the project insurance, which will protect the contractor and its subcontractor from worker's compensation and disability claims, claims for personal injury or property damage, claims arising from the use or ownership of a motor vehicle, and claims related to contractual liability. The contractor shall provide the Company with certificates stating that such coverage is in force before commencing work on a project.

6. Before beginning any work on site, the contractor(s) will sign in with the receptionist at the front desk. At that time, they will receive a G.W. Lisk contractor badge to be worn while on G.W. Lisk property. The badge must be visible at all times and worn at waist height or above. At the end of the day, the badge must be returned to the receptionist and contractor must sign out. If the contractor has not completed their project and will return, they must sign-in each morning and sign out at the end of each day at the front desk and be reissued a badge the next morning.

7. An officer of the contractor and the contractor job superintendent/foreman shall read and agree to this document before commencing any onsite work. Both shall sign the last page of this document and return it to the Project Coordinator. The Project Coordinator maintains a copy of these documents on the company intranet under *Data / Safety/ Contractor safety agreements.*

8. An updated copy of the environmental Policy is located on the intranet

   Intranet / departments / environmental / environmental policy

Roles of the Company's Project Coordinator

Project Leader (Coordinator)

1. Responsible to the Company for execution of the project.
2. Schedule the contractor for work at the site.
3. Observe contractor progress and operations.
4. Provide as a liaison between contractor and Company departments.
5. If the Project Coordinator observes an unsafe act or condition on a project, they will ask that corrections be made immediately. If the noncompliance is not corrected immediately, the project representative may stop the work not being performed safely. In the event that work is stopped for safety reasons, the Company Purchasing Dept. (buyer) will be notified immediately. Work shall resume only after corrections have been made to the satisfaction of the project coordinator. Consequences of any such work stoppage shall be borne by the contractor with no recourse against the Company or their employees. The contractor, however, shall be solely responsible for safety at the work site.

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Contract Modifications

It is recognized that not every section is applicable to every contractor, and modification may be acceptable. All modifications must be requested in writing by the contractor. If accepted, the modifications shall be made a part of the contract agreement.

Contract Provisions

All contract agreements between the Company and the contractor incorporate this Supplemental Requirements for a Contractor Safety and Loss Prevention Program and **shall be on file prior to starting work on company property by completing ESRP 21.01.08-1** (Contractors Safety Agreement and Contractors Signature page).

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Appendices

A- Safety Policy
B- Contractor Safety Agreement
C- Contractor Signature page
D- Contractors onsite workers sign-off
E - Floor Penetration Guide

1.0 General Requirements

1.1 Conduct of Contractors Employees

- The contractor and their employees are responsible to comply with any applicable federal, state and local rules and regulations and also those of the Company.
- Unsafe acts by contractor employees will not be tolerated by the Company. An employee shall not place themselves or others at risk to injury. The Project Coordinator has the authority to halt a specific activity (or an entire project) if said activity jeopardizes the safety of either contractor or Company employees.
- NO SMOKING except in designated areas. The Project Coordinator will assign the nearest area. Alcohol and/or firearms are not permitted on Company property.

1.2 Vehicles

- Operators of vehicles shall drive and park in a safe manner. Speed of vehicles shall be governed by traffic speed regulating signs and conditions. Parking shall be governed by posted regulations. This will be enforced.
- When materials and tools have been delivered to the job site, delivery vehicles must be parked away from entrances or fire lanes and into designated parking areas, unless arrangements have been made in advance through the project coordinator.

1.3 Reporting Injuries, Fires, Spills

A) Personnel Injury - On Company property
   1. Should an injury occur at Lisk, the contractor shall notify the Environmental Health and Safety Manager immediately by calling extension 999 (Emergency Phone Number). The receptionist will notify a Medical Emergency Responder (MER) or the Safety Department via the two-way (portable) radio system.
      - Give full details when calling. Let the person on the phone know what happened, who is involved and if an ambulance is needed.

B) Personnel Injury - off the main facility property

- Incidents occurring off-site from the main facility will require the contractor to notify the Project Coordinator immediately after an injury occurs. The Project Coordinator will notify the Safety Department.

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C) The Environmental Health and Safety Manager will investigate all incidents and prepare a written statement (if requested by the contractors firm).

D) Fire, Explosion and Chemical Spills

- In the event of a fire or chemical spill at the main facility, immediately go to a safe location and call extension 999. If requested, provide assistance to direct response personnel to the scene.
- If a fire is beyond the incipient stage, immediately activate the nearest fire alarm pull station and evacuate from the area.
- Notify the Project Coordinator of any fire even if it has been extinguished and whenever there is a spill involving any chemicals.

1.4 Protection of Floor Slab Integrity and Floor Penetration Procedures

A) The floor slab of the facility in the areas identified in Figure 1 (i.e., “sealed building slab” areas indicated by the hatch pattern) acts as an engineering control to minimize the potential for intrusion of vapors from beneath portions of the buildings into the facility’s indoor air. Contractors and subcontractors working in the “sealed building slab” areas identified in Figure 1 must protect the integrity of the facility’s floor slab at all times and must immediately report any observed gaps, cracks, or damage to the floor slab (including joints between the floor slab and walls) to the Project Coordinator.

B) The Project Coordinator must be notified prior to any planned penetrations of the floor slab in the “sealed building slab” areas identified in Figure 1 so that proposed scope of work can be reviewed ahead of time and provisions for the required environmental oversight and monitoring and other required procedures can be put into place by the Company and contractor or subcontractors prior to any penetrations of the floor slab in the “sealed building slab” areas identified in Figure 1-Appendix D

1.5 Miscellaneous

A) Contractors are to clean up daily, all waste, debris, dirt, etc., which results from their activities. Discarded lumber must have any nails ***BENT OVER*** or ***REMOVED*** before disposal. If the contractor fails to clean-up daily, the Company may perform the task and charge the contractor

B) Outdoor excavation perimeters must be clearly marked at night. This may be accomplished by various types of barricades or portable lighting.

C) The Project Coordinator must be notified if a mobile crane, derrick, power shovel, or similar equipment will be operated in the immediate vicinity of overhead electric power lines.

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D) Before starting work on underground services, the Project Coordinator must be notified if it involves excavating, piercing the ground by stakes, posts, hammer points or similar devices. Prior approval from the Project Coordinator will be required.

E) Approval from the Project Coordinator will be required before opening any fire hydrant.

2.0 Fire Prevention Procedures

2.1 Flammable Liquids, Gases and LPG

A) Flammable liquids and gases shall be allowed on the job site with approval from the Project Coordinator. Bulk tanks will not be allowed on Company property without approval from the Environmental Health and Safety Manager. All bulk tank installations must meet NFPA codes.

B) Flammable liquids such as gasoline or solvents, shall be properly identified and stored in, or dispensed from approved safety cans only, bearing an Underwriter Laboratories' (UL) label or Factory Mutual (FM) approval symbol.

C) Liquefied Petroleum Gas (LPG) cylinders must be DOT approved having approved valves and fittings listed by UL. Each cylinder must have an inspection date stamped on it of five years or less. Cylinders not in use must be stored outdoors in a secured area.

2.2 Use of Open Flames (Hot Work)

A) An "Open Flame Permit" is required whenever any type of burning will be performed at the main facility of the Company. Types of jobs requiring an Open Flame Permit may include, but not limited to, solder torches, Oxyfuel welding, MIG or TIG welding, etc.

B) An Open Flame Permit (OP2104-1) must be obtained from the Environmental Health and Safety Manager, at least one hour in advance of starting a job requiring hot work. Advanced planning is required for nights, weekends and holidays.

C) A fire watch may be required on certain "open flame" jobs

D) The contractor or contractors welding foreman must sign the Open Flame Permit, which signifies full understanding of limitations set forth on the permit.

E) A copy of the permit must be hung at the job site for the duration of the job and removed when completed.

2.3 Welding, Cutting, and Heating

A) Only qualified welders are permitted to use welding or burning equipment. Eye protection or a welding helmet with proper filter shades as specified in Appendix 1 must be used.

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B) Inspect the area carefully after each job for smoldering sparks or hot-metal droplets after work has stopped. If required, the fire watcher shall remain on the job site for the period of time specified on the Open Flame Permit.

C) Never operate welding equipment where flammable vapors may be present. This may include low lying areas, confined spaces, etc., or near building exhaust duct(s), until certain the duct does not carry flammable vapors.

3.0 Accident Prevention Procedures

3.1 Personal Protective Equipment

A) Hard hats and all other protective equipment, where required by OSHA, will be used in all construction areas. Such equipment will be provided by the contractor and is required before work begins.

B) Eye protection, where required by OSHA, will be worn in all construction areas. This also applies in any area of the main facility where eye protection is required by the Company.

C) Hearing protection, where required by OSHA, will apply.

3.2 Ventilation and Exhaust Equipment

A) Ventilation and/or exhaust equipment shall comply with OSHA regulations. The Company reserves the right to decide when such equipment is necessary and to approve the specific equipment being used.

B) Generally, exhausting will be required rather than dilution, that is exhausting vapors out, rather than blowing clean air in. When electrically powered ventilation is used where flammable vapors may be present, it must be intrinsically safe and wired according to N.E.C. requirements.

3.3 Control of Hazardous Energy (Lockout/Tagout)

A) The Company has a written Lockout/Tagout Program. Federal regulations require that whenever anyone is performing servicing or maintenance work on equipment or machinery, or if they must place any part of their body in the point of operation, they must have the equipment locked out and tagged. It is the responsibility of the contractor to have a Lockout / Tagout Program that utilizes trained and authorized employees.

B) The Company and any contractor or subcontractor must inform each other of their respective Lockout/Tagout Procedure. Each employer must ensure that their personnel understand and comply with all restrictions and/or prohibitions of the other employers Control of Hazardous Energy Program.

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3.4 Confined Space Work

A) The Company has a written Confined Space Entry Procedure. Any time a contractor or their employees must enter a confined space, this procedure must be followed. Examples of a confined space are, but not limited to, tanks, vessels, duct work, sewer systems, etc., any area that has limited means of entering and exiting and is not designed for continuous employee occupancy.

3.5 Excavations and Trenches

A) All excavation, trenching or piercing of the ground, must have prior approval from the Project Coordinator.

4.0 Chemical Handling Procedure

4.1 Toxic Chemicals

A) Safety data sheets (SDS's) will be required whenever chemicals are brought onto Company property that is not in the original container, or whenever requested by the Environmental Health and Safety Manager.

4.2 Disposal of Toxic or Flammable Materials or Waste

A) All toxic and flammable materials such as resins, thinners, strippers, acids, paints, etc., must be segregated from other solid waste and properly disposed of in accordance with federal, state, or local regulations. All materials are the responsibility of the contractor unless previous arrangements have been made with the Project Coordinator. Only approved containers and methods will be used for wastes.

4.3 Asbestos

A) When a material is in question of being asbestos or asbestos containing, (e.g. pre-1980 siding, flooring, roofing material, etc.) all work will cease until disposition of the material in question is obtained. If the material is found to be asbestos or contains asbestos, the Company will contract a licensed asbestos remover to handle the asbestos or asbestos containing material. Asbestos *will only be handled* by certified asbestos handlers, with current certification from a registered authority.

4.4 Mercury

A) Devices or containers containing mercury (metallic or vapors) including fluorescent lamps, high pressure sodium lights, mercury vapor lights, etc., may not be left on site, either whole or broken, without prior permission from the Project Coordinator.

B) At completion of the job, Mercury devices, including lights left on site will be properly disposed of by the Company and the responsible contractor charged for the disposal costs incurred by the Company.

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5.0 Equipment and Tools

5.1 Power and Hand Tools

A) All hand and power tools and similar equipment must be maintained in a safe condition. When power operated tools are designed to accommodate a guard(s), they must be equipped with the guard(s) when in use.

B) All portable electric hand tools shall either be the approved double insulated type or grounded. (in accordance with 29CFR 1926 Subpart K.) GFCI outlets must be used outdoors and in wet or damp locations or where specified by the Project Coordinator.

5.2 Ladders

A) Only OSHA approved ladders will be permitted for use. This is a Class 1- Industrial wooden or fiberglass. Ladders must be inspected on a daily basis and immediately removed from the site if it is defective. Portable metal ladders are forbidden from being used within ten feet of power lines or exposed electrical parts and must be marked “Caution - Do Not Use Around Electrical Equipment” or similar warning.

B) Portable ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is one-quarter of the working length of the ladder. A simple rule for setting up a ladder at the proper angle is to place the base a distance from the vertical wall equal to one-fourth the working length of the ladder (i.e. one foot back for every four feet in height).The ladder shall be so placed to prevent slipping or it shall be tied off or held into position.

C) Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds. No ladder shall be used to gain access to a roof unless the top of the ladder extends at least 3 feet above the point of support at eaves, gutters, or roof line or hand holds shall be provided.

5.3 Scaffolding (General)

A) Scaffolds and their components shall be capable of supporting, without failure, at least four times the maximum intended load. Scaffolds shall not be loaded in excess of the working load for which they are intended.

B) The footing or anchorage for scaffolds shall be sound, rigid and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose bricks or concrete blocks shall not be used to support scaffolds or planks.

C) All planking shall be scaffold grade as recognized by approved grading rules for the type of wood used. All planking or platforms shall be overlapped a minimum of 12 inches or secured from movement. Scaffold planks shall overlap their end supports not less than 6 inches or more than 12 inches. Scaffolds shall not be altered or moved horizontally while they are in use or occupied.

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D) An access ladder, or equivalent, must be provided. Materials being hoisted onto a scaffold must have a tag line attached to it when required.

E) Scaffolds shall be secured to permanent structures through the use of anchor bolts, reveal bolts, or other equivalent means if necessary.

F) Guardrails and toeboards shall be installed on all open sides and ends of platforms more than 10 feet above the ground or floor. Scaffolds 4 feet to 10 feet in height, having a minimum horizontal dimension in either direction less than 45 inches, shall have standard guardrails installed on all open sides and ends.

G) No scaffold shall be erected, moved, dismantled, or altered except under the supervision of a competent person.

H) Guardrails must be 2 x 4 inches or equivalent, and approximately 42 inches high with a midrail, when required. Supports shall be at intervals not to exceed 8 feet. Toeboards shall be a minimum of 4 inches in height.

I) When persons are required to work or pass under the scaffold, scaffolds shall be provided with a screen between the toeboard and the guardrail, extended along the entire opening, consisting of No. 18 gauge U.S. standard wire 1/2 -inch wire mesh, or the equivalent.

J) Tools, material and debris shall not be allowed to accumulate in quantities to cause a hazard.

5.4 Tube and Coupler Scaffolds / Tubular Welded Frame Scaffolds

A) All tube, coupler scaffolds and tubular welded frame scaffolds shall be erected by competent and experienced personnel.

B) The entire scaffold shall be tied to and securely braced against the building at intervals not to exceed 30 feet horizontally and 26 feet vertically.

C) Guardrails not more than 2 x 4 inches or equivalent, and not less than 36" or more than 42" high with a midrail of 1 x 4 inch lumber or equivalent, and toeboards shall be installed at all open sides on all scaffolds more than 10 feet above the ground or floor, when required. Toeboards shall be a minimum of 4 inches in height. Wire mesh shall be installed in accordance with 5.3 (I).

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6) Fall Protection

6.1 General

A) When a contractor or their employees are working on walking / working surface (horizontal or vertical) with an unprotected side or edge which is 6 feet or more above a lower level, they shall be protected by falling from use of a guardrail system, safety net system, or personal fall arrest system.

B) This includes any of the following areas or activities: Any leading edge work when not engaged in the work itself; Hoist areas; Holes including skylights; On the face of formwork or reinforcing steel; Ramps, runways and other walkways; Excavations; Dangerous equipment; Overhand bricklaying and related work; Precast concrete erection including, but not limited to, the erection of wall panels, columns, beams, and floor and roof “tees” and related operations such as grouting of pre-cast concrete members; Wall openings; Any walking/ working surface not specifically addressed that has a fall hazard.

C) Any roofing work involving low-slope roofs (roofs having a slope less than or equal to 4 in 12), with unprotected sides and edges 6 feet or more above lower levels shall be protected from falling by guardrail systems, safety net systems, or personal fall arrest systems, or a combination of warning line system and guardrail system, warning line system and safety net system, warning line system and personal fall arrest system, or warning line system and safety monitoring system. On roofs 50 feet or less in width the use of a safety monitoring system alone is permitted. (A safety monitoring system consists of a competent individual able to recognize fall hazards and warns employees when they are unaware of a fall hazard or are acting in a unsafe manner. The monitor must be close enough to communicate with the employees working on the roof and not have other responsibilities, which could take the monitors attention away from the monitoring function.)

D) Work involving steep roofs (roofs having a slope greater than 4 in 12), with unprotected sides and edges 6 feet or more above lower levels shall be protected from falling by guardrail system with toeboards, safety net system, or personal fall arrest system.

Conclusion

This “Supplement to a Contractors Safety and Loss Prevention Program” is intended to be a guideline to a contractor’s existing safety and loss prevention program. All federal, state and/or local requirements whether specifically addressed in this document, must be followed. It is the responsibility of the contractor and any subcontractor of the contractor to be aware of these requirements and to comply with them. Your cooperation in these matters will ensure that your assignment here will be safe and profitable.

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Revision Page

Rev	Change Description	App	Date
I	1. Added new Section 1.4 with floor slab protection and penetration procedures in areas mitigated for potential soil vapor intrusion and Figure 1. 2. Updated Environmental Policy 3. Added Appendices in Table of Contents		22July20
J	Removed Environmental Policy and gave a link to the intranet.	DH	13 Jul 21
K	Added contractor work crew sign-off and workers comp Ins. certificate requirements.	AB	28 Oct 2025

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Appendix A

G.W. LISK COMPANY SAFETY POLICY

G.W. Lisk Company, Inc. is dedicated to providing and maintaining a safe and healthful workplace for all of our employees. We will observe all federal, state and local regulations and follow operating practices that will safeguard all employees.

Safety is a part of each employee's job and adherence to the safety program is a condition of employment. No employee is required to work at a job they know is unsafe; therefore, we encourage you to report all hazardous conditions to management, without the fear of reprisal. All of management will ensure each employee is provided with the equipment, training and resources necessary to do each job safely and efficiently.

Our safety policy has equal importance with our policies of providing the highest quality product, being the most productive and also providing the best service in our industry.

It is our goal to eliminate all accidents and injuries. Because of the many hazards of our work, we must maintain a constant safety awareness to achieve this goal. More than anything, safety is an attitude. The most effective training for all of us is the day to day example we set for each other.

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Verify the printed copy against the posted revision on the Intranet prior to use.

Appendix B

G.W. LISK COMPANY ENVIRONMENTAL POLICY

G. W. Lisk Co. Inc. is dedicated to the practice of sound environmental stewardship and advancing the health, safety and well-being of our employees. These values emanate from the company's leadership and are communicated through all levels of responsibility within the organization. As such, G. W. Lisk strives to maintain Environmental, Health & Safety programs that foster a sustainable workplace, cleaner environment, and more efficient operations that minimize our consumption of natural resources.

Our common goal is to continually improve G. W. Lisk's environmental management activities and performance through the implementation of our ISO14001 EMS by developing and maintaining sustainable environmental, health and safety programs with commitments to;

• Providing a safe and healthy workplace and ensure that personnel are properly trained with the appropriate safety and emergency equipment.

• Be an environmentally responsible neighbor in the community where we operate, and immediately correct conditions that may endanger health, safety, or the environment.

• Conserve natural resources by adopting innovative pollution prevention practices, gaining knowledge from what others have done as we develop and improve best management practices.

- Explore new technologies to confront waste, curtail pollution, diminish health and safety risks, and dispose of waste safely and responsibly, adhering to all federal, state and local laws.

• Ensuring the responsible use of energy throughout our business, by conserving energy, improving efficiency, and giving preference to renewable over non-renewable energy when feasible.

• Participating in efforts to improve environmental protection by attending regulatory workshops and receiving third-party communications for maintaining awareness in changes to regulations.

• Utilizing a "life cycle perspective" analysis to assist in the development of sound management practices. By utilizing this modified "cradle to grave" approach, we can ensure proper planning at all Life Cycle Stages.

• Meet and exceed all applicable Federal, State and local requirements, set and adhere to stringent requirements in the United States and abroad, no matter where we do business, ensuring environmental compliance with all laws and regulations

• Promptly report all noncompliance issues in accordance with applicable governmental reporting requirements, evaluate causes of noncompliance, and implement corrective actions.

Signature:: *Edward Maier* Edward Maier, President / CEO Date: 6/24/2025

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Appendix C

CONTRACTOR SIGNATURE PAGE

By signing this form you are stating you have read and understand ESRP 21.01.08 (Contractors Safety Plan) and have signed and returned the following policies indicated below with an (*). **Please note that by signing this form you may be requested to show evidence that all employees who perform work at G.W. Lisk, have been trained on our safety and environmental procedures.**

** Non-disclosure Agreement (May be required)*

** Contractors Safety Agreement*

** Proof of Liability Insurance*

** Proof of Workers Comp Insurance*

Company Name: _____

Address: _____

Signature: _____

Date: _____

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Verify the printed copy against the posted revision on the Intranet prior to use.

Appendix D

Contractor Employees Sign-Off

By signing this form you are stating that you are aware of and fully understand the requirements of Lisk's Contractor Safety Plan, ESRP 21.01.08, and will act accordingly to these requirements. For any questions or concerns please speak with your company representative or contact the EHSS Department at x250 or 315-462-4250.

Print Name	Sign Name	Date

Printed copies of this procedure are considered *uncontrolled*.
Verify the printed copy against the posted revision on the Intranet prior to use.

Appendix E
Figure 1

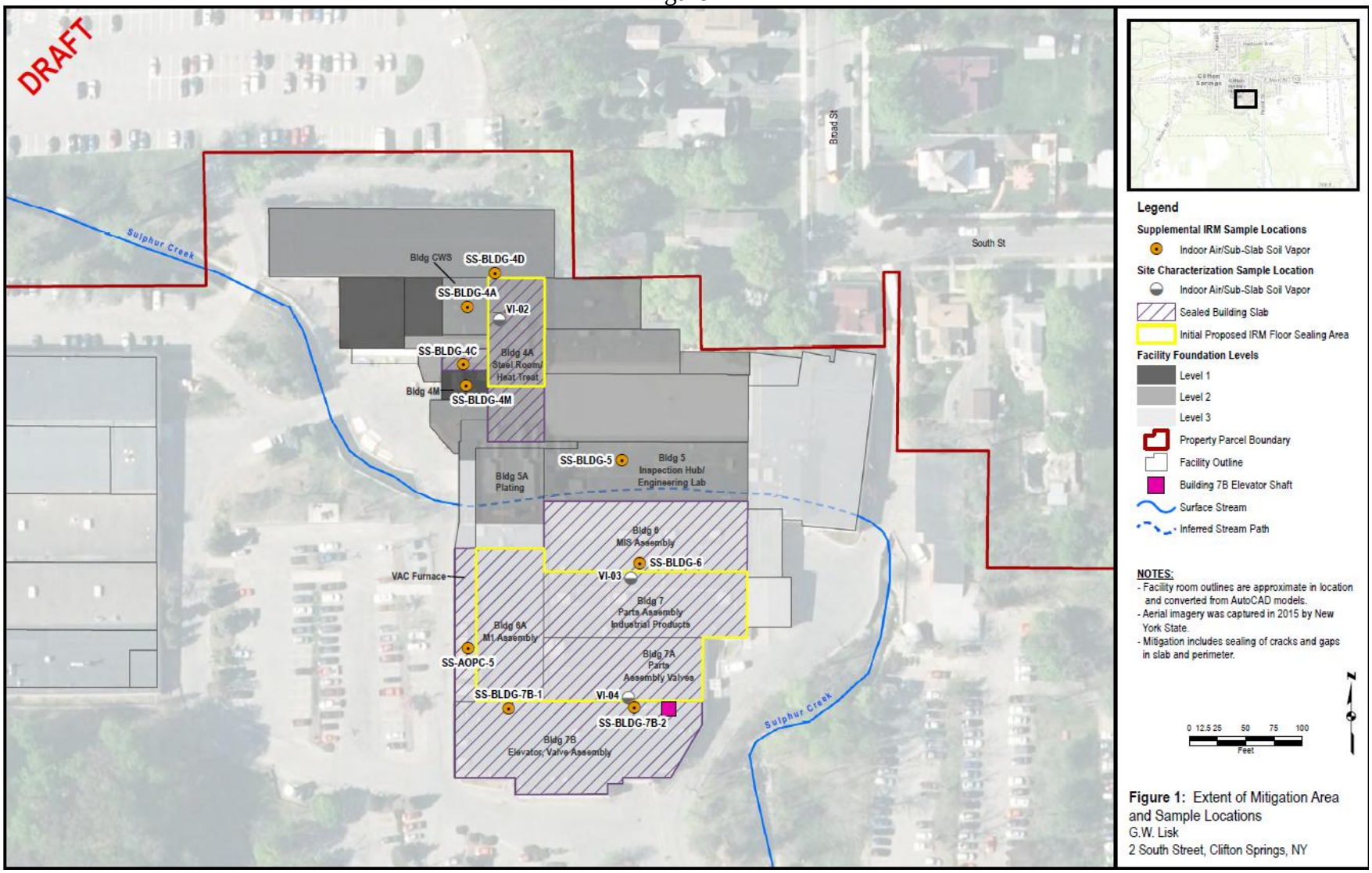


Figure 1: Extent of Mitigation Area and Sample Locations
G.W. Lisk
2 South Street, Clifton Springs, NY

APPENDIX C

Community Air Monitoring Plan (CAMP)

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be predetermined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m3 or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

APPENDIX D

Master Erosion Control Plan (MECP)

Master Erosion Control Plan

G.W. Lisk Company, Inc.
NYSDEC Site No. C835026
Clifton Springs, New York

January 2026

Prepared for:

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Attachments

1. Sediment and Erosion Control Details
2. Inspection and Maintenance Report Form

1. Introduction

1.1 Background

The G.W. Lisk – 2 South Street Facility BCP site (Site) consists of the northern ±8.828 acres of a greater 26.654-acre parcel (SBL No. 46.06-1-87.000) located at 2 South Street, in the Village of Clifton Springs, Ontario County, New York. The Site is improved with two buildings with a total area of 225,000 square feet including the G.W. Lisk Main Building, used for manufacturing and office space, and the Hundreds Building, used for manufacturing and storage. The remaining area of the Site is covered with asphalt paved parking areas and driveways, concrete sidewalks, and vegetated areas including grass covered, wooded, and landscaped areas.

The Site was developed for agricultural use in the mid-1800s. In the early 1910s, the Site was developed by G.W. Lisk for manufacturing of tin cake pans, pails, and spraying devices. G.W. Lisk transitioned to manufacturing solenoids and valves for industrial and commercial markets in 1948 and the Site continues to be used in this capacity.

The Site is located in a mixed industrial, commercial, and residential use area in the Village of Clifton Springs, New York. The Site is bounded to the north by Clifton Springs Hospital and Clinic (CSHC). Sulfur Creek runs southeast to the northwest through the Site. Public water to the Village of Clifton Springs is supplied by the Village of Newark, which sources its water from Canandaigua Lake. G.W. Lisk and the CSHC are connected to the public water system.

Based on the previous investigation activities at the site, contaminants of concern (COCs) include petroleum and chlorinated volatile organic compounds (petroleum VOCs and cVOCs), polycyclic aromatic hydrocarbons (PAHs), and metals in the soil/fill, cVOCs and Freon 113 in the groundwater, and cVOCs in the soil vapor.

1.2 Purpose and Scope

This Master Erosion Control Plan (MECP) was prepared to provide guidance during remedial action activities since erosion control will be a critical component of preventing the potential migration of contaminants off-site during excavation activities.

2. Potential Erosion and Sediment Control Concerns

Potential areas and items of concern during remedial action activities may include the following:

- Remediated areas or off-site properties adjacent to unremediated parcels need protection so they do not become impacted by Site operations.
- Runoff from soil stockpiles, if any, will require erosion controls.
- Surface slopes need to be minimized as much as practical to control sediment transfer.
- Soil/fill excavated will require proper handling and disposal.

3. Erosion and Sediment Control Measures

3.1 Background

Standard soil conservation practices need to be incorporated into remedial activities to mitigate soil erosion damage, off-site sediment migration, and water pollution from erosion. These practices combine vegetative and structural measures, many of which will be permanent in nature and become part of the completed project (i.e., grading). Other measures will be temporary and serve only during the construction stage. Selected erosion and sediment control measures will meet the following criteria:

- Incorporate temporary and permanent erosion control measures.
- Remove sediment from sediment-laden storm water before it leaves the Site.

3.2 Temporary Measures

Temporary erosion and sedimentation control measures and facilities will be used during construction. These temporary measures will be installed and maintained until they are either no longer needed or until such time as permanent measures are installed and become effective. Erosion and sediment controls shall be installed in accordance with the standards and specifications presented in Attachment 1. At a minimum, the following temporary measures will be used:

- Stabilized Construction Entrance
- Silt fencing, tubular silt socks
- Cautious placement, compaction, and grading of stockpiles

3.2.1 Stabilized Construction Entrance

Prior to initiation of remedial activities, a stabilized construction entrance will be constructed to allow excavation equipment access to the Site.

3.2.2 Silt Fence/Silt Sock

Remedial activities may result in surface water flow to drainage ditches and adjacent properties. Silt fencing or tubular silt socks will be the primary sediment control measure used in these areas. Prior to extensive soil excavation or grading activities, silt fences or silt socks will be installed along the perimeter of all construction/excavation areas. The orientation of the fencing/socks will be adjusted as necessary as the work proceeds to accommodate changing site conditions.

If necessary, intermediate fencing/socks will be used upgradient of the perimeter fencing/socks to help lower surface water runoff velocities and reduce the volume of sediment to perimeter fencing/socks. Stockpiles will also be surrounded with silt fencing/socks.

As sediment collects, the silt fences/socks will be cleaned as necessary to maintain their integrity. Removed sediment will be used elsewhere on-site as general fill. Sediment to be used as backfill on the site will comply with import and/or reuse criteria. All perimeter silt fences/socks will remain in place until construction activities in an area are completed and cover has been established.

3.2.3 Cautious Placement of Stockpiles

Excavation activities may produce stockpiles of soil and subgrade soil/fill materials. Careful placement and construction of stockpiles will be required to control erosion. Stockpiles will be placed no closer than 50 feet from storm water inlets and parcel boundaries. Additionally, stockpiles will be graded and compacted as necessary for positive surface water runoff and dust control. Stockpiles will be secured with proper erosion controls to minimize runoff and dust generation.

Soil stockpiles will be continuously encircled with silt socks. Stockpiles will be kept covered with polyethylene sheeting. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced. Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by the NYSDEC.

3.3 Permanent Control Measures during Site Redevelopment

Permanent erosion and sedimentation control measures and structures will be installed as soon as practical during construction for long-term erosion protection. Examples of permanent erosion control measures could include:

- Minimizing the potential contact with, and migration of, subsurface soil/fill through the placement of crushed stone in areas not covered with structures, roads, parking areas, sidewalks, etc.
- Planting and maintaining vegetation.
- Limiting runoff flow velocities to the extent practical.

4. Construction Management Practices

4.1 General

The following general construction practices should be evaluated for erosion and sedimentation control purposes during remedial activities:

- Clearing and grading only as much area as is necessary to accommodate the construction needs to minimize disturbance of areas subject to erosion (i.e., phasing the work).
- Covering exposed or disturbed areas of the Site as quickly as practical.
- Installing erosion and sediment control measures before disturbing the Site subgrade.
- Eliminating both on-site and off-site tracking of soil by vehicles by using routine entry/exit routes. When on-site and off-site tracking of soil is evident, use of a truck wash station will be evaluated.

4.2 Monitoring, Inspection and Maintenance

All erosion and sedimentation controls described in this Plan will be inspected by a qualified representative of the Site Owner within 24 hours of a heavy rainfall event (defined as more than 0.5 inches of precipitation in a 24-hour period) and repaired or modified as necessary to effectively control erosion or sediment problems. Inspections should include areas under construction, stockpile areas, erosion control devices (i.e., silt fences, silt socks, etc.) and locations where vehicles enter and leave the site. Routine inspections of the entire Site should also be made on a weekly basis during development.

If inspections indicate problems, corrective measures should be implemented within 24 hours. A report summarizing the scope of the inspection, name of the inspector, date, observations made, and a description of the corrective actions taken should be completed. Attachment 2 includes the Inspection and Maintenance Report Form.

4.2.1 Implementation

Erosion controls and features shall, at all times, be properly constructed, operated, and maintained in accordance with regulatory requirements and good engineering and construction practices. Erosion control measures and activities will be conducted in accordance with currently accepted Best Management Practices (BMPs).

Erosion control monitoring, inspection, and maintenance are an integral part of Site storm water and erosion control. The key elements of the monitoring effort include the following:

- Site inspections and maintenance
- BMPs monitoring
- Recordkeeping
- Review and modifications
- Certification of compliance

4.2.2 Site Inspections and Maintenance Practices

The temporary erosion control features will be maintained until no longer needed or permanent erosion control methods are installed. Site inspections are required every seven days or within 24 hours of a rainfall of 0.5 inches or greater. All disturbed areas, areas for material storage, locations where vehicles enter or exit the site, and all of the erosion and sediment controls identified as part of this Plan must be inspected. Controls must be in good operating condition until the affected area they protect has been completely stabilized and the construction activity is complete. If a repair is necessary, it must be completed within 24-hours of receipt of a report or notice, if practical. Inspection for specific erosion and sediment controls will include the following:

- Silt fence/silt socks will be inspected to determine the following:
    - Depth
    - Condition of fabric
    - That the fabric is attached to the posts
    - That the fence posts are firmly in the ground
- The silt fences/silt socks will be inspected weekly and within 24 hours of a 0.5 inch or greater storm event.
- Temporary and permanent seeding and planting will be inspected for bare spots, washouts, and other potential erosion control problems.
- The Contractor shall designate individual(s) that will be responsible for erosion control, maintenance, and repair activities. The designated individual will also be responsible for inspecting the site and filling out the inspection and maintenance report.
- Personnel selected for inspection and maintenance responsibilities will receive training as directed by the Engineer. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on-site in good working order.

The individual inspecting the Site must record any damages or deficiencies on the Inspection and Maintenance Report Form in Attachment 2. This form can be used to request maintenance and repair and to document inspection and maintenance activities. Damages or deficiencies must be corrected as soon as possible after the inspection. Any changes that may be required to correct deficiencies in this Plan should also be made as soon as possible, but in no case later than seven days after the inspection.

4.2.3 Recordkeeping

A copy of the MECP and inspection and maintenance records will be included in the weekly reports to NYSDEC and must be kept at the Site from the time construction activities begins until the Site is stabilized. These documents will be made available upon request to regulatory agency representatives or members of the public.

4.2.4 Modifications to the MECP

During the course of construction, unanticipated changes may occur that affect this MECP such as schedule changes, phasing changes, staging area modifications, off-site drainage impacts, and repeated failures of designed controls. Any changes to the activities and controls identified in this Plan must be documented and the Plan revised accordingly. Certification of revisions to this plan shall be included at the end of the document.

ATTACHMENTS

1. Sediment and Erosion Control Details
2. Inspection and Maintenance Report Form

ATTACHMENT 1

Sediment and Erosion Control Details

STANDARD AND SPECIFICATIONS FOR SILT FENCE



Definition & Scope

A **temporary** barrier of geotextile fabric installed on the contours across a slope used to intercept sediment laden runoff from small drainage areas of disturbed soil by temporarily ponding the sediment laden runoff allowing settling to occur. The maximum period of use is limited by the ultraviolet stability of the fabric (approximately one year).

Conditions Where Practice Applies

A silt fence may be used subject to the following conditions:

1. Maximum allowable slope length and fence length will not exceed the limits shown in the Design Criteria for the specific type of silt fence used ; and
2. Maximum ponding depth of 1.5 feet behind the fence; and
3. Erosion would occur in the form of sheet erosion; and
4. There is no concentration of water flowing to the barrier; and
5. Soil conditions allow for proper keying of fabric, or other anchorage, to prevent blowouts.

Design Criteria

1. Design computations are not required for installations of 1 month or less. Longer installation periods should be designed for expected runoff.
2. All silt fences shall be placed as close to the disturbed area as possible, but at least 10 feet from the toe of a slope steeper than 3H:1V, to allow for maintenance and roll down. The area beyond the fence must be undisturbed or stabilized.
3. The type of silt fence specified for each location on the plan shall not exceed the maximum slope length and maximum fence length requirements shown in the following table:

		Slope Length/Fence Length (ft.)		
Slope	Steepness	Standard	Reinforced	Super
<2%	< 50:1	300/1500	N/A	N/A
2-10%	50:1 to 10:1	125/1000	250/2000	300/2500
10-20%	10:1 to 5:1	100/750	150/1000	200/1000
20-33%	5:1 to 3:1	60/500	80/750	100/1000
33-50%	3:1 to 2:1	40/250	70/350	100/500
>50%	> 2:1	20/125	30/175	50/250

Standard Silt Fence (SF) is fabric rolls stapled to wooden stakes driven 16 inches in the ground.
Reinforced Silt Fence (RSF) is fabric placed against welded wire fabric with anchored steel posts driven 16 inches in the ground.
Super Silt Fence (SSF) is fabric placed against chain link fence as support backing with posts driven 3 feet in the ground.

4. Silt fence shall be removed as soon as the disturbed area has achieved final stabilization.

The silt fence shall be installed in accordance with the appropriate details. Where ends of filter cloth come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Butt joints are not acceptable. A detail of the silt fence shall be shown on the plan. See Figure 5.30 on page 5.56 for Reinforced Silt Fence as an example of details to be provided.

Criteria for Silt Fence Materials

1. Silt Fence Fabric: The fabric shall meet the following specifications unless otherwise approved by the appropriate erosion and sediment control plan approval authority. Such approval shall not constitute statewide acceptance.

Fabric Properties	Minimum Acceptable Value	Test Method
Grab Tensile Strength (lbs)	110	ASTM D 4632
Elongation at Failure (%)	20	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/ min/sf)	25	ASTM D 4491
Equivalent Opening Size	40-80	US Std Sieve ASTM D 4751
Minimum UV Residual (%)	70	ASTM D 4355

2. Fence Posts (for fabricated units): The length shall be a minimum of 36 inches long. Wood posts will be of sound quality hardwood with a minimum cross sectional area of 3.5 square inches. Steel posts will be standard T and U section weighing not less than 1.00 pound per linear foot. Posts for super silt fence shall be standard chain link fence posts.

3. Wire Fence for reinforced silt fence: Wire fencing shall be a minimum 14 gage with a maximum 6 in. mesh opening, or as approved.

4. Prefabricated silt fence is acceptable as long as all material specifications are met.

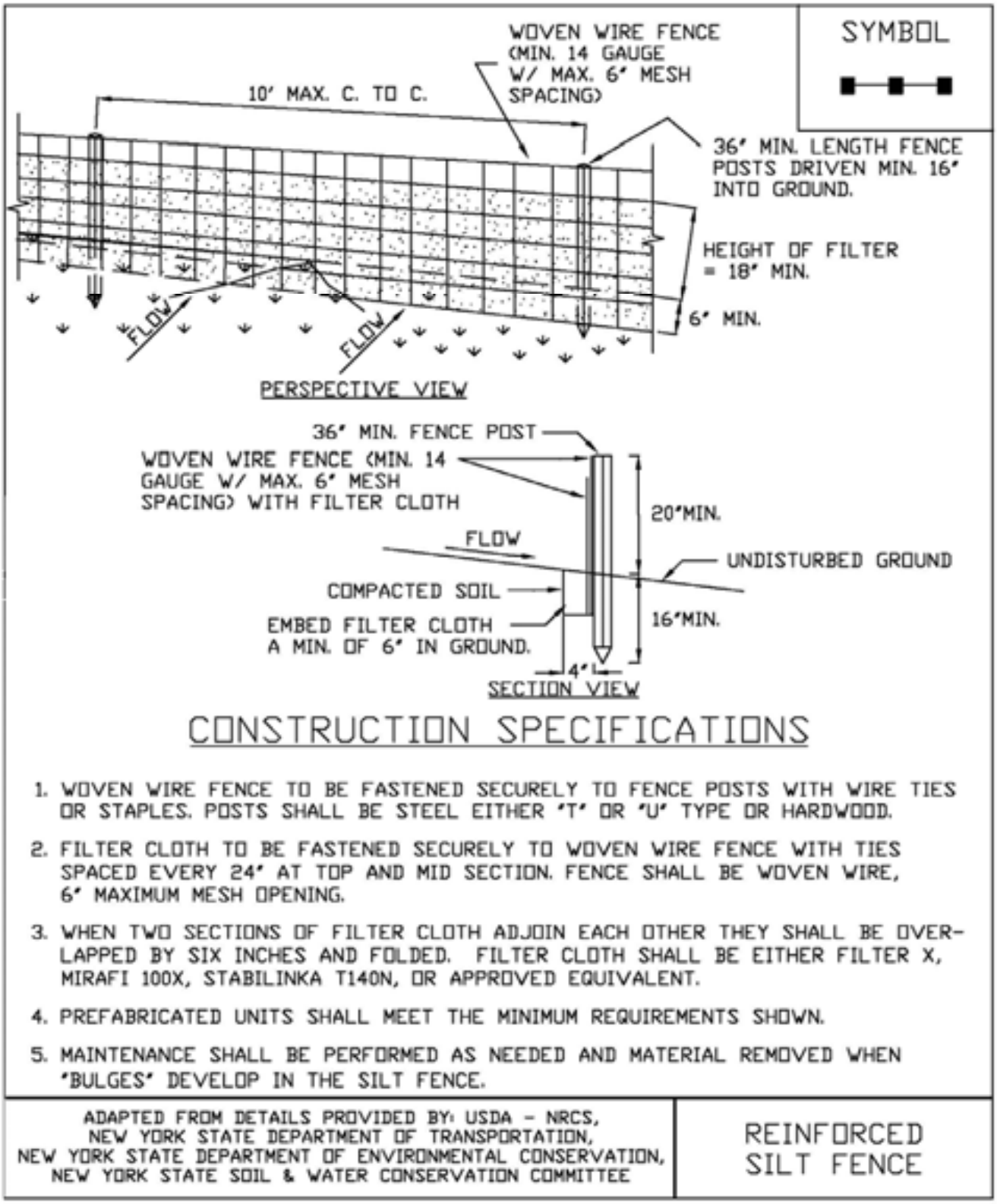
Super Silt Fence



Reinforced Silt Fence



Figure 5.30
Reinforced Silt Fence



STANDARD AND SPECIFICATIONS FOR COMPOST FILTER SOCK



Definition & Scope

A **temporary** sediment control practice composed of a degradable geotextile mesh tube filled with compost filter media to filter sediment and other pollutants associated with construction activity to prevent their migration offsite.

Condition Where Practice Applies

Compost filter socks can be used in many construction site applications where erosion will occur in the form of sheet erosion and there is no concentration of water flowing to the sock. In areas with steep slopes and/or rocky terrain, soil conditions must be such that good continuous contact between the sock and the soil is maintained throughout its length. For use on impervious surfaces such as road pavement or parking areas, proper anchorage must be provided to prevent shifting of the sock or separation of the contact between the sock and the pavement. Compost filter socks are utilized both at the site perimeter as well as within the construction areas. These socks may be filled after placement by blowing compost into the tube pneumatically, or filled at a staging location and moved into its designed location.

Design Criteria

1. Compost filter socks will be placed on the contour with both terminal ends of the sock extended 8 feet upslope at a 45 degree angle to prevent bypass flow.

2. Diameters designed for use shall be 12" – 32" except that 8" diameter socks may be used for residential lots to control areas less than 0.25 acres.

3. The flat dimension of the sock shall be at least 1.5 times the nominal diameter.

4. The **Maximum Slope Length** (in feet) above a compost filter sock shall not exceed the following limits:

Dia. (in.)	Slope %						
	2	**5**	**10**	**20**	**25**	**33**	**50**
8	225*	200	100	50	20	—	—
12	250	225	125	65	50	40	25
18	275	250	150	70	55	45	30
24	350	275	200	130	100	60	35
32	450	325	275	150	120	75	50
* Length in feet							



5. The compost infill shall be well decomposed (matured at least 3 months), weed-free, organic matter. It shall be aerobically composted, possess no objectionable odors, and contain less than 1%, by dry weight, of man-made foreign matter. The physical parameters of the compost shall meet the standards listed in Table 5.2 - Compost Standards Table. **Note: All biosolids compost produced in New York State (or approved for importation) must meet NYS DEC's 6 NYCRR Part 360 (Solid Waste Management Facilities) requirements. The Part 360 requirements are equal to or more stringent than 40 CFR Part 503 which ensure safe standards for pathogen reduction and heavy metals content. When using compost filter socks adjacent to surface water, the compost should have a low nutrient value.**

6. The compost filter sock fabric material shall meet the

7. Compost filter socks shall be anchored in earth with 2" x 2" wooden stakes driven 12" into the soil on 10 foot centers on the centerline of the sock. On uneven terrain, effective ground contact can be enhanced by the placement of a fillet of filter media on the disturbed area side of the compost sock.

8. All specific construction details and material specifications shall appear on the erosion and sediment control constructions drawings when compost filter socks are included in the plan.

Maintenance

1. Traffic shall not be permitted to cross filter socks.

2. Accumulated sediment shall be removed when it reaches half the above ground height of the sock and disposed of in accordance with the plan.

3. Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired in the manner required by the manufacturer or replaced within 24 hours of inspection notification.

4. Biodegradable filter socks shall be replaced after 6 months; photodegradable filter socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer's recommendations.

5. Upon stabilization of the area contributory to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed in accordance with the stabilization plan. For removal the mesh can be cut and the compost spread as an additional mulch to act as a soil supplement.

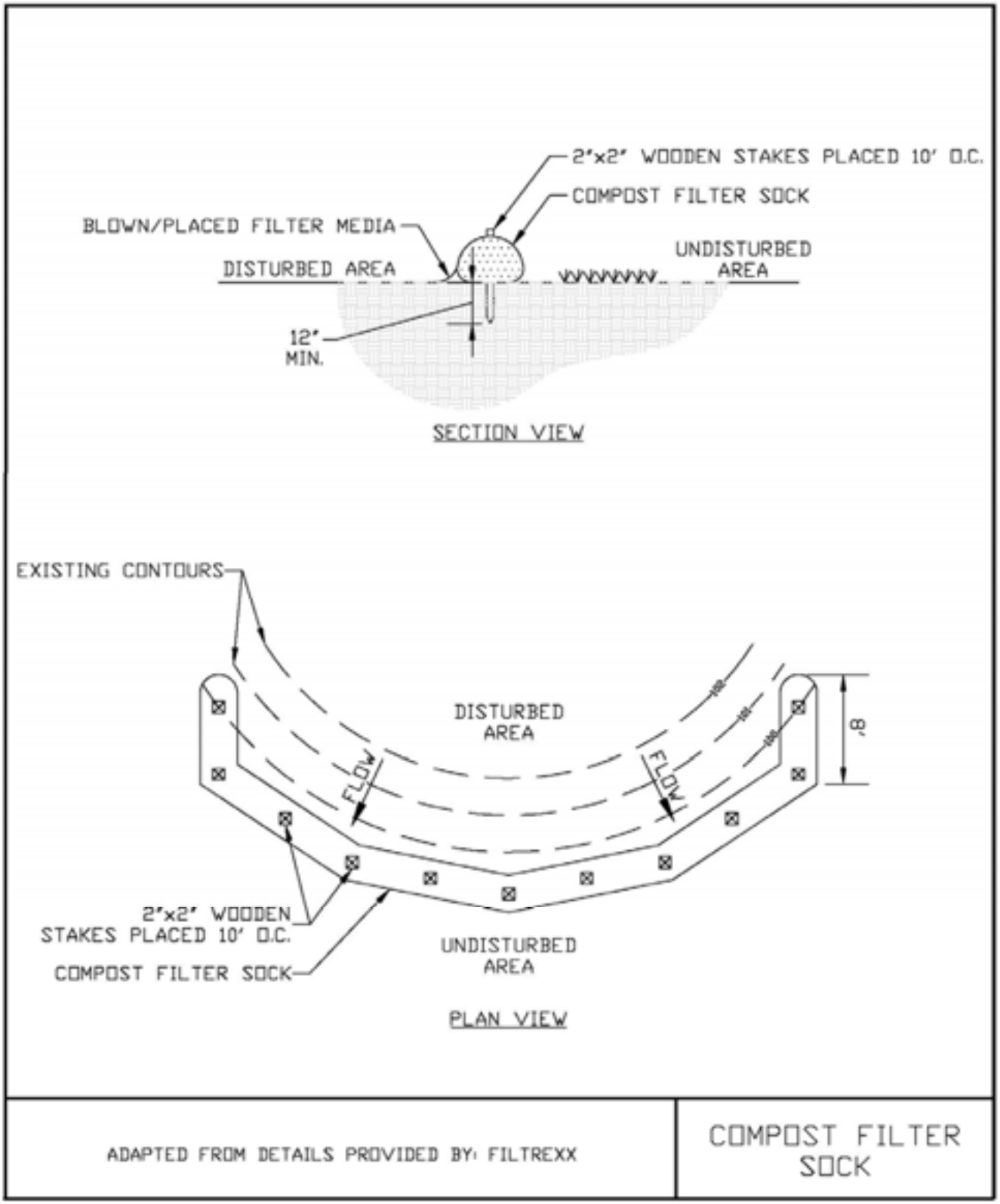
Table 5.1 - Compost Sock Fabric Minimum Specifications Table

Material Type	3 mil HDPE	5 mil HDPE	5 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photodegradable	Photodegradable	Biodegradable	Photodegradable	Photodegradable
Sock Diameters	12" 18"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"	12" 18" 24" 32"
Mesh Opening	3/8"	3/8"	3/8"	3/8"	1/8"
Tensile Strength		26 psi	26 psi	44 psi	202 psi
Ultraviolet Stability % Original Strength (ASTM G-155)	23% at 1000 hr.	23% at 1000 hr.		100% at 1000 hr.	100% at 1000 hr.
Minimum Functional Longevity	6 months	9 months	6 months	1 year	2 years

Table 5.2 - Compost Standards Table

Organic matter content	25% - 100% (dry weight)
Organic portion	Fibrous and elongated
pH	6.0 – 8.0
Moisture content	30% - 60%
Particle size	100% passing a 1" screen and 10 - 50% passing a 3/8" screen
Soluble salt concentration	5.0 dS/m (mmhos/cm) maximum

Figure 5.2
Compost Filter Sock



STANDARD AND SPECIFICATIONS FOR STABILIZED CONSTRUCTION ACCESS



Definition & Scope

A stabilized pad of aggregate underlain with geotextile located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk, or parking area. The purpose of stabilized construction access is to reduce or eliminate the tracking of sediment onto public rights-of-way or streets.

Conditions Where Practice Applies

A stabilized construction access shall be used at all points of construction ingress and egress.

Design Criteria

See Figure 2.1 on page 2.31 for details.

Aggregate Size: Use a matrix of 1-4 inch stone, or reclaimed or recycled concrete equivalent.

Thickness: Not less than six (6) inches.

Width: 12-foot minimum but not less than the full width of points where ingress or egress occurs. 24-foot minimum if there is only one access to the site.

Length: As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum would apply).

Geotextile: To be placed over the entire area to be covered with aggregate. Filter cloth will not be required on a single-family residence lot. Piping of surface water under entrance shall be provided as required. If piping is impossible, a mountable berm with 5:1 slopes will be permitted.

Criteria for Geotextile: The geotextile shall be woven or nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The fabric shall be inert to commonly encountered chemicals, hydro-carbons, mildew, rot resistant, and conform to the fabric properties as shown:

Fabric Properties[3]	Light Duty[1] Roads Grade Subgrade	Heavy Duty[2] Haul Roads Rough Graded	Test Method
Grab Tensile Strength (lbs)	200	220	ASTM D1682
Elongation at Failure (%)	50	60	ASTM D1682
Mullen Burst Strength (lbs)	190	430	ASTM D3786
Puncture Strength (lbs)	40	125	ASTM D751 Modified
Equivalent	40-80	40-80	US Std Sieve
Opening Size			CW-02215
Aggregate Depth	6	10	-

[1]Light Duty Road: Area sites that have been graded to subgrade and where most travel would be single axle vehicles and an occasional multi-axle truck. Acceptable materials are Trevira Spunbond 1115, Mirafi 100X, Typar 3401, or equivalent.

[2]Heavy Duty Road: Area sites with only rough grading, and where most travel would be multi-axle vehicles. Acceptable materials are Trevira Spunbond 1135, Mirafi 600X, or equivalent.

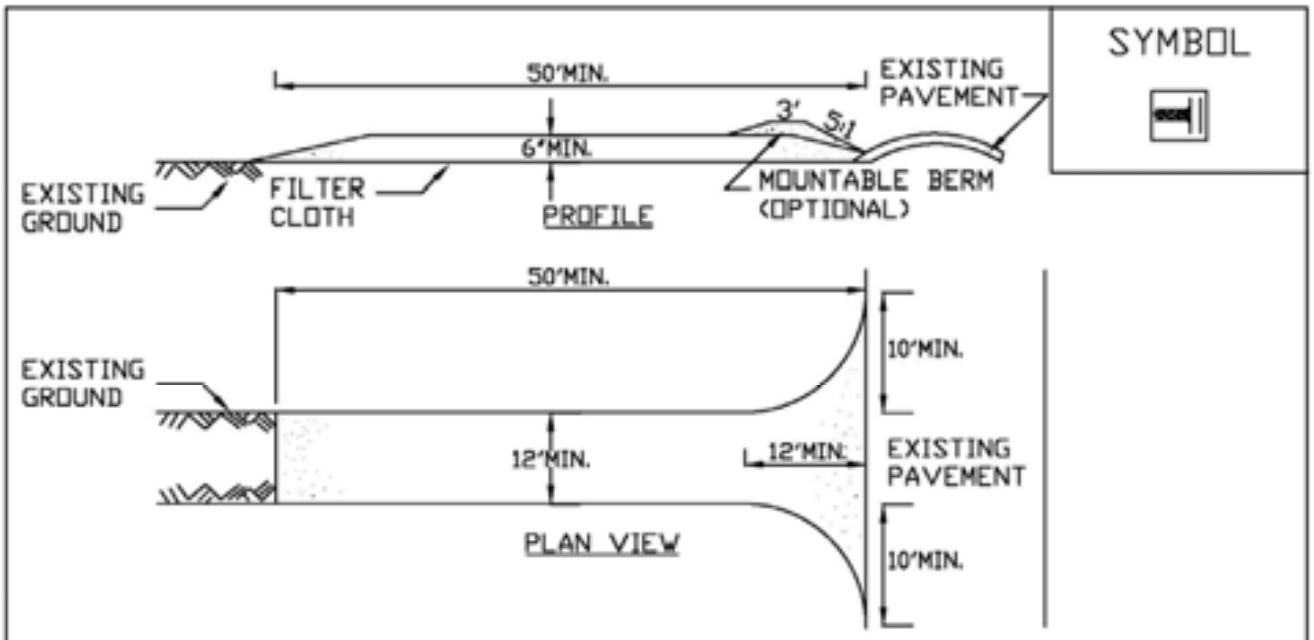
[3]Fabrics not meeting these specifications may be used only when design procedure and supporting documentation are supplied to determine aggregate depth and fabric strength.

Maintenance

The access shall be maintained in a condition which will prevent tracking of sediment onto public rights-of-way or streets. This may require periodic top dressing with additional aggregate. All sediment spilled, dropped, or washed onto public rights-of-way must be removed immediately.

When necessary, wheels must be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with aggregate, which drains into an approved sediment-trapping device. All sediment shall be prevented from entering storm drains, ditches, or watercourses.

Figure 2.1
Stabilized Construction Access



CONSTRUCTION SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ACCESS SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

ADAPTED FROM DETAILS PROVIDED BY: USDA - NRCS, NEW YORK STATE DEPARTMENT OF TRANSPORTATION, NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, NEW YORK STATE SOIL & WATER CONSERVATION COMMITTEE

STABILIZED CONSTRUCTION ACCESS

ATTACHMENT 2

Inspection and Maintenance Report Form

MECP: INSPECTION & MAINTENANCE REPORT FORM

TO BE COMPLETED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5-INCHES OR MORE

Project:	Date:
Client:	Report No.:
Job No.:	Personnel:
Rainfall (approx. inches):	Rainfall Event Personnel:

Contractor Activities	OK	NO	N/A	Notes
Are construction onsite traffic routes, parking and storage of equipment and supplies restricted to areas specifically designated for those uses?				
Are locations of temporary soil stockpiles of construction materials in approved areas?				
Is there any evidence of spills and resulting cleanup procedures?				
GENERAL EROSION & SEDIMENT CONTROLS				
Are sediment and erosion BMPs installed in the proper location and according to the specifications set out in the SWPPP?				
Are all operational storm drain inlets protected from sediment inflow?				
Do any seeded or landscaped areas require maintenance, irrigation, fertilization, seeding or mulching?				
Is there any evidence that sediment is leaving the site?				
Is there any evidence of erosion or cut fill slopes?				
PERIMETER ROAD USE				
Does much sediment get tracked on to the perimeter road				
Is the gravel clean or is it filled with sediment?				
Does all traffic use the perimter road to leave the site?				
Is maintenance or repair required for the perimeter road?				
REFER TO STABILIZATION MEASURES REPORT				

PREPARED BY: **DATE:**

MECP = Master Erosion Control Plan

APPENDIX E

Groundwater Amendment Documentation

SAFETY DATA SHEET

1. Identification

Product identifier **3-D Microemulsion® Factory Emulsified**

Other means of identification 3DME

Recommended use Remediation of soils and groundwater.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name REGENESIS

Address 1011 Calle Sombra
San Clemente, CA 92673 USA

General information 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

USA, Canada 1-800-424-9300

International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Fatty acid esters	-	40 - 60
Water	7732-18-5	35 - 45
Lactate oligomers	-	2 - 10
Sodium lactate	867-56-1	2 - 10
Surfactant	-	< 1

Composition comments All concentrations are in percent by weight unless otherwise indicated.
Contains no hazardous ingredients according to OSHA 29 CFR 1910.1200.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation. Prolonged skin contact may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, phosphorus oxides, metal oxides.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk. Water spray should be used to cool containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	The product is an aqueous solution. After the water component evaporates, the remaining material will burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Spilled product may create a slipping hazard. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, reinforced fiberglass.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection	
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	White.
Odor	Odorless.
Odor threshold	Not available.
pH	6 - 8
Melting point/freezing point	Property has not been measured.
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	> 199.94 °F (> 93.3 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Property has not been measured.
Explosive limit - upper (%)	Property has not been measured.
Vapor pressure	Property has not been measured.
Vapor density	Property has not been measured.
Relative density	1 - 1.2
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	Property has not been measured. Property has not been measured.
Auto-ignition temperature	Property has not been measured.
Decomposition temperature	Not applicable as the product is not unstable.
Viscosity	Not available.
Other information	
Density	Property has not been measured.
Explosive properties	Not explosive.
Kinematic viscosity	Property has not been measured.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Undergoes hydrolysis in water to form lactic acid and soybean oil.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Bases. Acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation Spray mists may cause respiratory tract irritation.

Skin contact May cause mild or temporary skin irritation upon prolonged and excessive contact.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Direct contact with eyes may cause temporary irritation. Prolonged skin contact may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Fatty acid esters (CAS -)			
Aquatic			
Acute			
Algae	EL50	Selenastrum capricornutum	> 854.9 mg/l, 72 hours
Fish	LL50	Pimephales promelas	> 1000 mg/l, 96 hours
Other	EL50	Daphnia sp.	> 1000 mg/l, 48 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil The product is completely soluble in water. Expected to be mobile in soil.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA)	All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 09-April-2015

Revision date 06-May-2022

Version # 04

HMIS® ratings

Health: 1
Flammability: 1
Physical hazard: 0
Personal protection: B

NFPA ratings



Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

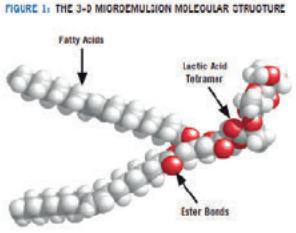
3-D Microemulsion® Factory Emulsified Technical Description

3-D Microemulsion (3DME®) is comprised of a patented molecular structure containing oleic acids (i.e., oil component) and lactates/polylactates, which are molecularly bound to one another (figure 1). 3DME Factory Emulsified, is a pre-mixed emulsion of 3DME, for even easier site mixing and application.



Example of 3-D Microemulsion

The 3DME molecule contains both a soluble (hydrophilic) and insoluble (lipophilic) region. These two regions of the molecule are designed to be balanced in size and relative strength. The balanced hydrophilic/lipophilic regions of 3DME result in an electron donor with physical properties allowing it to initially adsorb to the aquifer material in the area of application, then slowly redistribute via very small 3DME "bundles" called micelles. These 3DME micelles spontaneously form within sections of the aquifer where concentrations of 3DME reach several hundred parts per million. The micelles' small size and mobility allow it to move with groundwater flow through the aquifer matrix, passing easily through the pore throats in between soil grains resulting in the further redistribution of 3DME within the aquifer. This allows for advective distribution of the oleic acids which are otherwise insoluble and unable to distribute in this manner, allowing for increased persistence of the lactate/polylactates component due to their initial attachment to the oleic acids.



Due to its patented molecular structure, 3DME offers far greater transport when compared to blended emulsified vegetable oil (EVO) products, which fail to distribute beyond the limits of pumping. 3DME also provides greater persistence when compared to soluble substrates such as lactates or simple sugars. The 3DME molecular structures capitalize on the best features of the two electron-donor types while at the same time, minimize their limitations. 3DME Factory Emulsified is delivered to the site as a ready-to-apply emulsion that is simply diluted with water to generate a large volume of a 3DME colloidal suspension.

Suspension of 3DME generated by this mixing range from micelles on the order of .02 microns to .05 microns in diameter, to "swollen" micelles, (termed "microemulsions") which are on the order of .05 to 5 microns in diameter. Once injected into the subsurface in high volumes, the colloidal suspension mixes and dilutes in existing pore waters. The micelles/microemulsions on the injection front will then begin to sorb onto the surfaces of soils as a result of zeta potential attraction and organic matter within the soils themselves. As the sorption continues, the 3DME will "coat" pore surfaces developing a layer of molecules and in some cases a bilayer. This sorption process continues as the micelles/microemulsion moves outward and disassociates into their hydrophilic/hydrophobic components. The specialized chemistry of 3DME results in a staged release of electron donors: free lactate (immediate); polylactate esters (mid-range) and free fatty acids & fatty acid esters (long-term). Material longevity of three years or greater has been seen at most sites as determined from biogeochemical analyses.

For a list of treatable contaminants with the use of 3DME, view the Range of Treatable Contaminant Guide.

3-D Microemulsion® Factory Emulsified Technical Description

Chemical Composition

- Fatty acid esters
- Water
- Lactate oligomers
- Sodium lactate
- Proprietary surfactants

Properties

- Density – Approximately 1.0 grams per cubic centimeter (relative to water)
- pH – Neutral (approx. 6.5 to 7.5 standard units)
- Solubility – Soluble in Water
- Appearance – White emulsion
- Odour – Not detectable
- Vapour Pressure – None
- Non-hazardous

Storage and Handling Guidelines

Storage
Store in original tightly closed container
Store in a cool, dry, well-ventilated place
Store away from incompatible materials
Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass

Handling
Avoid contact with eyes, skin, and clothing
Provide adequate ventilation
Wear appropriate personal protective equipment
Observe good industrial hygiene practices

Applications

- 3DME is diluted with water prior to application. Resulting emulsion has viscosity similar to water.
- Easily injects into formation through direct push injection points, injection wells or other injection delivery systems.

Application instructions for this product are contained here 3DME Factory Emulsified Application Instructions.

Health and Safety

Material is food grade and relatively safe to handle. We recommend avoiding contact with eyes and prolonged contact with skin. OSHA Level D personal protection equipment including vinyl or rubber gloves, and eye protection are recommended when handling this product. Please review the 3DME Factory Emulsified Material Safety Data Sheet for additional storage, usage, and handling requirements.

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REGENESIS
Technology-Based Solutions for the Environment

SAFETY DATA SHEET

1. Identification

Product identifier	**Bio-Dechlor INOCULUM® Plus**
Other means of identification	None.
Recommended use	Soil and Groundwater Remediation.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name	Regenesis
Address	1011 Calle Sombra San Clemente, CA 92673
Telephone	949-366-8000
E-mail	CustomerService@regenesis.com
Emergency phone number	CHEMTREC® at 1-800-424-9300 (International)

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA defined hazards	Not classified.

Label elements

Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

Chemical name	CAS number	%
Soil Bacteria	Not Applicable	100

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact	Rinse with water. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.

General information	If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Carbon dioxide (CO2). Water. Foam.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials. Use water spray to keep fire-exposed containers cool.
General fire hazards	No unusual fire or explosion hazards noted. The product itself does not burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Avoid contact with spilled material. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Disinfect the spill area with 5% bleach solution after clean-up. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices. Wear appropriate personal protective equipment (See Section 8).
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass. Store away from incompatible materials (see Section 10 of the SDS). Store in a cool, dry area at 4 - 5°C (39 - 41°F).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	General ventilation normally adequate. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection	Tightly fitting safety goggles.
Skin protection	
Hand protection	The following glove materials are recommended: vinyl or rubber.
Other	Wear suitable protective clothing.
Respiratory protection	Not normally needed. In case of insufficient ventilation, wear suitable respiratory equipment. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Murky yellow.
Odor	Musty.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	212 °F (100 °C)
Flash point	Not flammable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	0.9 - 1.1
Solubility(ies)	
Solubility (water)	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials. Keep from freezing.
Incompatible materials	Strong oxidizing agents. Bases. Acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	Prolonged or repeated skin contact may result in minor irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	Ingestion may cause irritation and stomach discomfort.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity	Not expected to be acutely toxic.
Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.
Further information	May be harmful by inhalation, ingestion, or skin absorption via bacterial action.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Persistence and degradability	This material will degrade in the environment. Material is readily degradable and undergoes hydrolysis in several hours.
Bioaccumulative potential	No data available.
Mobility in soil	Expected to be highly mobile in soil.
Other adverse effects	None known.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

Not Listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-February-2015

Revision date -

Version # 01

Further information HMIS® is a registered trade and service mark of the American Coatings Association (ACA).

HMIS® ratings
Health: 0
Flammability: 0
Physical hazard: 0

NFPA ratings



Disclaimer Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

BDI PLUS® Technical Description

Bio-Dechlor INOCULUM Plus (BDI PLUS®) is an enriched natural consortium containing species of Dehalococcoides sp. (DHC). BDI PLUS has been shown to simulate the rapid and complete dechlorination of chlorinated solvents such as tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride (VC) to non-toxic end products, ethene, carbon dioxide and water.

The culture also contains microbes capable of dehalogenating halomethanes (e.g., carbon tetrachloride and chloroform) and haloethanes (e.g., 1,1,1-TCA and 1,1-DCA) as well as mixtures of these contaminants.



Species of Deha ococcoides sp. (DHC)

For a list of treatable contaminants with the use of BDI PLUS, view the Range of Treatable Contaminants Guide

Chemical Composition

- Non-hazardous, naturally-occurring, non-altered anaerobic microbes and enzymes in a water-based medium.

Properties

- Appearance – Murky, yellow to grey water
- Odor – Musty
- pH 6.0 to 8.0
- Density – Approximately 1.0 grams per cubic centimeter (0.9 to 1.1 g/cc)
- Solubility – Soluble in Water
- Vapor Pressure – None
- Non-hazardous

Storage and Handling Guidelines

Storage
Store in original tightly closed container
Store away from incompatible materials
Recommended storage containers: plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass
Store in a cool, dry area at 4-5°C (39 - 41°F)
Material may be stored for up to 3 weeks at 2-4°C without aeration

Handling
Avoid prolonged exposure
Observe good industrial hygiene practices
Wear appropriate personal protective equipment

BDI PLUS® Technical Description

Applications

- BDI PLUS is delivered to the site in liquid form and is designed to be injected directly into the saturated zone requiring treatment.
- Most often diluted with de-oxygenated water prior to injection into either hydraulic push injection points or properly constructed injection wells.
- The typical dilution rate of the injected culture is 10 gallons of deoxygenated water to 1 liter of standard BDI PLUS culture.

Application instructions for this product are contained here BDI PLUS Application Instructions.

Health and Safety

Material is non-hazardous and relatively safe to handle; however avoid contact with eyes and prolonged contact with skin. OSHA Level D personal protection equipment including: vinyl or rubber gloves and safety goggles or a splash shield are recommended when handling this product. An eyewash station is recommended. Please review the Material Safety Data Sheet for additional storage, usage, and handling requirements here: BDI PLUS SDS.

REGENESIS

www.regenesis.com
1011 Calle Sombra, San Clemente CA 92673
949.366.8000

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SAFETY DATA SHEET

1. Identification

Product identifier	**RegenOx® Part A**
Other means of identification	None.
Recommended use	Soil and Groundwater Remediation.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name	REGENESIS
Address	1011 Calle Sombra San Clemente, CA 92673 USA
General information	949-366-8000
E-mail	CustomerService@regenesis.com

Emergency phone number	For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:
USA, Canada	1-800-424-9300
International	+1 703-741-5970

2. Hazard(s) identification

Physical hazards	Oxidizing solids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2

OSHA defined hazards Not classified.

Label elements



Signal word	Danger
Hazard statement	May intensify fire; oxidizer. Harmful if swallowed. Causes serious eye damage. Toxic to aquatic life.

Precautionary statement

Prevention	Keep away from heat. Keep/Store away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/eye protection/face protection. Avoid release to the environment.
Response	If swallowed: Call a poison center/doctor if you feel unwell. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Rinse mouth. In case of fire: Use appropriate media to extinguish.
Storage	Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium carbonate peroxyhydrate	15630-89-4	≥95
Silicic acid, sodium salt, sodium silicate	1344-09-8	<1

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. Contact with combustible material may cause fire. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water spray, fog (flooding amounts).

Unsuitable extinguishing media Dry chemical, CO2, halon. Foam.

Specific hazards arising from the chemical Greatly increases the burning rate of combustible materials. Containers may explode when heated. During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, metal oxides.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

Specific methods Cool containers exposed to flames with water until well after the fire is out.

General fire hazards May intensify fire; oxidizer. Contact with combustible material may cause fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep away from clothing and other combustible materials. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Collect dust using a vacuum cleaner equipped with HEPA filter. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Ventilate the contaminated area. This product is miscible in water. Stop the flow of material, if this is without risk. Absorb in vermiculite, dry sand or earth and place into containers. Large Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Shovel the material into waste container. Minimize dust generation and accumulation. Avoid the generation of dusts during clean-up. Prevent product from entering drains. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep away from heat. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from clothing and other combustible materials. Take any precaution to avoid mixing with combustibles. Do not get this material in contact with eyes. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep away from heat. Store in a cool, dry place out of direct sunlight. Store at temperatures not exceeding 40°C/104°F. Store in original tightly closed container. Store in a well-ventilated place. Do not store near combustible materials. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Unvented, tight fitting goggles should be worn in dusty areas.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Frequent change is advisable. Rubber, neoprene or PVC gloves are recommended.
Skin protection	
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear respirator with dust filter.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Powder.
Color	White.
Odor	Odorless.

Odor threshold	Not available.
pH	10.5 (3% solution/water)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	May intensify fire; oxidizer.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	14.5 g/100g water @ 20 ºC (minimum)
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	122 °F (50 °C)
Viscosity	Not available.
Other information	
Bulk density	0.9 - 1.2 g/ml
Explosive properties	Not explosive.
Oxidizing properties	May intensify fire; oxidizer.

10. Stability and reactivity

Reactivity	Greatly increases the burning rate of combustible materials.
Chemical stability	Product may be unstable at temperatures above: 50°C/122°F. Decomposes on heating.
Possibility of hazardous reactions	Reacts slowly with water.
Conditions to avoid	Moisture. Heat. Avoid temperatures exceeding the decomposition temperature. Contact with incompatible materials.
Incompatible materials	Acids. Bases. Salts of heavy metals. Reducing agents. Combustible material. Water.
Hazardous decomposition products	Oxygen. Steam. Heat.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity	Harmful if swallowed.

Components	Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)		
Acute		
Oral		
LD50	Mouse	1100 mg/kg
	Rat	1.1 g/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Components		Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)			
Aquatic			
Acute			
Crustacea	EC50	Water flea (Ceriodaphnia dubia)	>= 0.28 - <= 0.57 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	1800 mg/l, 96 hours

Persistence and degradability Decomposes in the presence of water. The product contains inorganic compounds which are not biodegradable.

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Mobility in soil This product is water soluble and may disperse in soil.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN3378
UN proper shipping name	Sodium carbonate peroxyhydrate
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
Packing group	III
Environmental hazards	
Marine pollutant	No.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B120, IB8, IP3, T1, TP33
Packaging exceptions	152
Packaging non bulk	213
Packaging bulk	240

IATA

UN number	UN3378
UN proper shipping name	Sodium carbonate peroxyhydrate
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	5L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN3378
UN proper shipping name	SODIUM CARBONATE PEROXYHYDRATE
Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-Q
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories	Oxidizer (liquid, solid, or gas) Acute toxicity (any route of exposure) Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	26-March-2015
Revision date	15-July-2022
Version #	03
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 2 Personal protection: E

NFPA ratings



Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

SAFETY DATA SHEET

1. Identification

Product identifier **RegenOx® Part B**

Other means of identification None.

Recommended use Soil and Groundwater Remediation.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name REGENESIS

Address 1011 Calle Sombra
San Clemente, CA 92673 USA

General information 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

USA, Canada 1-800-424-9300

International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Causes skin irritation. Causes serious eye irritation.

Precautionary statement

Prevention Wash thoroughly after handling. Wear protective gloves/eye protection/face protection.

Response If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Silicic acid, sodium salt, sodium silicate	1344-09-8	25-40
Silicon dioxide (amorphous silica gel)	63231-67-4	<10

Chemical name	CAS number	%
Ferrous sulfate	7720-78-7	2-5

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First-aid measures

Inhalation Move to fresh air. Keep victim at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Never give anything by mouth to a victim who is unconscious or is having convulsions. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Spray mist may irritate the respiratory system. Symptoms may include coughing, difficulty breathing and shortness of breath.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media None known.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Combustion products may include: silicon oxides, metal oxides, sulfur oxides.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store in a cool, dry, well-ventilated place. Maintain storage temperatures between 50°F to 140°F (10°C to 60°C). Store away from incompatible materials (see Section 10 of the SDS). Recommended storage containers: steel or plastic. Do not use containers made of aluminum, fiberglass, copper, brass, zinc or galvanized containers.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Silicon dioxide (amorphous silica gel) (CAS 63231-67-4)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		0.8 mg/m3	
		20 mppcf	

US. ACGIH Threshold Limit Values

Components	Type	Value
Ferrous sulfate (CAS 7720-78-7)	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ferrous sulfate (CAS 7720-78-7)	TWA	1 mg/m3
Silicon dioxide (amorphous silica gel) (CAS 63231-67-4)	TWA	6 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Chemical goggles are recommended. Wear a face shield if there is a risk of splashing.

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Skin protection

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Recommended use: Wear NIOSH approved respirator appropriate for airborne exposure at the point of use.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Liquid.

Color Green to dark blue.

Odor Odorless.

Odor threshold Not available.

pH 11 (10% solution/water)

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point Not available.

Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.2 - 1.4
Solubility(ies)	
Solubility (water)	Miscible.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	< 10,000cP
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Hydrogen fluoride. Fluorine. Oxygen difluoride. Chlorine trifluoride. Strong acids. Strong bases. Oxidizers. Aluminum metal. Copper. Brass. Zinc. Galvanized metals.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful. Spray mists may cause respiratory tract irritation.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Ingestion may cause irritation and malaise.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Spray mist may irritate the respiratory system. Symptoms may include coughing, difficulty breathing and shortness of breath.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)		
Acute		
Dermal		
LD50	Rat	> 5000 mg/kg, 24 Hours
Inhalation		
Vapor		
LC50	Rat	> 2.06 mg/l, 4 Hours
Oral		
LD50	Rat	2000 - 2500 mg/kg
		3400 mg/kg

Components	Species	Test Results
		3200 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Silicon dioxide (amorphous silica gel) (CAS 63231-67-4) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)	> 159 mg/kg Result: NOAEL Species: Rat

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Silicic acid, sodium salt, sodium silicate (CAS 1344-09-8)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia magna	1700 mg/l, 48 hours
Fish	LC50	Danio rerio	1108 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil This product is water soluble and may spread in the water system.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ferrous sulfate (CAS 7720-78-7) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Ferrous sulfate (CAS 7720-78-7)

US. New Jersey Worker and Community Right-to-Know Act

Ferrous sulfate (CAS 7720-78-7)

US. Pennsylvania Worker and Community Right-to-Know Law

Ferrous sulfate (CAS 7720-78-7)

US. Rhode Island RTK

Ferrous sulfate (CAS 7720-78-7)
Silicon dioxide (amorphous silica gel) (CAS 63231-67-4)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 02-April-2015

Revision date 15-July-2022

Version # 04

HMIS® ratings
Health: 2
Flammability: 0
Physical hazard: 0
Personal protection: D

NFPA ratings



Disclaimer Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

RegenOx® Technical Description

RegenOx is an advanced chemical oxidation technology that destroys contaminants through powerful, yet controlled chemical reactions. This product maximizes *in situ* chemical oxidation (ISCO) performance through use of a two-part product system; a sodium percarbonate oxidizer complex activated by a patented surface catalyst system. The technology degrades pollutants through direct oxidation, as well as through the generation of a suite of free radical compounds which in turn oxidize recalcitrant contaminants. RegenOX rapidly and effectively destroys a range of target contaminants including petroleum hydrocarbons and chlorinated compounds.



C ose up of RegenOx

RegenOx is especially effective in destroying target contaminants present in high concentration source areas within the saturated and vadose zones. For petroleum hydrocarbon treatment, RegenOx produces oxygen as a result of its reactions, providing seamless transition from ISCO to enhanced aerobic bioremediation. RegenOx produces minimal heat when applied, and continues to destroy contaminants for up to 30 days on a single application. RegenOx is safe for use in direct contact with underground utilities, since it is non-corrosive to concrete and most metals.

$$C_2Cl_4 + 4/3\ Na_2CO_3 \bullet 2H_2O_2 + 4NaOH \rightarrow 2CO_2 + 4NaCl + 4H_2O + 4/3\ Na_2CO_3$$

- Free Radical Oxidation via production of:
  - Perhydroxyl Radical ($HO_2\bullet$)
  - Hydroxyl Radical ($OH\bullet$)
  - Superoxide Radical ($O_2^{-}\bullet$)

For a list of treatable contaminants with the use of RegenOx, view the Range of Treatable Contaminants Guide

Chemical Composition – Part A Oxidant

- Sodium Percarbonate – CAS #15630-89-4
- Sodium Carbonate Monohydrate - CAS #5968-11-6
- Silicic Acid – CAS #7699-11-6
- Silica Gel – CAS #63231

Chemical Composition – Part B Activator Complex

- Silicic Acid, Sodium Salt, Sodium Silicate - CAS#1344-09-08
- Silica Gel – CAS #63231
- Ferrous Sulfate – CAS #7720-78-7
- Water – CAS#7732-18-5

Properties

- Bulk Density – Part A 0.9-1.2 g/cm3; Part B – 1.39 g/cm3
- pH - 10-11 per recommended mixing ratios (3-5% oxidant in solution)
- Solubility – Oxidant - 14.5 g/100 g water; Activator – miscible in water
- Appearance – Brown to orange-brown when mixed with water
- Odor – Not detectable
- Vapor Pressure – None
- Non-hazardous

RegenOx® Technical Description

Storage and Handling Guidelines

Storage
Store in a cool, dry place out of heat/direct sunlight
Store at temperatures not to exceed 40°C/104°F
Store in original tightly closed container
Store in a well-ventilated place
Do not store near combustible materials
Store away from incompatible materials
Protect from contamination
Provide appropriate exhaust ventilation in places where dust is formed

Handling
Minimize dust generation and accumulation
Observe good industrial hygiene practices
Keep away from clothing and combustible materials
Take any precaution to avoid mixing with combustibles
Avoid contact with eyes
Do not taste or swallow
Do not eat, drink or smoke nearby
Wear appropriate personal protective equipment
Wash hands thoroughly after handling
Avoid release to the environment

Applications

RegenOx is applied using direct-injection techniques or wells. The application process enables the two- part product to be combined, then pressure-injected into the zone of contamination and moved out into the aquifer media. Application instructions for this product are contained in the RegenOx Application Instructions Guide.

Health and Safety

Material is relatively safe to handle; however, we recommend avoiding contact with eyes, skin and clothing. OSHA Level D personal protection equipment including vinyl or rubber gloves, eye protection and dust mask are recommended when handling this product. Please review the Material Safety Data Sheet for additional storage, packaging, usage, and handling requirements here: RegenOx Part A SDS and RegenOx Part B SDS.

REGENESIS

www.regenesis.com
1011 Calle Sombra, San Clemente CA 92673
949.366.8000

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SAFETY DATA SHEET

1. Identification

Product identifier **S-MicroZVI or S-MZVI**

Other means of identification None.

Recommended use Remediation of contaminants in soil and groundwater.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name REGENESIS

Address 1011 Calle Sombra
San Clemente, CA 92673 USA

General information 949-366-8000

E-mail CustomerService@regenesis.com

Emergency phone number For Dangerous Goods Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC 24/7 at:

USA, Canada 1-800-424-9300

International +1 703-741-5970

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The mixture does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Contact with acids liberates very toxic gas.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Glycerol	56-81-5	40 - 50
Zero valent iron	7439-89-6	30 - 50
Iron(II) sulfide	1317-37-9	1 - 4

Composition comments All concentrations are in percent by weight unless otherwise indicated.
Components not listed are either non-hazardous or are below reportable limits.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides, iron oxides.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	This material will not burn until the water has evaporated. Residue can burn.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Avoid prolonged exposure. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
Skin protection	
Other	Wear suitable protective clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Viscous metallic suspension.
Color	Dark gray
Odor	Slight.
Odor threshold	Property has not been measured.
pH	10 (As shipped) 7 - 8 (When mixed with water)
Melting point/freezing point	Property has not been measured.
Initial boiling point and boiling range	Property has not been measured.
Flash point	Property has not been measured.
Evaporation rate	Property has not been measured.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Property has not been measured.
Explosive limit - upper (%)	Property has not been measured.
Vapor pressure	Property has not been measured.
Vapor density	Property has not been measured.
Relative density	Property has not been measured.
Solubility(ies)	
Solubility (water)	Property has not been measured.
Partition coefficient (n-octanol/water)	Property has not been measured.
Auto-ignition temperature	Property has not been measured.
Decomposition temperature	Property has not been measured.
Viscosity	3000 cP (77 °F (25 °C))
Other information	
Density	Property has not been measured.
Explosive properties	Not explosive.
Kinematic viscosity	Property has not been measured.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Contact with acids will release highly flammable and highly toxic hydrogen sulfide gas. Can react with some acids with the evolution of hydrogen.
Conditions to avoid	Contact with incompatible materials. Avoid drying out product.
Incompatible materials	Strong oxidizing agents. Acids.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Spray mist may irritate the respiratory system. For dry material: Dust may irritate respiratory system.
Skin contact	Prolonged or repeated exposure may cause minor irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not expected to be acutely toxic.

Components	Species	Test Results
Glycerol (CAS 56-81-5)		
Acute		
Dermal		
LD50	Rabbit	> 18700 mg/kg
Oral		
LD50	Rat	27200 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Further information	Contains an ingredient known to produce adverse effects in a small percentage of hypersensitive individuals exhibited as respiratory distress and allergic skin reactions.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Glycerol (CAS 56-81-5)		
Aquatic		
Acute		
Crustacea EC50	Daphnia magna	> 10000 mg/l, 24 Hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Glycerol (CAS 56-81-5)	-1.76

Mobility in soil No data available.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

15. Regulatory information

US federal regulations This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated “active”.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Glycerol (CAS 56-81-5) Other Flavoring Substances with OSHA PEL's

US state regulations

US. Massachusetts RTK - Substance List

Glycerol (CAS 56-81-5)

US. New Jersey Worker and Community Right-to-Know Act

Glycerol (CAS 56-81-5)

US. Pennsylvania Worker and Community Right-to-Know Law

Glycerol (CAS 56-81-5)

US. Rhode Island RTK

Glycerol (CAS 56-81-5)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to www.P65Warnings.ca.gov.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Zero valent iron (CAS 7439-89-6)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 27-December-2018

Revision date 25-May-2022

Version # 02

HMIS® ratings Health: 1
Flammability: 1
Physical hazard: 0
Personal protection: B

NFPA ratings



Disclaimer

Regenesis cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

S-MicroZVI™ Specification Sheet

S-MicroZVI™ is an *In Situ* Chemical Reduction (ISCR) reagent that promotes the destruction of many organic pollutants and is most commonly used with chlorinated hydrocarbons. It is engineered to provide an optimal source of micro-scale zero valent iron (ZVI) that is both easy to use and delivers enhanced reactivity with the target contaminants via multiple pathways. S-MicroZVI can destroy many chlorinated contaminants through a direct chemical reaction (see Figure 1). S-MicroZVI will also stimulate anaerobic biological degradation by rapidly creating a reducing environment that is favorable for reductive dechlorination.



S-MicroZVI is best in class for

- ✓ Longevity
- ✓ Reactivity
- ✓ Transport

Sulfidated ZVI

S-MicroZVI is composed of colloidal, sulfidated zero-valent iron particles suspended in glycerol using proprietary environmentally acceptable dispersants. The passivation technique of sulfidation, completed using proprietary processing methods, provides unparalleled reactivity with chlorinated hydrocarbons like PCE and TCE and increases its stability and longevity by minimizing undesirable side reactions.

In addition to superior reactivity, S-MicroZVI is designed for easy handling that is unmatched by any ZVI product on the market. Shipped as a liquid suspension, S-MicroZVI requires no powder feeders, no thickening with guar, and pneumatic or hydraulic fracturing is not mandatory. When diluted with water prior to application, the resulting suspension is easy to inject using either direct push or permanent injection wells.

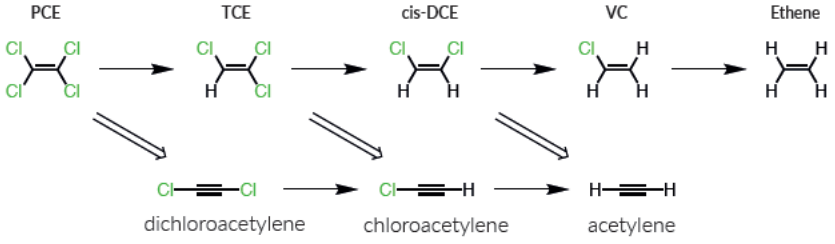


Figure 1: Chlorinated ethene degradation pathways and products. The top pathway with single line arrows represent the reductive dechlorination (hydrogenolysis) pathway. The lower pathway with downward facing double line arrows represent the beta- elimination pathway.

To see a list of treatable contaminants, view the S-MicroZVI treatable contaminants guide.

Chemical Composition

- Iron, powders CAS 7439-89-6
- Iron (II) sulfide CAS 1317-37-9
- Glycerol CAS 56-81-8

S-MicroZVI™ Specification Sheet

Properties

- Physical State: Liquid
- Form: Viscous metallic suspension
- Color: Dark gray
- Odor: Slight
- pH: Typically 7-9 as applied
- Density: 15 lb/gal (1,8 g/ml)

Storage and Handling Guidelines

Storage
Use within four weeks of delivery
Store in original containers
Store at temperatures below 95F°/35°C
Store away from incompatible materials

Handling
Never mix with oxidants or acids
Wear appropriate personal protective equipment
Do not taste or swallow
Observe good industrial hygiene practices

Applications

S-MicroZVI is diluted with water on site and easily applied into the subsurface through low-pressure injections. S-MicroZVI can also be mixed with products like 3-D Microemulsion® or PlumeStop® prior to injection.

Health and Safety

The material is relatively safe to handle; however, avoid contact with eyes, skin and clothing. OSHA Level D personal protection equipment including: vinyl or rubber gloves and eye protection are recommended when handling this product. Please review the Safety Data Sheet for additional storage, and handling requirements here: S-MicroZVI SDS.

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SS19_01

APPENDIX F

Project Documentation Forms

ROUX

DAILY LOG	DATE			
	REPORT NO.			
	PAGE		OF	

CORRECTIVE MEASURES REPORT

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Corrective Measures Undertaken (reference Problem Identification Report No.)

Retesing Location:

Suggested Method of Minimizing Re-Occurrence:

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative

DAILY LOG	DATE			
	NO.			
	SHEET		OF	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:	PROJECT NO.
PROJECT LOCATION:	CLIENT:
FIELD ACTIVITY:	
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:	

TIME	DESCRIPTION

VISITORS ON SITE:	CHANGES FROM PLANS AND SPECIFICATIONS, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS:
WEATHER CONDITIONS: A.M.:	IMPORTANT TELEPHONE CALLS:
P.M.:	
PERSONNEL ON SITE:	
SIGNATURE	DATE:

ROUX

DAILY LOG	DATE			
	REPORT NO.			
	PAGE	OF		

PROBLEM IDENTIFICATION REPORT

Date:

Project:

Job No:

Location:

CQA Monitor(s):

Client:

Contractor:

Contractor's Supervisor:

WEATHER CONDITIONS:

Ambient Air Temp. - A.M.:

Ambient Air Temp. - P.M.:

Wind Direction:

Wind Speed:

Precipitation:

Problem Description:

Problem Location (reference test location, sketch on back of form as appropriate):

Problem Causes:

Suggested Corrective Measures or Variances:

Linked to Corrective Measures Report No. *or Variance Log No.*

Approvals (initial):

CQA Engineer:

Project Manager:

Signed:

CQA Representative