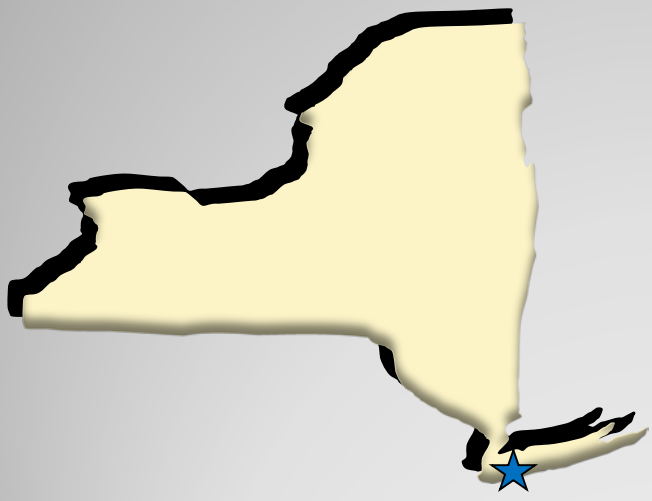
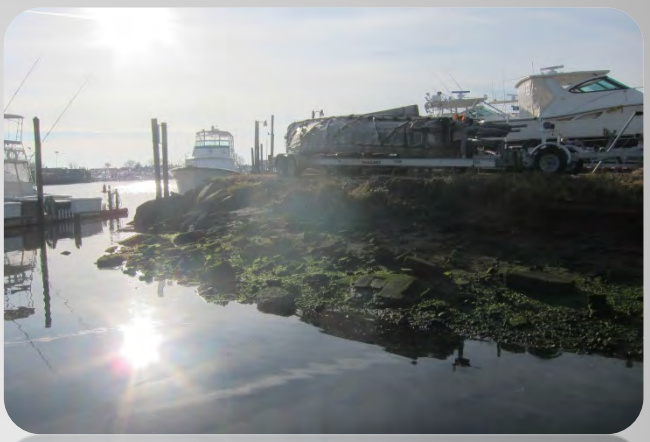
PERIODIC REVIEW REPORT No. 6
November 2017 – November 2018

Metal Etching Co. Inc. Site (130110)
Freeport, Nassau County, New York





Prepared for:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E, Section A

Prepared by:

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January 2019

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Periodic Review Report No. 6
November 12, 2017 – November 12, 2018
Metal Etching Co., Inc. Site (130110)

Freeport
Nassau County, New York

Prepared for

New York State Department of Environmental Conservation
Division of Environmental Remediation
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January 2019
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EA Project No. 14907.09

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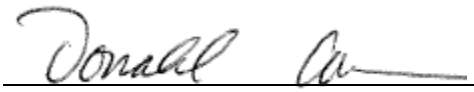
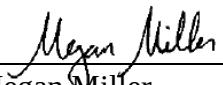


22 January 2019

Donald Conan, P.E., P.G.
Vice President

Date



22 January 2019

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Project Manager

Date

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TABLE OF CONTENTS

Page

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

AMSL	Above mean sea level
AWQS	Ambient water quality standard
bgs	Below ground surface
btoc	Below top of casing
CVOC	Chlorinated volatile organic compound
DCE	Dichloroethene
DO	Dissolved oxygen
EA	EA Engineering, P.C. and Its Affiliate EA Science and Technology
EC	Engineering controls
EPA	United States Environmental Protection Agency
ft	Feet (foot)
ft^2	Square feet (foot)
IC	Institutional controls
Metal Etching	Metal Etching, Co., Inc.
mg/L	Milligrams per liter
MNA	Monitored natural attenuation
No.	Number
NTU	Nephelometric turbidity units
NYSDEC	New York State Department of Environmental of Conservation
NYSDOH	New York State Department of Health
O&M	Operation and maintenance
PCE	Tetrachloroethene
PFAS	Per fluorinated alkyl substances
PRR	Periodic review report
RA	Remedial action
RI	Remedial investigation
ROD	Record of Decision
SCG	Standards, Criteria, and Guidance
SCO	Soil cleanup objectives
SMP	Site management plan
SSDS	Sub-slab depressurization system

SVI	Soil vapor intrusion
TCE	Trichloroethene
UST	Underground storage tank
VC	Vinyl chloride
VOC	Volatile organic compound
yd^3	Cubic yard(s)

ES. EXECUTIVE SUMMARY

The New York State Department of Environmental Conservation (NYSDEC) tasked EA Engineering, P.C. and its affiliate EA Science and Technology (EA) to provide site management services from August 21, 2012 to January 2020 at the Metal Etching Co., Inc. (Metal Etching) site (Site Number [No.] 130110) in Freeport, Nassau County, New York (**Figure 1**). This Work Assignment is being conducted under NYSDEC Standby Engineering Services Contract No. D007624-09.1.

Post-closure monitoring and facility maintenance program activities for 2018 were conducted at the Metal Etching site in March 2018 in accordance with the New York State Inactive Hazardous Waste Disposal Site Remedial Program and as stipulated in the Record of Decision (NYSDEC 2007) and Site Management Plan (EA 2018).

ES.1 REMEDY EVALUATION

Groundwater Monitoring

Concentrations of primary chlorinated volatile organic compounds (CVOCs) were consistently detected in groundwater samples collected from the deep wells within the former source area (MW-09D and MW-08DR) during the monitoring period. Concentrations of *cis*-1,2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride were detected exceeding the respective NYSDEC Ambient Water Quality Standard (AWQS) in samples collected in March 2018 in shallow and deep wells at the site.

Based on monitored natural attenuation (MNA) parameter data generated during this monitoring period, there is continued potential for natural attenuation to occur within the aquifer. Water quality parameters (dissolved oxygen and oxidation reduction potential), and concentrations of total organic carbon, dissolved oxygen, nitrate, and chloride provide moderately favorable conditions for reductive dechlorination of CVOCs to occur.

Soil Vapor Intrusion Monitoring

The sub-slab depressurization system at the site office building was operational for the monitoring period. Indoor and outdoor air of the office building was monitored during the March 2018 event and will continue to be monitored on an annual basis. No detections of site-related CVOCs were identified in the indoor air samples collected as part of the monitoring program.

Site Inspection and Maintenance

A site inspection was completed on March 6, 2018. Site cover material was observed to be in fair condition with some disturbance. There is some evidence of disintegration of the porous pavement cover south of the main office building, but the site cover materials continue to provide protection to human health and the environment from contaminants of concern at this time.

Infiltration of the permeable pavement was observed to be slow in high traffic areas due to the accumulation of sediment and debris within the pavement system.

ES.2 RECOMMENDATIONS

- Site management tasks should continue during the 2019 period. This includes annual site inspections, maintenance (as needed), annual groundwater monitoring and sampling with annual collection of MNA parameters, and annual indoor air monitoring.

- Sweeping/vacuuming of permeable pavement should be completed annually.

1. INTRODUCTION

A periodic review process is commonly implemented at environmental remediation sites to evaluate the effectiveness of the selected remedy and to determine if the remedy continues to be protective of human health and the environment, as set forth in the Site Management Plan (SMP) (EA Engineering, P.C. and its affiliate EA Science and Technology [EA] 2018), provided in **Appendix A**. The objectives of the periodic review for sites in the State Superfund Program are as follows:

- Evaluate if chosen remedy is performing properly and effectively and is protective of public health and the environment.
- Determine compliance with the Record of Decision (ROD) (New York State Department of Environmental Conservation [NYSDEC] 2007) and the SMP.
- Evaluate treatment system and recommend repairs, if necessary.
- Evaluate the current state and condition of the remedy.
- Determine that the intent of the institutional controls (ICs) continues to be met, the engineering controls (ECs) remain in-place, and both are effective and protect public health and the environment.
- Evaluate the operation and maintenance (O&M) costs of the remedy.

1.1 SITE BACKGROUND

The site is located adjacent to Freeport Creek at 435 South Main Street, Freeport, Nassau County, New York. The Metal Etching Co., Inc. (Metal Etching) site was reclassified to a Class 4 site in April 2014 and is listed on the NYSDEC Registry of Inactive Hazardous Waste Sites (Site Number [No.] 130110).

The Metal Etching property is a 2.25-acre L-shaped area, bounded by Ray Street East and a commercial property to the north, Freeport Creek to the south and east, and Main Street and Ray Street East to the west (**Figure 1**). The site is currently owned by Freeport Creek Associates, Apache Realty Corporation, and BWM High & Dry; it is leased by Main Street Marina, 500 South Main Street, Freeport, New York. The Metal Etching property is designated as Section 62, Block 45, and Lots 54, 144, 145, 155, 157, and 158, and Section 62, Block 44, Lot 24 on the tax maps. The site is currently used as a boat dealership, marina, and boat storage yard. Boat maintenance operations at the site are conducted in a single 2,400 square foot (ft^2) warehouse building located on the northeast corner of the property. A smaller, 1,200 ft^2 building, located on the western portion of the property, has been restored, and is used for office space for the boat dealership. Minor boat restoration activities are performed within the warehouse building, as well as a sprung structure that was installed west of the warehouse building; activities include engine

rebuilds, sanding, and painting/varnishing.
The former Metal Etching buildings at the site were erected prior to 1954; however, the exact date of construction is unknown. These connected buildings occupied approximately 26,650 ft^2 of the property (approximately 60 percent of the Metal Etching portion of the site). Aside from the warehouse building, which was originally a portion of the Metal Etching quarters, the Metal Etching buildings were demolished in 2001; however, the concrete slabs and footings of the buildings remained in place at the site. A 6-inch-thick concrete slab covering an approximate area of 7,750 ft^2 was the foundation of the Metal Etching plating slab and is visible to the west of the warehouse building.

Historical site operations consisted of handbag manufacturing which involved decorative plating with nickel, chromium, and cadmium; followed by the manufacturing of other metal products including nameplates, instrument panels, rulers, and miscellaneous plated products. All products were etched or printed. The process of etching included anodizing, chromate conversion, and chrome/nickel plating. All operations terminated in 1999, and facility buildings were demolished around 2001.

1.2 REMEDIAL HISTORY

A remedial investigation (RI) was performed to characterize the nature and extent of contamination at the site. The RI/Feasibility Study report prepared by Environmental Resource Management (2007) for the Metal Etching site is summarized below:

- The top 7 feet (ft) of soil in three separate areas across the site contained concentrations of metals exceeding the standards, criteria, and guidance (SCGs) used for the site.

- Concentrations of volatile organic compounds (VOCs) in soil varied across the site.

- Groundwater contained concentrations of VOCs exceeding the SCGs across the site; the highest concentrations were detected in samples collected above the clay layer west and south of the 2,400 ft^2 warehouse building. Both tetrachloroethene (PCE) and breakdown contaminants trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC) were detected in site groundwater samples, indicating that degradation was occurring at the site.

- Soil vapor intrusion (SVI) sampling completed in 2004 indicated that both PCE and TCE were present beneath the slabs of the 1,200 ft^2 office building and the warehouse building. A sub-slab depressurization system (SSDS) was installed in each building to address the potential SVI.

- One underground storage tank (UST) was removed from the western area of the site in 1990, prior to the RI. Two additional potential USTs were identified during the RI; the first was identified east of the office building, and the second was identified south of the warehouse building.

- Sediment samples collected from south of the southeast bulkhead in Freeport Creek contained concentrations of chromium and nickel at concentrations exceeding their SCGs.
- Sediment samples collected from within an existing storm drain contained metals exceeding their respective SCGs.

NYSDEC issued a ROD for the Metal Etching site in March 2007. The specific elements of this alternative (as presented in the ROD [NYSDEC 2007]) are identified below:

- A remedial design program to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program. This program included delineating the boundaries of sediment excavation within Freeport Creek.

- Hot spot excavation, to the extent practicable, of volatile organic compound (VOC) and metals contaminated soil to the depth of groundwater table.

- Removal of sediment from the onsite stormwater system and disposal at an approved offsite facility.

- Determination of the presence, closure, and removal of USTs onsite in accordance with NYSDEC regulations.

- Areas not previously covered, and where excavation was not practicable, were to receive a cover of asphalt or ballast underlain by a demarcation layer.

- Limited sediment removal from Freeport Creek upon completion of the additional Freeport Creek Study and delineation of site-related contamination in the area of SED-04.

- A long-term groundwater monitoring program to confirm the effectiveness of the remedy.

- Establishment of an institutional control that requires: (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning, (b) compliance with the approved SMP (EA 2018), (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by New York State Department of Health (NYSDOH), and (d) submission of a periodic certification of ICs and (ECs) to the NYSDEC by the property owner.

- Development of a SMP.

- Requirement of the property owner to submit a periodic certification of ICs and ECs prepared and submitted by a professional engineer, or such other expert acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the ICs and ECs put in place are still in place, and are either unchanged from the previous certification or are

compliant with NYSDEC-approved modifications, (b) allow the NYSDEC access to the site, and (c) state that nothing has occurred that will impair the ability of the controls to protect public health or the environment, or constitute a violation or failure to comply with the Site Management Plan unless otherwise approved by the NYSDEC.

1.2.1 Summary of Remedial Actions

The remedial action (RA) selected by the ROD (NYSDEC 2007) included excavation and disposal of soil/fill exceeding soil cleanup objectives (SCOs), construction of a soil cover system of asphalt or permeable pavement to prevent human exposure to contaminated soil/fill remaining, removal and disposal of contaminated sediment from the onsite stormwater system, and from a limited area within Freeport Creek.

The site was remediated in accordance with the NYSDEC-approved remedial design, which was part of Contract Documents dated August 2010, and Addendums dated September 28, 2010, September 30, 2010, and October 1, 2010.

The following is a summary of the RAs performed at the site:

1. Excavation of 2,684 cubic yards (yd^3) of soil/fill exceeding SCOs within identified excavation limits, to low-tide groundwater elevation, approximately 5 ft below ground surface (bgs).

2. Construction and maintenance of a soil cover system consisting of a geotextile demarcation layer covered by asphalt or permeable pavement to prevent human exposure to contaminated soil/fill remaining at the site.

3. Execution and recording of three Environmental Notices to restrict land use to commercial or industrial uses and prevent future exposure to any contamination remaining at the site.

4. Removal of approximately 2 yd^3 of sediment from the onsite stormwater system and disposal at an approved offsite facility.

5. Closure and removal of four USTs onsite in accordance with NYSDEC regulations.

6. Limited removal of approximately 183 yd^3 of sediment from delineated area within Freeport Creek and disposal at an approved offsite facility.

7. Development and implementation of a SMP for long-term management of remaining contamination as required by the Environmental Notices, which include plans for: (1) ICs/ECs, (2) monitoring, (3) O&M, and (4) reporting.

8. Remedial activities were completed at the site in January 2012.

1.2.1.1 Remaining Contamination

Per the ROD (NYSDEC 2007), excavation depth was limited by the low-tide groundwater elevation; therefore, known contamination remains at the site. Mirafi® 180N/O non-woven geotextile was installed over the footprints of all excavations to demarcate the extent of removal and remaining contamination. The majority of the excavations were completed at a depth of 5 ft; two small excavations were completed at a depth of 1 ft.

During the RI, VOC and metals contamination was identified in various locations throughout the site deeper than the maximum excavation depth of 5 ft. Concentrations of metals and VOCs exceeded the SCOs at sampling intervals 7 to 8 ft bgs and 12 ft bgs. A confining clay layer was identified 31 to 38 ft bgs across the site.

Endpoint soil samples were collected at the excavation bottom and sidewall boundaries during the RA. VOCs detected in endpoint soil samples with concentrations exceeding the site-specific SCOs included xylenes, 1,2-DCE as a combination of cis- and trans-1,2-DCE, and toluene (south of the warehouse building).

Metals detected in endpoint soil samples collected near the warehouse building with concentrations exceeding the site-specific SCOs include chromium, copper, nickel, and zinc.

Near the office building, zinc was detected in endpoint samples exceeding the site-specific SCO.

Many of the endpoint samples collected northeast and east of the warehouse building contained copper, nickel, and zinc exceeding the site-specific SCOs. One sample directly east of the warehouse building contained chromium at a concentration exceeding the site-specific SCOs.

Sediment was removed from a 2 ft excavation within Freeport Creek directly adjacent to the easternmost portion of the southern bulkhead. Endpoint samples collected following dredging activities contained arsenic, copper, and mercury at concentrations exceeding their respective SCGs.

A full discussion of remaining contamination including tables and figures can be found in the Final Engineering Report (EA 2014b).

1.2.1.2 Final Engineering Report

The Final Engineering Report (EA 2014b) was completed in October 2012 following the RA and updated in April 2014 to include the Environmental Notices. The Final Engineering Report details the remedial activities conducted at the Metal Etching site.

1.2.1.3 Site Management Plan

The SMP was originally completed by EA in August 2012 and provided direction for maintenance and monitoring of the remedy selected by the ROD (NYSDEC 2007) for the Metal Etching site.

The SMP was revised in April 2014 to include the Environmental Notices as an appendix and to update the groundwater monitoring well network based on field changes. It was revised again in November 2018 to reduce the frequency of sampling, reduce the frequency of Periodic Review Report (PRR) submission and add perfluorinated alkyl substances (PFAS) sampling. A full copy of the revised SMP (EA 2018) is provided in **Appendix A**.

1.3 SITE GEOLOGY AND HYDROGEOLOGY

The site is located adjacent to Freeport Creek at an elevation of 5 ft above mean sea level (AMSL). The top 3 to 4 ft of soil at the site consists of compacted fill material which includes sand, gravel, brick and wood debris. Fill is underlain by organics and shells to approximately 11 ft bgs. Some fill was excavated, disposed offsite, and replaced with clean granular fill during the 2011 RA. Glacial outwash sediments including sand and silt form the layer beneath the fill to a layer of clay at approximately 31 to 38 ft bgs. The glacial outwash is underlain by the Magothy formation, which consists of sand and gravel with some clayey sands.

Depth to groundwater ranges from 2 to 5 ft bgs and is highly influenced by tides, as discussed in the RI Report (Environmental Resource Management 2007). Groundwater flow is to the southeast across the site during low tide, and to the northwest during high tide. Groundwater flow as observed during the March 2018 monitoring event is shown in **Figure 2**, respectively.

1.4 SITE MANAGEMENT OBJECTIVES

Environmental monitoring points at the Metal Etching site have been maintained and sampled during the monitoring period in accordance with the SMP (EA 2018). This included collection of groundwater samples at monitoring wells across and adjacent to the site, inspection of the site cover material, and site maintenance. Indoor air and outdoor air samples were collected in March 2018. Sampling locations, sampling methodology, list of analytes, analytical methods, cover material inspection methodology, and site maintenance objectives are documented in the SMP.

The following are objectives of the monitoring and maintenance program:

- Collect representative groundwater samples and evaluate the data to confirm the remedy continues to be effective in protecting public health and the environment.
- Collect indoor air samples and evaluate the data to monitor effectiveness of the existing SSDS and determine necessity.
- Periodically inspect the site and provide routine maintenance, as necessary.
- Document and report this information to the NYSDEC.

1.5 PERIODIC REVIEW REPORT

The purpose of this PRR is to summarize the results of the March 2018 groundwater monitoring

and site inspection event; and to provide sufficient documentation that the remedy remains in place, is performing properly and effectively, and is protective of public health and the environment. Specifically, this report provides the following information:

- Results of groundwater and indoor air monitoring
- Evaluation of the current groundwater and indoor air quality conditions
- Results of site inspections
- Maintenance activities performed to date.

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2. EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

2.1 SITE INSPECTION

Inspection of the site and its appurtenances was conducted on March 6, 2018. Findings and observations were recorded on the site-specific inspection forms, which are provided in **Appendix B**.

2.1.1 Site Cover

Overall, the site was in good condition. There was no obvious evidence of any spilled liquids onsite. There were several spots that appeared to show settling/rutting of the porous pavement to the south of the site's office building and around the warehouse. There was also evidence of some disintegration of the porous pavement cover south of the main office building, though it remains protective of public health. Sweeping of the pavement was conducted by Environmental Assessment and Remediations (EAR) in September 2018.

2.1.2 Site Drainage

The concrete around the storm drain located at the site entry gate showed damage due to heavy traffic and required replacement. The drain was repaired following the inspection by the owner in June 2018. In addition, there was some evidence of ponding on the porous pavement during the annual inspection that was noticeable due to recent precipitation.

2.1.3 Site Monitoring Wells

Monitoring wells were observed to be in generally good condition and serving the intended purpose.

2.1.4 Site Security

The site was generally found to be in good condition during the March 2018 inspection. There was no evidence of vandalism. The front fence along Ray Street East and Main Street was fully intact.

2.1.5 Sub-Slab Depressurization Systems

The SSDS on the office building was in operation at the time of the site inspections. The manometer read 4.4 inches of water column in March 2018. The exhaust pipe was observed to be cracked at the exhaust end of the pipe near the elbow during the March 2018 inspection; damage was not affecting system operation. This pipe was repaired by EAR in September 2018. The system on the warehouse was decommissioned in 2014 and is not currently in operation due to building use.

2.2 MONITORING PLAN COMPLIANCE REPORT

This PRR assesses whether the Metal Etching site has been remediated and managed as set forth in the SMP (EA 2018) and ROD (NYSDEC 2007). The SMP includes a description of the methods and rationale to be used for assessing the remedy effectiveness, including the following elements:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air).
- Assessing compliance with applicable NYSDEC SCGs, particularly AWQS.
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment.

2.3 CONFIRM COMPLIANCE WITH MONITORING PLAN

The following table identifies the SMP (EA 2018) monitoring plan requirements on an annual basis and demonstrates compliance with the monitoring plan has been achieved prior to the end of the reporting period.

Monitoring Program Activity	Required Frequency Annually	Compliance Dates
Groundwater Monitoring/Sampling	X	March 2018
Site Cover Inspection	X	March 2018
Indoor Air Monitoring	X	March 2018

2.4 GROUNDWATER MONITORING

2.4.1 Groundwater Monitoring and Sampling

Semi-annual groundwater monitoring including gauging and sampling was continuously performed at the site since completion of the RA in 2012 until 2017. During the reporting period (November 2017 through November 2018), one groundwater monitoring and gauging event was completed at the site in March 2018.

The site monitoring well network has changed since the completion of the RA. Monitoring wells MW-01 and MW-05, which were included in the initial SMP (EA 2012) monitoring well network, have not been located onsite since the completion of the RA. A records review indicates these monitoring wells had not been sampled since before the RA and were likely either paved over or decommissioned. In addition, a concrete pad was poured by the property owner to the west of the warehouse building between Fall 2012 and Spring 2013, which covered monitoring well cluster MW-8. In July 2013, monitoring wells MW-08SR and MW-08DR were installed off the southwest corner of the warehouse, and MW-05R was installed to the southeast of the warehouse. In April

2014, two monitoring wells, MW-11S and MW-11D, were installed along Ray Street behind the warehouse to serve as high tide down-gradient monitoring points. Monitoring well locations are shown on **Figures 2 and 3**.

The Metal Etching site is located directly adjacent to Freeport Creek, which connects to the Atlantic Ocean through a series of salt marshes; and therefore, is tidally influenced. Due to the proximity of the site to these waters, site groundwater elevation is tidally influenced, and typically ranges between 2 to 5 ft bgs. A groundwater gauging event in March 2018 took place during high-tide conditions. Water elevation data for the March 2018 high tide gauging event are summarized in the following table.

Well Identification	Well Casing Elevation (ft AMSL)	Depth to Water (ft btoc) 8 March 2018	Water Elevation (ft AMSL) 8 March 2018
MW-06	4.34	1.84	2.50
MW-05R	4.02	0.42	3.60
MW-04	6.02	3.31	2.71
MW-08DR	5.24	2.62	2.62
MW-08SR	5.41	2.43	2.98
MW-9D	4.16	1.58	2.58
MW-9S	4.27	1.60	2.67
MW-10D	5.30	2.65	2.65
MW-10M	5.37	2.74	2.63
MW-10S	5.09	2.41	2.68
MW-11S	4.05	1.33	2.72
MW-11D	3.96	1.29	2.67
NOTE: btoc = Below top of casing			

Interpreted shallow groundwater potentiometric surface flow patterns for the March 2018 gauging event are presented on **Figure 2**. Groundwater and typically flows from northwest to southeast across the site during low tides and southeast to northwest during high tides. The March 2018 gauging event was completed during high tide, with groundwater flowing in a northwest direction.

Groundwater monitoring wells were sampled in March 2018 for this monitoring period. Each well was purged using low-flow techniques, and water quality parameters were allowed to stabilize prior to sample collection. Monitoring well purge forms are provided in **Appendix C**, and daily field reports are provided in **Appendix D**. Samples were submitted to Con-Test Analytical Laboratory in East Longmeadow, Massachusetts for analysis of VOCs by United States Environmental Protection Agency (EPA) Method 8260C, and metals/mercury by EPA Method 6010B/7470A, and MNA parameters including chloride, nitrate, sulfate, sulfide, total organic carbon (TOC), and dissolved gasses; methane, ethane and ethane, per the SMP (EA 2018) and recommendations from previous monitoring events. In addition, as required by the revised SMP, groundwater samples were analyzed for PFAS by EPA Method E537. Groundwater sampling results were compared to NYSDEC AWQS for Class GA waters (NYSDEC 1998). Analytical results are summarized in **Tables 1 - 4**. **Figure 3** shows the interpreted PCE isopleths from March 2018. Data usability summary reports are provided in **Appendix E**.

2.4.2 Volatile Organic Compounds

Twenty-one VOCs were detected during the March 2018 groundwater sampling event; 5 of the 21 VOCs, including benzene, cis-1,2-DCE, PCE, TCE, and VC were detected at concentrations exceeding the NYSDEC AWQS (**Table 1**). The VOC exceedances were detected at monitoring wells MW-06, MW-08DR, and MW-09D. Historically the majority of groundwater exceedances have been detected at monitoring wells MW-08DR, MW-09D, MW-09S, MW-10M, and MW-10S.

2.4.3 Inorganic Compounds

Prior to collecting groundwater samples, monitoring wells were purged until the turbidity readings as measured using a Horiba U-52 were less than 50 nephelometric turbidity units (NTU). Based on the unfiltered analyses, seven organic compounds (arsenic, antimony, copper, iron, magnesium, manganese, and sodium) were detected at concentrations greater than their applicable NYSDEC AWQS during the March 2018 groundwater sampling event (**Table 2**). Aluminum, barium, cadmium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, nickel, potassium, sodium, and zinc were detected in all twelve monitoring wells and remained consistent compared to historical events.

2.4.4 Monitored Natural Attenuation Parameters

As part of the groundwater monitoring program, groundwater samples collected in March 2018 were submitted for MNA parameter analysis including chloride, sulfate, sulfide, nitrate, and total organic carbon and are summarized along with prior sampling results in **Table 3**.

Discussed are the notable monitored natural attenuation parameters:

- Natural attenuation of CVOCs primarily occurs under anaerobic conditions that are reflected by dissolved oxygen (DO) concentrations below 0.5 milligrams per liter (mg/L) and oxidation-reduction potential less than 0.0 millivolts. This condition was observed in 6 of the 12 monitoring wells at the site, including monitoring well MW-08DR, which typically contain CVOCs.

- A TOC concentration less than 20 mg/L is a limiting factor in the availability of electron donors required for reductive dechlorination of CVOCs. TOC was detected in monitoring wells MW-09S (343 mg/L) and MW-09D (230 mg/L) at a concentration greater than 20 mg/L in March 2018.

- If nitrate concentrations are less than 1 mg/L, along with DO concentrations less than 0.5 mg/L and increased sulfide concentrations, it can be concluded that anaerobic conditions exist at the site. This criteria was satisfied in MW-06S and MW-10S.

- Sulfate concentrations greater than 20 mg/L can cause competitive exclusion of reductive dechlorination. Sulfate concentrations were less than 20 mg/L in monitoring wells MW-04, MW-05R, MW-09S, MW-09D, and MW10D.

- Chloride was detected above 250 mg/L in 4 of the 12 site monitoring wells; however, it is a major contributor to the ion composition of natural seawater, typically found at concentrations of roughly 19,000 mg/L. Therefore, it is not a reliable metric for measuring MNA in sites influenced by tides.

- Ethene, and ultimately ethane are the products of reductive dehalogenation of chlorinated ethenes; ethane and/or ethene were detected in 2 of the 12 site monitoring wells.

2.4.5 Perfluorinated Alkyl Substances

Analytical results associated with groundwater samples that were collected in March 2018 and submitted for PFAS analysis are summarized in **Table 4**.

Presented are exceedances of health advisory levels:

- Perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) were detected above the EPA health advisory level of 70 nanograms per liter for drinking water in 4 (MW-05R, MW06, MW10M, and MW10S) of the 12 site monitoring wells. These monitoring wells also contained PFOS and PFOA exceeding the health advisory level during the 2017 sampling event.

2.5 INDOOR AIR MONITORING

The initial SMP (EA 2012) required annual indoor air sampling in both the office and warehouse buildings during the heating season to monitor the effectiveness of the SSDSs; however, both systems were damaged during Superstorm Sandy in 2012. A SVI evaluation was conducted in November 2013 and March 2014 to determine the continued necessity of the SSDSs in both buildings. Indoor air, outdoor air, and sub-slab vapor samples were collected in November 2013 from both buildings and again in March 2014 from the warehouse building to confirm results, and it was determined the warehouse SSDS could be shut down with no further monitoring unless building use changes.

In March 2018, indoor air and outdoor air samples were collected from the office building. Samples were collected using laboratory clean-certified Summa® canisters regulated for a 24-hour sample collection. Samples were submitted to Con-Test Analytical Laboratory, of East Longmeadow, Massachusetts for analysis of VOCs using EPA Method TO-15. Air sampling forms are provided in **Appendix F**.

Results were compared to NYSDOH Air Guidance Values (2006). Analytical results are summarized in **Table 5**. Data usability summary reports are provided in **Appendix E**. During the March 2018 sampling event, various VOCs were detected, but none were detected above

NYSDOH Air Guidelines, and no detections of site-related CVOCs were observed.

2.6 CONFIRM THAT PERFORMANCE STANDARDS ARE BEING MET

Tables 1 through 4 provide a summary of groundwater results for the reporting period. Natural attenuation of primary CVOC compounds (PCE/TCE) is a long-term process and will continue to be monitored. Previous soil vapor intrusion monitoring indicated the presence of TCE and PCE beneath the slab in the office building, which is regularly occupied during business hours, indicated the office SSDS needed to be returned to operation. PCE and TCE concentrations in the indoor air were non-detect during the March 2018 sampling event.

3. INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS CERTIFICATION PLAN REPORT

As previously noted, the SMP (EA 2018) is included in **Appendix A** of this PRR and includes the ICs/ECs Plan. ICs and ECs at the Metal Etching site currently include the following:

- IC—Establishment of Environmental Notices and compliance with the SMP.

- EC—Cover system that includes permeable and standard asphalt pavement areas, rip rap, and concrete building slabs/foundations that prevent incidental contact or ingestion of remaining contaminated subsurface soil at the majority of the site. An excavation work plan included as an appendix to the SMP, identifies the procedures and protocols required to be implemented should the cover system be breached, penetrated, or temporarily removed, and any underlying remaining contamination is disturbed.

- EC—O&M of the SSDSs in the site buildings.

3.1 INSTITUTIONAL CONTROL/ENGINEERING CONTROL REQUIREMENTS AND COMPLIANCE

Determination of compliance with the ICs and ECs at the Metal Etching site is made on the following criteria:

- The ICs and ECs applied at the site are in place and unchanged since completion of the remedial activities and issuance of the SMP.

- No changes or occurrences of activity have impaired or impacted the ability of such controls to protect human health and the environment or constitute a violation or failure to comply with any element of the SMP for such controls.

- Access to the Metal Etching site will continue to be provided to the NYSDEC for evaluation of the remedy, including access to the site monitoring network and other controls (e.g., SSDS) for continued monitoring and/or maintenance.

3.2 INSTITUTIONAL CONTROLS/ENGINEERING CONTROLS CERTIFICATION FORM

The IC/EC certification forms from the owner and EA are included as **Appendix G** of this PRR.

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4. COST EVALUATION

4.1 SUMMARY OF COSTS

Costs for EA site management services, including groundwater monitoring and sampling, site inspection, and air sampling was $34,771 for this reporting period. A breakdown of major costs for November 2017 to November 2018 is provided in the following table.

Site Management Activity	EA Costs Incurred for the period of November 2017 – November 2018
Monitoring, Sampling, Inspection, Oversight, Supplies/Equipment, Travel, Reporting, and Site Management Plan Revision (EA)	$25,258
Analytical Laboratory (Con-Test Analytical and Eurofins Spectrum Analytical)	$8,913
Data Validation (Environmental Data Services, Inc.)	$600

The monitoring, sampling, inspection, oversight, and reporting costs, which are billed by EA, include costs associated with project management, quality assurance, and periodic reporting throughout the reporting period. These monitoring and reporting costs are based on fiscal data generated and tracked by an EA internal financial management system, and includes travel expenses, equipment/supply costs, and other direct charges.

The analytical costs, billed by Con-Test Analytical of East Longmeadow, Massachusetts and Eurofins Spectrum Analytical, Inc. of Agawam, Massachusetts covered annual groundwater analyses and annual air analyses. Data generated during the reporting period was validated by Environmental Data Services, Inc. of Williamsburg, Virginia.

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5. RECOMMENDATIONS

5.1 GROUNDWATER MONITORING

Annual groundwater monitoring should continue during the next monitoring period. VOCs, such as PCE, TCE, and *cis*-1,2-DCE, and VC are consistently detected in monitoring wells located near the former source area (MW-09D and MW-08DR). Inorganics, such as copper, iron, magnesium, manganese, and sodium are consistently detected at concentrations greater than respective NYSDEC AWQS across the site monitoring well network, although sodium is expected to be due to the salinity of the groundwater in this area.

Further sampling is necessary to identify consistent trends during both high and low tides, and to identify an effective long-term management strategy for residual contaminants.

Groundwater monitoring for CVOCs at the site has been completed twice annually for 5 years and annually for 2 years up to the end of this reporting period; groundwater samples from the site monitoring wells have been analyzed for MNA parameters six times up to the end of this reporting period. It is recommended that annual monitoring for VOCs, metals, MNA parameters and PFAS be completed for a minimum of an additional year before evaluating for the need for groundwater treatment.

5.2 INDOOR AIR MONITORING

Onsite indoor and outdoor air monitoring was completed in March 2018 and should continue during the next monitoring period to support continued operation of the SSDS at the site office building, and ensure the system is providing adequate mitigation for vapor intrusion.

5.3 SITE INSPECTION AND MAINTENANCE

5.3.1 Site Cover

The site cover system and surrounding areas were observed to be in good condition with minimal damage during the inspections. Although some minor areas exist where the cover material has been punctured or disintegrated due to ongoing site activities, the damage does not pose a threat to human health. These areas should continue to me monitored for eventual spot repair.

5.3.2 Sub-Slab Depressurization Systems

The warehouse's SSDS will remain out of operation as long as building use does not change. Despite a crack in the exhaust pipe, the office system is fully functioning and is to remain in operation.

5.4 SUMMARY

Groundwater sampling for VOCs, metals, MNA parameters, and PFAS, along with site inspections, shall continue to be conducted on an annual basis to continue to monitor site groundwater during high and low tides.

Some of the site drainage features need maintenance and repair; the following action is recommended:

- Porous pavement should be vacuumed to remove pore-clogging sediment and improve permeability.

6. REFERENCES

EA Engineering, P.C., and Its Affiliate EA Science and Technology. 2012. *Site Management Plan. Final.* Metal Etching Site, Nassau County, Freeport, New York. August.

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New York State Department of Environmental Conservation (NYSDEC). 1998. *Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.* June.

——. 2007. *Record of Decision, Metal Etching Site, Freeport, Nassau County, Site Number 130110.* March.

New York State Department of Health (NYSDOH). 2006. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York. Division of Environmental Health Assessment, Center for Environmental Health.* October.

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Figures

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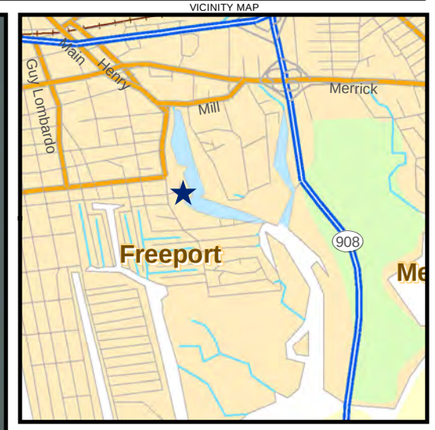
VICINITY MAP



Legend

- Site Boundary
- PropertyParcels
- Existing Buildings
- Site Location

Map Date: 11/15/2018
Projection: NAD 1983 State Plane New York Long Isl FIPS 3104 Feet

N

0 50 100
Feet

EA

NEW YORK STATE OF OPPORTUNITY Department of Environmental Conservation

Figure 1
Site Location and Boundary Map
Freeport Metal Etching Periodic Review Report
Freeport, New York

G:\Projects\State&Local\NYSDEC - D007624\D0007624 - Work Assignments\14907.09 - Metal Etching SMG\GIS\Projects\PRR_2018\Figure1_SiteLocationAndBoundaryMap.mxd

G:\Projects\State&Local\NYSDEC - D007624\D007624 - Work Assignments\14907.09 - Metal Etching SM\GIS\Projects\PRR 2018\Figure 2 Shallow Groundwater Contours.mxd

Legend

- Existing Monitoring Well
- Shallow Groundwater Contours
- (0.5) Groundwater Elevation in ft amsl
- Groundwater Flow Direction

0 37.5 75 150
Feet

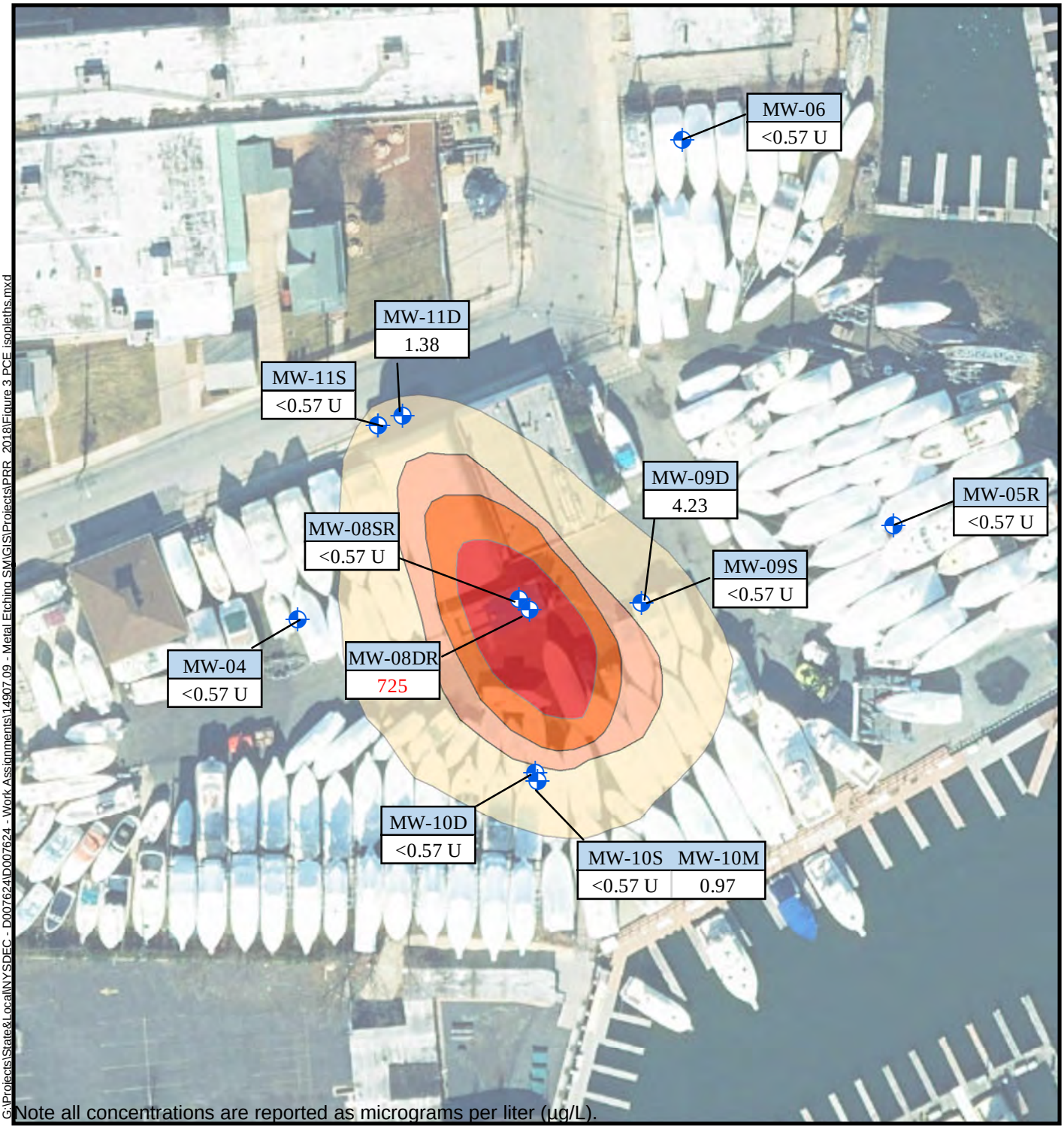
1 inch = 75 feet

N

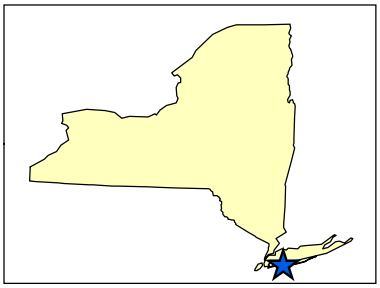
Figure 2
Shallow Groundwater Contours
HighTide Conditions March 2018
Metal Etching Site (130110)
Freeport, New York

Map Date: 11/15/2018
Projection: NAD 1983 State Plane New York Long Island FIPS 3104 Feet

NEW YORK STATE OF OPPORTUNITY Department of Environmental Conservation



Note all concentrations are reported as micrograms per liter (µg/L).



0 37.5 75 150
Feet

N

Legend

Monitoring Wells

Well ID
Tetrachloroethene µg/L
Red value indicates exceedance of NYSDEC AWQS

- 1 - 5 µg/L
- 5 - 10 µg/L
- 10 - 100 µg/L
- 100 - 1,000 µg/L

Figure 3
Tetrachloroethene Isopleths
March 2018
Metal Etching Site (130110)
Freeport, New York

Map Date: 11/15/2018
Projection: NAD 1983 State Plane New York Long Island FIPS 3104 Feet

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G:\Projects\State&Local\NYSDEC - D007624\D007624 - Work Assignments\14907.09 - Metal Etching SM\GIS\Projects\PRR_2018\Figure 3_PCE_isopleths.mxd

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Tables

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Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-04																				NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-02		13E0755-07		13K0947-02		14F0194-07		14K0664-04		15E0606-07		15K0954-03		16E0858-06		SC34122-01		SC44537-05		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018		
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.3)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.18)	U	(<0.4)	U	(<0.36)	U	5 (s)
Acetone	µg/L	(<50)	U	(<50)	U	(<50)	UJ	(<50)	U	(<50)	U	(<50)	U	(<4.9)	U	(<4.9)	U	(<0.8)	U	(<0.8)	U	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.3)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	R	(<20)	R	(<20)	R	(<20)	U	(<20)	U	(<2.2)	U	(<2.2)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U					(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.4)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	(<1)	U	1.1		1.1		2.4		(<1)	U	1.1	U	(<0.15)	U	(<0.15)	U	0.64	J	0.60	J	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	UJ	(<2)	U	(<2)	U	(<0.18)	U	(<0.18)	U	(<0.6)	U	(<0.58)		---
Di-isopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		(<31)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.12)	U	(<0.12)	U	(<0.4)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.4)	U	(<0.38)	U	5 (s)
methyl ethyl keytone	µg/L	--		--		--		--		--		--		--		--		(<1.1)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--		(<0.63)	U	--		--		---
Methyl tert-butyl ether	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.09)	U	(<0.09)	U	(<0.24)	U	(<0.24)	U	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.4)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.4)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.3)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.3)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.3)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	(<0.3)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	2		(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.17)	U	(<0.17)	U	1.28		(<0.57)	U	5(s)
Toluene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.4)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	1		(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.2)	U	(<0.2)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	(<2.0)	U	(<2.0)	U	(<2.0)	U	(<2.0)	U	(<2.0)	U	(<2.0)	U	(<0.13)	U	(<0.13)	U	(<0.5)	U	(<0.47)	U	2 (s)

(a) 6 NYCRR Part 703.5 Class GA Groundwater Quality Regulations, as presented in the Division of Water Technical and Operational Guidance Series 1.1.1, 1998, as amended.

NOTES:

EPA = U.S. Environmental Protection Agency
ID = Identification
-- = Not analyzed
NYSDEC = New York State Department of Environmental Conservation
ppb = Parts per billion
µg/L = Microgram(s) per liter
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.
R = Non-detect result rejected due to exceedence of 20% deviation and/or average RRF values <0.05 in the initial or continuing calibration. The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

Data provided by Con-Test Analytical Laboratory from 2016-2016. Only analytes that were detected in at least one sample are shown.
2017 Data is provided by Eurofins Spectrum Analytical. Data validation services provided by Environmental Data Services.
Concentration values in **BOLD** indicate that analyte was detected above the NYSDEC Ambient Water Quality Standards (s) or Guidance Values (g).

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-05R																NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	13K0947-03		14F0194-02		14K0664-01		15E0606-01		15K0954-02		16E0858-01		SC34122-11		SC44537-02		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/18/2016		4/28/2017		3/6/2018		
	Tidal Phase	High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.3)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	1		(<1)	U	1.2		1.1		1		(<0.36)	U	0.76	J	5 (s)
Acetone	µg/L	(<50)	UJ	(<50)	U	(<50)	U	(<50)	U	(<4.9)	U	(<4.9)	U	(<0.80)	U	7.81	J	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		0.38	J	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	R	(<20)	U	(<20)	U	(<2.2)	U	(<2.2)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U					(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<5)	U	(<2)	U	(<2)	U	(<2)	U	--		0.41	J	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.3)	U	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<2)	UJ	(<2)	U	2.7		(<0.18)	U	(<0.18)	U	(<0.6)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	0.88		(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	0.33	J	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		(<31)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	2.7		2.9		1.9		1.9		(<0.12)	U	(<0.12)	U	0.82	J	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		0.53	J	0.4	J	5 (s)
methyl ethyl keytone	µg/L	--		--		--		--		--		--		3.89		(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		1.1		--		--		---
Methyl tert-butyl ether	µg/L	4.3		3.4		2		2.6		1.4		1.3		1.28		1.19		5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	0.61	J	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	1		1.3		(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		0.61	J	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	1.1		(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	0.55	J	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	0.61	J	0.4	J	10 (g)
Tetrachloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.17)	U	(<0.17)	U	(<0.6)	U	(0.57)	U	5(s)
Toluene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<0.3)	U	0.83	J	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.4)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.2)	U	(<0.2)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.13)	U	(<0.13)	U	(<0.5)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-06																						NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-01		13E0755-01		13K0947-01		14F0194-01		14K0664-07		15E0606-02		15K0954-01		16E0858-02		SC34122-06		SC44624-01			
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/18/2016		4/26/2017		3/6/2018			
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High			
1,1-dichloroethene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.42)	U	(<0.32)	U	(<0.3)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.36)	U	(<0.36)	U	(<0.4)	U	(<0.36)	U	5 (s)
Acetone	µg/L	(<50)	U	(<100)	U	(<100)	UJ	(<100)	U	(<100)	U	(<100)	U	(<9.7)	U	(<9.7)	U	(<0.8)	U	(<0.8)	U	50 (g)
Benzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		0.34	J	**1.13**		1 (s)
Butyl alcohol, tert-	µg/L	(<20)	U	(<40)	UJ	(<40)	R	(<40)	R	(<40)	U	(<40)	U	(<4.3)	U	(<4.3)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U					(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<4)	U	(<4)	U	(<10)	U	(<4)	UJ	(<4)	U	(<4)	U	--		(<0.4)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.29)	U	(<0.29)	U	(<0.3)	U	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<4)	U	(<4)	U	(<4)	UJ	(<4)	U	(<4)	U	(<0.36)	U	(<0.36)	U	(<0.6)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	< 0.5	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.36)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		(<31)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1.0)	U	2.8		2.1		3		2.2		4.4	D	2.2		2.4	D	2.32		2.93		5 (s)
M,P-xylene	µg/L	(<2)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	--		1.88	J	2.84		5 (s)
methyl ethyl keytone	µg/L	--		--		--		--		--		--		--		--		(<1.1)	U	(<1.07)		50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--		3.4	D	--		--		---
Methyl tert-butyl ether	µg/L	1.5		3		(<2.0)	U	(<2)	U	(<2)	U	(<2)	U	(<0.18)	U	(<0.18)	U	(<0.34)	U	0.51	J	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.5)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.3)	U	0.81	J	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.22)	U	(<0.26)	U	(<0.34)	U	0.82	J	5 (s)
O-xylene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		0.47	J	0.3	J	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.22)	U	(<0.26)	U	0.87	J	0.61	J	---
Styrene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U		U	(<0.4)	U	(<0.41)	U	5 (s)
Tert-butylbenzene	µg/L	1.1		(<2)	U	2.2		3.6		3		3.7	D	3.8		2.6	D	1.98		2.26		10 (g)
Tetrachloroethene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.34)	U	(<0.34)	U	(<0.6)	U	(<0.57)	U	5(s)
Toluene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		0.87	J	1.06		5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.3)	U	(<0.3)	U	(<0.4)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.4)	U	(<0.4)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	(<2)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(0.27)	U	(0.27)	U	(<0.5)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-08D		MW-08DR																NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-06		13K0947-10		14F0194-11		14K0664-11		15E0606-13		15K1033-02		16E0858-10		SC34122-13		SC44621-02		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		11/21/2013		6/4/2014		11/11/2014		5/13/2015		11/20/2015		5/18/2016		4/28/2017		3/8/2018		
	Tidal Phase	Flood		High/Ebb		Flood/High		Ebb		Ebb		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<5.2)	U	(<1.6)	U	(<1.62)	U	(<3.46)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<4.5)	U	(<1.8)	U	(<1.78)	U	(<1.78)	U	5 (s)
Acetone	µg/L	(<50)	U	(<1,000)	UJ	(<500)	U	(<1,000)	U	(<250)	U	(<120)	UJ	(<49)	U	(<4.02)	U	(<4.02)	U	50 (g)
Benzene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<25)	U	--		(<1.42)	U	(<1.42)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<400)	R	(<200)	R	(<400)	U	(<100)	U	(<54)	U	(<22)	UJ	(<29.5)	U	(<29.5)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<2.06)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U					(<1.63)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<40)	U	(<20)	U	(<40)	U	(<10)	U	(<50)	U	--		7.95	J	(<1.84)	U	---
cis-1,2-dichloroethene	µg/L	**52**		**220**		(<10)	U	**450**		**97**	D	**250**		**24**	**D**	**15.7**		**5.25**		5 (s)
Dichlorodifluoromethane	µg/L	(<2.0)	U	(<40)	U	(<20)	UJ	(<40)	U	(<10)	U	(<4.5)	U	(<1.8)	U	(<2.92)	U	(<2.92)	UJ	---
Diisopropyl ether	µg/L	(<0.5)	U	(<10)	U	(<5.0)	U	(<10)	U	(<2.5)	U	(<12.0)	U	(<1.8)	U	(<1.43)	U	(<1.43)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		571	J	(<154)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<3.0)	U	(<1.2)	U	(<1.8)	U	(<1.8)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<40)	U	(<50)	U	(<40)	U	(<10)	U	(<50)	U	--		(<1.9)	U	(<1.9)	U	5 (s)
methyl ethyl keytone	µg/L	--		--		--		--		--		--		--		(<5.35)	U	(<5.35)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		(<6.3)	U			---		---
Methyl tert-butyl ether	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<2.2)	U	(<0.9)	U	(<1.18)	U	(<1.18)	U	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<1.76)	U	(<1.76)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<25)	U	(<1.5)	U	(<2.06)	U	(<2.06)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<2.8)	U	(<1.3)	U	(<1.72)	U	(<1.72)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<25)	U	--		(<1.42)	U	(<1.42)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<2.8)	U	(<1.3)	U	(<1.63)	U	(<1.63)	U	---
Styrene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<25)	U		U	(<2.02)	U	(<2.02)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<2.8)	U	(<1.1)	U	(<1.58)	U	(<1.58)	U	10 (g)
Tetrachloroethene	µg/L	**1,900**		**750**		**1,900**		**530**		**93**	D	**970**		**400**	**D**	**142**		**690**		5(s)
Toluene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5)	U	(<25)	U	--		(<1.5)	U	(<1.5)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<20)	U	(<10)	U	(<20)	U	(<5.0)	U	(<3.8)	U	(<1.5)	U	(<1.88)	U	(<1.88)	U	5(s)
Trichloroethene	µg/L	**70**		**630**		**73**		**200**		**12**	D	**150**		**15**	**D**	**10.8**		**5.2**		5 (s)
Vinyl chloride	µg/L	**3.3**		(<40)	U	(<20)	U	(<40)	U	(<10)	U	(<3.3)	U	(<1.3)	U	3.7	J	(<2.36)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-08S		MW-08SR																NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-07		13K0947-09		14F0194-10		14K0664-10		15E0606-12		15K1033-01		16E0858-09		SC34122-12		SC44621-01		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		11/21/2013		6/4/2014		11/11/2014		5/13/2015		11/19/2015		5/18/2016		4/28/2017		3/8/2018		
	Tidal Phase	Flood		High/Ebb		Flood/High		Ebb		Ebb		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	**74**		(<50)	U	(<50)	U	(<50)	U	(<50)	U	(<4.9)	UJ	(<4.9)	U	(<0.80)	U	(<0.8)	U	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	**130**	J	(<20)	R	(<20)	U	**44**		(<2.2)	U	(<2.2)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U					(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<2)	U	(<5)	U	(<2)	U	(<2)	U	--		--		(<0.37)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	**85**		**6.3**		**5.4**		2.4		2.5		1.4		2.2		1.46		1.53		5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<2)	U	(<2)	UJ	(<2)	U	(<2)	U	(<0.18)	U	(<0.18)	U	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		(<30.9)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.12)	U	(<0.12)	U	(<0.36)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.38)	U	(<0.38)	U	5 (s)
methyl ethyl ketone	µg/L	--		--		--		--		--		--		--		(<1.07)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		(<0.63)	U	--		---		---
Methyl tert-butyl ether	µg/L	1.5		**8.3**		3.8		2.2		**7.6**		1.4		1.5		0.56	J	(<0.24)	U	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.41)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.33)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	(<0.32)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	**100**		2.4		(<1)	U	(<1)	U	(<1)	U	(<0.17)	U	(<0.17)	U	(<0.57)	U	(<0.57)	U	5(s)
Toluene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	**140**		**5.2**		1.6		1.4		1		2.3		1.1		0.92	J	2.01		5 (s)
Vinyl chloride	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.13)	U	(<0.13)	U	(<0.47)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-09D																				NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-08		13E0755-02		13K0947-08		14F0194-09		14K0664-09		15E0606-11		15K0954-08		16E0858-08		SC34122-08		SC44621-04		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		5/20/2013		11/21/2013		6/4/2014		11/11/2014		5/13/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018		
	Tidal Phase	Flood		Low/Flood		High/Ebb		Flood/High		Ebb		Ebb		High		Low		Low		High		
1,1-dichloroethene	µg/L	2		(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<2.1)	U	(<0.63)	U	(<1.62)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<1.8)	U	(<0.72)	U	(<1.78)	U	(<0.36)	U	5 (s)
Acetone	µg/L	**250**		(<100)	U	(< 100)	UJ	(<250)	U	(<1,200)	U	(<250)	U	(<49)	U	(<19)	U	(<4.02)	U	7.41	J	50 (g)
Benzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<10)	U	--		(<1.42)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<40)	R	(<40)	R	(<100)	R	(<500)	U	(<100)	U	(<22)	U	(<8.7)	UJ	46.6	J	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<84)	U	(<8)	U	(<20)	U	(<100)	U	(<20)	U	(<40)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<4)	U	(<4)	U	(<10)	U	(<50)	U	(<10)	U	(<20)	U					(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<2)	U	(<4)	UJ	(<10)	U	(<50)	U	(<10)	U	(<20)	U	--				(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	**530**		**12**		**260**		**72**		**160**		**190**	D	**180**		**110**	**D**	**241**		**84.2**		5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<4)	U	(<4)	U	(<10)	UJ	(<50)	U	(<10)	U	(<1.8)	U	(<0.72)	U	(<2.92)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<1)	U	(<1)	U	(<2.5)	U	(<12)	U	(<2.5)	U	(<5)	U	(<0.72)	U	(<1.43)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		342	J	682		---
Isopropylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<1.2)	U	(<0.48)	U	(<1.8)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<4)	U	(<4)	U	(<10)	U	(<50)	U	(<10)	U	(<20)	U	--		(<1.9)	U	(<0.38)	U	5 (s)
methyl ethyl keytone	µg/L	--		--		--		--		--		--		--		--		(<5.35)	U	1.07	J	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--	U	(<2.5)	U	--		---		---
Methyl tert-butyl ether	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<0.9)	U	(<0.36)	U	(<1.18)	U	(<0.24)	U	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<1.76)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<10)	U	(<0.6)	U	(<2.06)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<1.1)	U	(<0.52)	U	(<1.72)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<10)	U	--		(<1.42)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<1.1)	U	(<0.52)	U	(<1.63)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<10)	U		U	(<2.02)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<1.1)	U	(<0.44)	U	(<1.58)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	**89**		**160**		**430**		**2,300**		**510**		**340**	D	**320**		**3,300**	**D**	**232**		4.23		5(s)
Toluene	µg/L	(<1)	U	(<2)	U	(<2)	U	(<5)	U	(<25)	U	(<5)	U	(<10)	U	--		(<1.5)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	2.3		(<2)	U	3.5		(<5)	U	(<25)	U	(<5)	U	(<1.5)	U	(<0.6)	U	3.3	J	(<0.38)	U	5(s)
Trichloroethene	µg/L	**180**		**27**		**240**		**220**		**250**		**220**	D	**180**		**41**	**D**	**118**		**12.4**		5 (s)
Vinyl chloride	µg/L	**48**		(<4.0)	U	**7.3**		(<10)	U	(<50)	U	(<10)	U	(<1.3)	U	**10**	**D**	**7.2**		**21.5**		2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-09S																				NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-10		13E0755-03		13K0947-07		14F0194-08		14K0664-08		15E0606-08		15K0954-07		16E0858-07		SC34122-07		SC44621-03		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/4/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/8/2018		
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
1,1-dichloroethene	µg/L	1.8		(<1)	U	(<1)	U	(< 4.0)	U	(<1)	U	(<1)	U	4.5		(<0.32)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4.0)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	**1,700**		(<50)	U	**58**	J	(< 200)	U	(<50)	U	**150**		(<4.9)	U	(<9.7)	U	(<0.80)	U	9.09	J	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<4)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	R	(< 20)	R	(< 80)	R	(<20)	U	(< 20)	U	(<2.2)	U	(<4.3)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<16)	U	(<4)	U	(<4)	U	(<4)	U					0.77	J	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<8)	U	(<2)	U	(<2)	U	(<2)	U	--				(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(20)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.37)	U)	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	**1,300**		(<1)	U	**220**	J	**86**		(<1)	U	(<1)	U	**1,600**		(<0.29)	U	0.53	J	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2.0)	U	(<2.0)	U	(<1)	U	(<8)	UJ	(<2.0)	U	(<2.0)	U	(<0.18)	U	(<0.36)	U	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(< 0.5)	U	(<2)	U	(< 0.5)	U	(< 0.5)	U	(<0.5)	U	(<0.36)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		(<30.9)	U	847		---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<0.12)	U	(<0.24)	U	(<0.36)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<8)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.38)	U	(<0.38)	U	5 (s)
methyl ethyl keytone	µg/L	--		--		--		--		--		--		--		--		(<1.07)	U	1.47	J	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--		(<1.3)	U	--		---		---
Methyl tert-butyl ether	µg/L	1.1		(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<0.09)	U	(<0.18)	U	(<0.24)	U	(<0.24)	U	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<1)	U	(<0.3)	U	(<0.41)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.26)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.33)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.26)	U	(<0.33)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U		U		U	1.46		0.53	J	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.22)	U	(<0.34)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<0.17)	U	(<0.34)	U	(<0.57)	U	(<0.57)	U	5(s)
Toluene	µg/L	(<1)	U	(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	--		--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	4.7		(<1)	U	1.3		(< 4)	U	(<1)	U	(<1)	U	**8.6**		(<0.3)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	**5.2**		(<1)	U	(<1)	U	(< 4)	U	(<1)	U	(<1)	U	(<0.2)	U	(<0.4)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	**290**		(< 2.0)	U	**100**	J	**94**		(< 2.0)	U	(< 2.0)	U	**250**	J	(<0.27)	U	1.35		(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-10D																				NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-03		13E0755-04		13K0947-06		14F0194-05		14K0664-02		15E0606-05		15K0954-04		16E0858-04		SC34122-05		SC44537-06		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018		
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	(<50)	U	(<50)	U	(<50)	UJ	(<50)	U	(<50)	U	(<50)	U	(<4.9)	U	(<4.9)	U	(<0.80)	U	(<0.8)	U	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	R	(<20)	R	(<20)	R	(<20)	U	(<20)	U	(<2.2)	U	(<2.2)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--				(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<5)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.37)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.33)	U	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<2)	UJ	(<2)	U	(<2)	UJ	(<2)	UJ	(<2)	U	(<0.18)	U	(<0.18)	UJ	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		(<30.9)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.12)	U	(<0.12)	U	(<0.36)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.38)	U	(<0.38)	U	5 (s)
methyl ethyl keytone	µg/L	--		--		--		--		--		--		--		--		(<1.07)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--		(<0.63)	U	--		---		---
Methyl tert-butyl ether	µg/L	1.1		(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.09)	U	(<0.09)	U	(<0.24)	U	(<0.24)	U	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.41)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.33)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	(<0.32)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	(<1)	U	(<1)	U	**15**		(<1)	U	(<1)	U	(<1)	U	(<0.17)	U	(<0.17)	U	1.89		(<0.57)	U	5(s)
Toluene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	(<1)	U	(<1)	U	3.3		(<1)	U	(<1)	U	(<1)	U	(<0.2)	U	(<0.2)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<0.13)	U	(<0.13)	U	(<0.47)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-10M																				NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-04		13E0755-06		13K0947-05		14F0194-06		14K0664-05		15E0606-06		15K0954-05		16E0858-05		SC34122-04		SC44537-04		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018		
	Tidal Phase	Flood		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	(<50)	U	(<50)	U	(<50)	UJ	(<50)	U	(<50)	U	(<50)	U	(<4.9)	U	(<4.9)	U	(<0.8)	U	(<0.8)	U	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	**32**	J	(<20)	R	(<20)	R	(<20)	U	(<20)	U	(<2.2)	U	(<2.2)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--				(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<5)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.37)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	**1.2**		(<1.0)	U	(<0.15)	U	(<0.15)	U	0.43	J	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	UJ	(<2)	U	(<2)	UJ	(<2)	UJ	(<2)	U	(<2)	U	(<0.18)	U	(<0.18)	U	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		(<30.9)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.12)	U	(<0.12)	U	(<0.36)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.38)	U	(<0.38)	U	5 (s)
methyl ethyl ketone	µg/L	--		--		--		--		--		--		--		--		(<1.07)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--	U	(<0.63)	U	--		---		---
Methyl tert-butyl ether	µg/L	2.9		3		(<1)	U	1.1		(<1.0)	U	1		(<0.09)	U	(<0.09)	U	0.67	J	(<0.24)	U	5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.41)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.33)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	(<0.32)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	2.5		(<1)	U	**5.8**		**9.2**		**7.2**	J	**7.9**		4.7		**5.2**		0.7	J	0.97	J	5(s)
Toluene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	(<1)	U	(<1)	U	1.6		(<1)		(<1)	U	(<1)	U	(<0.2)	U	(<0.2)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	(<2.0)	U	(<2.0)	U	(<2.0)	UJ	(<2.0)	U	(<2.0)	U	(<2.0)	UJ	(<0.13)	U	(<0.13)	U	(<0.47)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-10S																				NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	12K0749-05		13E0755-05		13K0947-04		14F0194-03		14K0664-03		15E0606-03		15K0954-06		16E0858-03		SC34122-03		SC44537-03		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/26/2017		3/6/2018		
	Tidal Phase	Flood		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	**190**		(<50)	U	(<50)	UJ	(<50)	U	(<50)	U	(<50)	U	(<4.9)	U	(<4.9)	U	(<0.80)	U	1.24		50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	R	(<20)	R	(<20)	R	(<20)	U	(<20)	U	(<2.2)	U	**29**	**J**	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--				(<0.33)	U	7 (s)
Chloromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<5)	U	(<5)	U	(<2)	U	(<2)	U	--		(<0.37)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	1.4		(<1)	U	(<1)	U	4.7		(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.33)	U	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	UJ	(<2)	U	(<2)	U	(<0.18)	U	(<0.18)	U	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		(<30.9)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.12)	U	(<0.12)	U	(<0.36)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	(<2)	U	(<2)	UJ	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.38)	U	(<0.38)	U	5 (s)
methyl ethyl ketone	µg/L	--		--		--		--		--		--		--		--		(<1.07)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--		(<0.63)	U	--		---		---
Methyl tert-butyl ether	µg/L	(<1)	U	(<1)	U	2.5		3.8		(<1)	U	2.3		1		**11**		1.26		1.37		5 (s)
Naphthalene	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	(<2)	U	--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.41)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.33)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	(<0.32)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.17)	U	(<0.17)	U	(<0.57)	U	0.97	J	5(s)
Toluene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<0.2)	U	(<0.2)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	(<2)	U	(<2)	U	(<2)	U	**2.1**		(<2)	U	(<2)	U	(<0.13)	U	(<0.13)	U	(<0.47)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-11D														NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	14F0194-13		14K0664-12		15E0606-09		15K1033-04		16E0858-12		SC34122-09		SC44624-07		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	6/4/2014		11/11/2014		5/13/2015		11/20/2015		5/17/2016		4/28/2017		3/7/2018		
	Tidal Phase	Flood/High		Ebb		Ebb		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	(<50)	U	(<50)	U	(<50)	U	(<4.9)	UJ	(<4.9)	U	(<0.80)	U	(<0.8)	U	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)		(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	U	(<20)	U	(<2.2)	U	(<2.2)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U					0.34	J	7 (s)
Chloromethane	µg/L	--		--		--		--		(<2)	U	(<0.37)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	1.6		2		1.2		(<0.15)	U	1.6		0.98	J	1.65		5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<0.18)	U	(<0.18)	U	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		(<30.9)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.12)	U	(<0.12)	U	(<0.36)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	--		--		--		--		(<2)	U	(<0.338)	U	(<0.38)	U	5 (s)
methyl ethyl ketone	µg/L	--		--		--		--		--		(<1.07)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		(<0.63)	U	--		---		---
Methyl tert-butyl ether	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.09)	U	(<0.09)	U	(<0.24)	U	1.37		5 (s)
Naphthalene	µg/L	--		--		--		--		--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	--		--		--		(<1)	U	(<0.15)	U	(<0.41)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	--		--		--		(<1)	U	--		(<0.28)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.33)	U	(<0.33)	U	---
Styrene	µg/L		U		U		U	(<1)	U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	(<0.32)	U	(<0.32)	U	10 (g)
Tetrachloroethene	µg/L	**22**		**9.6**		4.3		1.5		2.8		1.32		1.38		5(s)
Toluene	µg/L	--		--		--		(<1)	U	--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	1.3		1.9		1.1		(<0.2)	U	1.3		0.8	J	1.17		5 (s)
Vinyl chloride	µg/L	(<2)	U	(<2)	U	(<2)	U	(<0.13)	U	(<0.13)	U	(<0.47)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

Parameter List EPA Method 8260C	Location ID	MW-11S														NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)
	Laboratory ID	14F0194-12		14K0664-13		15E0606-10		15K1033-03		16E0858-11		SC34122-10		SC44624-08		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	6/4/2014		11/11/2014		5/13/2015		11/20/2015		5/17/2016		4/28/2017		3/7/2018		
	Tidal Phase	Flood/High		Ebb		Ebb		High		Low		Low		High		
1,1-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.21)	U	(<0.16)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.18)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	(<50)	U	(<50)	U	(<50)	U	(<4.9)	UJ	(<4.9)	U	(<0.80)	U	(<0.8)	U	50 (g)
Benzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	--		(<0.28)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	U	(<20)	U	(<2.2)	U	(<2.2)	UJ	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	(<4)	U	(<4)	U	(<4)	U	(<4)	U					(<0.41)	U	---
Chloroform	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	U					(<0.33)	U	7 (s)
Chloromethane	µg/L	--		--		--		--		(<2)	U	(<0.37)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.33)	U	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	UJ	(<2)	U	(<2)	U	(<0.18)	U	(<0.18)	U	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		(<30.9)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	1.1		(<0.12)	U	1		0.8	J	(<0.36)	U	5 (s)
M,P-xylene	µg/L	--		--		--		--		(<2)	U	(<0.38)	U	(<0.38)	U	5 (s)
methyl ethyl ketone	µg/L	--		--		--		--		--		(<1.07)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		2.1		--		---		---
Methyl tert-butyl ether	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.09)	U	(<0.09)	U	--		(<0.24)	U	5 (s)
Naphthalene	µg/L	--		--		--		--		--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	--		--		--		(<1)	U	1.7		1.08		(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	--		--		--		(<1)	U	--		(<0.28)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	1.2		(<0.11)	U	2		1.04		(<0.33)	U	---
Styrene	µg/L		U		U		U	(<1)	U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.11)	U	(<0.11)	U	0.54	J	0.36	J	10 (g)
Tetrachloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.17)	U	(<0.17)	U	(<0.57)	U	(<0.57)	U	5(s)
Toluene	µg/L	--		--		--		(<1)	U	--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.15)	U	(<0.15)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<0.2)	U	(<0.2)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	(<2)	U	(<2)	U	(<2)	U	(<0.13)	U	(<0.13)	U	(<0.47)	U	(<0.47)	U	2 (s)

Table 1 Summary of Detected Volatile Organic Compounds in Groundwater

DUPLICATE SAMPLES																						
	Laboratory ID	12K0749-09		13E0755-08		13K0947-11		14F0194-04		14K0664-06		15E0606-04		15K0954-10		16E0858-14		SC34122-02		SC44624-09		
	Sample Name	130110-DUP-1112		0110-MW-DUP01-05		130110-DUP-1113		130110-DUP-0614		130110-DUP-1114		DUP-051215		130110-DUP		DUP-0516		DUP-1-0517		130110-DUP-0318		
	Parent Sample ID	130110-MW-09D-111		130110-MW-09S-051		130110-MW-09S-111		130110-MW-10S-061		30110-MW-10M-111		MW-04-0515		130110-MW-09S		MW-10S-0516		MW-04-0517		MW-11S		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/7/2018		
Parameter List EPA Method 8260C	**Tidal Phase**	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		**NYSDEC Ambient Water Quality Standard Class GA(a) (µg/L)**
1,1-dichloroethene	µg/L	2		(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<2.1)	U	(<0.16)	U	(<0.32)	U	(<0.69)	U	5 (s)
1,2,4-trimethylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1.8)	U	(<0.18)	U	(<0.36)	U	(<0.36)	U	5 (s)
Acetone	µg/L	**310**		(<50)	U	(<50)	UJ	(<50)	U	(<50)	U	(<50)	U	(<49)	U	(<4.9)	U	(<0.80)	U	(<0.8)	U	50 (g)
Benzene	µg/L	--		--		--		--		--		--		--		--		(<0.28)	U	(<0.28)	U	1 (s)
Butyl alcohol, tert-	µg/L	(<20)	R	(<20)	R	(<20)	R	(<20)	R	(<20)	U	(<20)	U	(<22)	U	**30**	**J**	(<5.9)	U	(<5.9)	U	---
Carbon disulfide	µg/L	--		--		--		--		--		--		--		--		--		(<0.41)	U	---
Chloroform	µg/L	--		--		--		--		--		--		--		--		--		(<0.33)	U	7 (s)
Chloromethane	µg/L	--		--		--		--		--		--		--		--		(<0.37)	U	(<0.37)	U	---
cis-1,2-dichloroethene	µg/L	**470**		(<1)	U	**36**	J	**5.8**		(<1)	U	(<1)	U	**1,300**		(<0.15)	U	0.7	J	(<0.33)	U	5 (s)
Dichlorodifluoromethane	µg/L	(<2)	U	(<2)	U	(<2)	U	(<2)	UJ	(<2)	U	(<2)	U	(<1.8)	U	(<0.18)	U	(<0.58)	U	(<0.58)	U	---
Diisopropyl ether	µg/L	(<0.5)	U	(< 0.5)	U	(< 0.5)	U	(<0.5)	U	(<0.5)	U	(<0.5)	U	(<5)	U	(<0.18)	U	(<0.29)	U	(<0.29)	U	5 (s)
Ethanol	µg/L	--		--		--		--		--		--		--		--		(<30.9)	U	(<30.9)	U	---
Isopropylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1.2)	U	(<0.12)	U	(<0.36)	U	(<0.36)	U	5 (s)
M,P-xylene	µg/L	--		--		--		--		--		--		--		--		(<0.38)	U	(<0.38)	U	5 (s)
methyl ethyl ketone	µg/L	--		--		--		--		--		--		--		--		(<1.07)	U	(<1.07)	U	50 (g)
Methylcyclohexane	µg/L	--		--		--		--		--		--		--		(<0.63)	U	--		---		---
Methyl tert-butyl ether	µg/L	(<1)	U	(<1)	U	(<1)	U	4.9	U	(<1)	U	2.1	U	(<0.9)	U	**12**		(<0.24)	U	(<0.24)	U	5 (s)
Naphthalene	µg/L	--		--		--		--		--		--		--		--		(<0.35)	U	(<0.35)	U	10 (g)
N-Butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U	(<10)	U	(<0.15)	U	(<0.41)	U	(<0.41)	U	5 (s)
N-propylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1.1)	U	(<0.13)	U	(<0.34)	U	(<0.34)	U	5 (s)
O-xylene	µg/L	--		--		--		--		--		--		--		--		(<0.28)	U	(<0.28)	U	5 (s)
Sec-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1.1)	U	(<0.13)	U	(<0.33)	U	(<0.33)	U	---
Styrene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U		U		U	(<0.4)	U	(<0.4)	U	5 (s)
Tert-butylbenzene	µg/L	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1.1)	U	(<0.11)	U	(<0.32)	U	0.37	J	10 (g)
Tetrachloroethene	µg/L	**79**		(<1)	U	(<1)	U	(<1)	U	2.4	J	(<1)	U	(<1.7)	U	(<0.17)	U	1.02		(<0.57)	U	5(s)
Toluene	µg/L	--		--		--		--		--		--		--		--		(<0.3)	U	(<0.3)	U	5(s)
trans-1,2-dichloroethene	µg/L	2.3		(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1.5)	U	(<0.15)	U	(<0.38)	U	(<0.38)	U	5(s)
Trichloroethene	µg/L	**170**		(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<1)	U	(<2)	U	(<0.2)	U	(<0.5)	U	(<0.5)	U	5 (s)
Vinyl chloride	µg/L	**49**		(< 2.0)	U	**16**	J	**2.7**		(<2.0)	U	(<2.0)	U	**180**	J	(<0.13)	U	(0.47)	U	(<0.47)	U	2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-04																				NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-02		13E0755-07		13K0947-02		14F0194-07		14K0664-04		15E0606-07		15K0954-03		16E0858-06		SC34122-01		SC44537-05		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018		
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
Aluminum	mg/L	0.1		0.78		0.35		0.95		2.5		0.86		0.23		0.091		0.509		0.271		---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.045)	U	(<0.045)	U	0.0022	J	(<0.0016)	U	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0023	J	(<0.00138)	U	0.005 (s)
Barium	mg/L	0.27		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.0063)	U	(<0.0063)	U	0.0047	J	0.005		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	**0.0051**		(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	(<0.0004)	U	0.005 (s)
Calcium	mg/L	NA		69		27		18		12		14		13		19		22.6		19.7		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.03		0.011		(<0.0008)	U	(<0.0008)	U	0.0095		0.0039	J	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		0.0023	J	(<0.0008)	U	0.005 (s)
Copper	mg/L	**0.29**		0.047		0.015		0.012		0.039		0.019		(<0.0047)	U	(<0.0047)	U	0.0064		0.0128		0.2 (s)
Iron	mg/L	NA		**13**		**1.6**		**1.5**		**7.8**		**1.9**		**0.43**		0.23		**1.21**	R06	**0.788**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.015		(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	NA		22		6.6		3.9		2.7		2.6	B	2.1		3.4		4.36		2.36		35 (s)
Manganese	mg/L	**3.5**		**0.44**		0.18		0.13		0.27		0.14		0.076		0.068		0.295		**0.354**		0.3 (s)
Nickel	mg/L	**0.17**		(<0.011)		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.0052		0.0032	J	0.1 (s)
Potassium	mg/L	NA		11		8		4.9		4.3		4		4.5		3.8		4.35		3.17		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	0.0014	J	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**320**		**150**		**140**		**97**		**77**		**57**		**59**		**48.5**		**44.9**	B	20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0038)	U	(<0.0038)	U	(<0.0011)	U	(<0.0011)	U	---
Zinc	mg/L	0.24		0.059		(< 0.02)	U	(< 0.02)	U	0.049		(< 0.02)	U	(<0.0094)	U	(<0.0094)	U	0.0092		0.014		2 (s)

(a) 6 NYCRR Part 703.5 Class GA Groundwater Quality Regulations, as presented in the Division of Water Technical and Operational Guidance Series 1.1.1, 1998, as amended.

NOTE:

EPA = U.S. Environmental Protection Agency.
ID = Identification
-- = Not analyzed
NYSDEC = New York State Department of Environmental Conservation.
mg/L = Milligram(s) per liter
ppm = Parts per million
U = Non-detect, detection below the method detection limit. Analyte included in the analysis, but not detected at or above the MDL.
R06 = MRL raised to correlate to batch QC reporting limits.
GS1 = Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
D = Data reported from a dilution.
J = Detected above the Method Detection Limit but below the Reporting limit; therefore, result is an estimated concentration (CLP J-Flag).
B = Analyte is found in the associated blank as well as in the sample
NA = Analyte not analyzed for during this sampling event.

Data provided by Con-Test Analytical Laboratory from 2012-2016. Only analytes that were detected in at least one sample are shown.
2017 data is provided by Eurofins Spectrum Analytical.
Concentration values in **BOLD** indicate that analyte was detected above the NYSDEC Ambient Water Quality Standards (s) or Guidance Values (g).

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-05R																NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	13K0947-03		14F0194-02		14K0664-01		15E0606-01		15K0954-02		16E0858-01		SC34122-11		SC44537-02		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/18/2016		4/28/2017		3/6/2018		
	Tidal Phase	High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
Aluminum	mg/L	(< 0.05)	U	0.098		(< 0.05)	U	0.11		(<0.043)	U	0.093		0.135		0.0447		---
Antimony	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	**0.059**		(<0.045)	U	(<0.045)	U	0.0022	J	(<0.0016)	U	0.003 (s)
Arsenic	mg/L	0.012		(< 0.01)	U	0.035		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0038	J	(<0.00138)	U	0.005 (s)
Barium	mg/L	0.3		0.15		0.19		0.19		0.19		0.26		0.252		0.302		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	0.0018	J	0.0011	J	0.005 (s)
Calcium	mg/L	130		87		94		93		73		100		117		110		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0047	J	0.0011	J	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		0.0036	J	(<0.0008)	U	0.005 (s)
Copper	mg/L	(< 0.01)	U	0.019		0.015		0.017		0.018		(<0.0047)	U	0.0218		0.0145		0.2 (s)
Iron	mg/L	**6.7**		**5.8**		**8.6**		**13**		**10**		**17**		**20.6**	R06	**20.9**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	**36**		22		20		19	B	17		23		24.9		24.8		35 (s)
Manganese	mg/L	**0.51**		0.3		**0.49**		**0.61**		**0.45**		**0.82**		**0.929**		**0.87**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.012		(<0.0036)	U	0.0058		(<0.0009)	U	0.1 (s)
Potassium	mg/L	38		23		20		18		26		17		18		16.6		---
Selenium	mg/L	--		--		--		--		--		--		0.005	J	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	0.0006	J	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	**300**		**280**		**260**		**230**		**200**		**240**		**221**		**212**	B	20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	0.017		0.012		(< 0.01)	U	(< 0.01)	U	0.018		(<0.0038)	U	0.0035	J	0.0036	J	---
Zinc	mg/L	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	0.053		0.061		0.0191		0.0074		2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-06																				NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-01		13E0755-01		13K0947-01		14F0194-01		14K0664-07		15E0606-02		15K0954-01		16E0858-02		SC34122-06		SC44624-01		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/18/2016		4/26/2017		3/6/2018		
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
Aluminum	mg/L	0.06		1.5		(< 0.05)	U	0.31		(< 0.05)	U	0.11		0.057		0.13		0.113		0.02	J	---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.045)	U	(<0.045)	U	(<0.0016)	U	(<0.0016)	U	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	**0.037**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	(<0.0014)	U	(<0.00138)	U	0.005 (s)
Barium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.0063)	U	(<0.0063)	U	0.0082		0.0178		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	(<0.0004)	U	0.005 (s)
Calcium	mg/L	NA		86		110		110		80		70		71		70		130		142		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0013	J	0.001	J	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		(<0.0008)	U	(<0.0008)	U	0.005 (s)
Copper	mg/L	(< 0.01)	U	0.032		(< 0.01)	U	0.017		0.017		0.039		(<0.0047)	U	(<0.0047)	U	0.0035	J	(<0.0023)	U	0.2 (s)
Iron	mg/L	NA		**20**		**6.8**		**9.5**		**5**		**5.7**		**4.3**		**4.5**		**6.16**	R06	**7.15**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	NA		20		**38**		30		23		20	B	20		20		**36.6**		**47.7**		35 (s)
Manganese	mg/L	0.24		0.21		**0.41**		**0.38**		0.29		0.24		0.24		0.25		**0.335**		**0.37**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.0014	J	0.0012	J	0.1 (s)
Potassium	mg/L	NA		11		29		16		20		11		20		11		15.7		15		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**250**		**310**		**310**		**220**		**210**		**220**		**200**		**233**		**319**	GS1,D,E	20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	(< 0.01)	U	0.012		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.017		(<0.0038)	U	0.002	J	(<0.0011)	U	---
Zinc	mg/L	(< 0.02)	U	0.042		(< 0.02)	U	0.022		0.023		0.022		(<0.0094)	U	0.05		0.0042	J	0.0046	J	2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-08D		MW-08DR																		NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-06		13K0947-10		14F0194-11		14K0664-11		15E0606-13		15K1033-02		16E0858-10		SC34122-13		SC44621-02				
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater				
	Sample Date	11/20/2012		11/21/2013		6/4/2014		11/11/2014		5/13/2015		11/20/2015		5/18/2016		4/28/2017		3/8/2018				
	Tidal Phase	Flood		High/Ebb		Flood/High		Ebb		Ebb		High		Low		Low		High				
Aluminum	mg/L	0.32		(< 0.05)	U	0.073		(< 0.05)	U	0.13		(<0.043)	U	0.12		0.0355		0.0364				---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.045)	U	(<0.045)	U	(<0.0016)	U	(<0.0016)	U			0.003 (s)
Arsenic	mg/L	(< 0.01)	U	0.011		(< 0.01)	U	0.024		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0018	J	0.00175	J			0.005 (s)
Barium	mg/L	0.1		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.0063)	U	(<0.0063)	U	0.0173		0.0158				1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U			0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	0.0011	J			0.005 (s)
Calcium	mg/L	NA		98		95		49		50		43		70		52.4		46.1				---
Chromium	mg/L	0.041		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0019	J	0.0014	J			0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		0.0021	J	0.001	J			0.005 (s)
Copper	mg/L	0.015		(< 0.01)	U	0.014		0.017		0.019		(<0.0047)	U	(<0.0047)	U	0.0113		0.0098				0.2 (s)
Iron	mg/L	NA		**9.5**		**12**		**6**		**12**		**5.1**		**11**		**5.36**	R06	**2.81**				0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U			0.025 (s)
Magnesium	mg/L	NA		26		35		18		12	B	14		18		12.2		11.9				35 (s)
Manganese	mg/L	**2.1**		**1.1**		**1.4**		**0.79**		**0.74**		**0.73**		**0.93**		**0.447**		**0.329**				0.3 (s)
Nickel	mg/L	0.022		(< 0.01)	U	0.011		(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.01		0.0046	J			0.1 (s)
Potassium	mg/L	NA		12		12		8.8		6.5		6		9.4		7.75		6.95				---
Selenium	mg/L	--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U			0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U			0.0006 (s)
Sodium	mg/L	NA		**220**		**390**		**170**		**140**		**140**		**220**		**141**		**161**				20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U			0.001 (s)
Vanadium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0038)	U	(<0.0038)	U	(<0.0011)	U	(<0.0011)	U			---
Zinc	mg/L	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	0.028		(< 0.02)	U	(<0.0094)	U	(<0.0094)	U	0.0024	J	0.0034	J			2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-08S		MW-08SR																		NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-07		13K0947-09		14F0194-10		14K0664-10		15E0606-12		15K1033-01		16E0858-09		SC34122-12		SC44621-01				
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater				
	Sample Date	11/20/2012		11/21/2013		6/4/2014		11/11/2014		5/13/2015		11/19/2015		5/18/2016		4/28/2017		3/8/2018				
	Tidal Phase	Flood		High/Ebb		Flood/High		Ebb		Ebb		High		Low		Low		High				
Aluminum	mg/L	2.2		0.11		1.1		0.24		0.83		(<0.043)	U	0.079		0.0174	J	0.0203	J			---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	**0.059**		(<0.045)	U	(<0.045)	U	(<0.0016)	U	0.0028	J			0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.023**		**0.023**		**0.037**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0024	J	0.0027	J			0.005 (s)
Barium	mg/L	0.2		0.14		0.23		0.14		0.19		0.11		0.17		0.127		0.128				1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U			0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	0.0004	J			0.005 (s)
Calcium	mg/L	NA		110		92		60		94		48		70		56.2		61.6				---
Chromium	mg/L	**0.21**		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	(<0.0009)	U	0.0016	J			0.05 (s)
Cobalt	mg/L	**--**		--		--		--		--		--		--		(<0.0008)	U	(<0.0008)	U			0.005 (s)
Copper	mg/L	0.064		< 0.01	U	0.053		0.042		0.069		0.014		(<0.0047)	U	0.026		0.0134				0.2 (s)
Iron	mg/L	NA		**4.1**		**6.9**		**1.9**		**3.5**		0.19		0.19		0.0698	R06,J	0.0716				0.3 (s)
Lead	mg/L	0.01		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U			0.025 (s)
Magnesium	mg/L	NA		23		18		11		16	B	8.1		12		8.57		10.5				35 (s)
Manganese	mg/L	**0.73**		**0.62**		**1.2**		0.24		**1.6**		0.22		0.05		0.0112		0.122				0.3 (s)
Nickel	mg/L	0.032		0.073		0.08		0.023		0.069		(<0.0036)	U	(<0.0036)	U	0.0051		0.0106				0.1 (s)
Potassium	mg/L	NA		18		11		9.6		7.6		6		6.5		5.82		5.16				---
Selenium	mg/L	--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U			0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U			0.0006 (s)
Sodium	mg/L	NA		**160**		**130**		**89**		**79**		**70**		**81**		**65.8**		**65.1**				20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U			0.001 (s)
Vanadium	mg/L	0.032		(< 0.01)	U	0.02		0.012		0.014		(<0.0038)	U	(<0.0038)	U	0.006		0.0044	J			---
Zinc	mg/L	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(<0.0094)	U	(<0.0094)	U	0.0032	J	0.0038	J			2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-09D																				NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-08		13E0755-02		13K0947-08		14F0194-09		14K0664-09		15E0606-11		15K0954-08		16E0858-08		SC34122-08		SC44621-04		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		5/20/2013		11/21/2013		6/4/2014		11/11/2014		5/13/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018		
	Tidal Phase	Flood		Low/Flood		High/Ebb		Flood/High		Ebb		Ebb		High		Low		Low		High		
Aluminum	mg/L	0.74		0.64		(< 0.05)	U	0.34		1.5		0.33		0.17		0.17		0.286		1.77		---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.045)	U	(<0.045)	U	(<0.0016)	U	0.0016	J	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.031**		**0.014**		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0044		**0.016**		0.005 (s)
Barium	mg/L	0.086		(< 0.05)	U	0.18		0.066		0.11		(< 0.05)	U	0.082		(<0.0063)	U	0.295		0.458		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	0.0003	J	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	0.0009	J	0.005 (s)
Calcium	mg/L	NA		28		140		96		81		43		33		75		42.3		10.9		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.018		(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0022	J	0.0177		0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		0.0025	J	0.0038	J	0.005 (s)
Copper	mg/L	(< 0.01)	U	0.19		**0.25**		0.17		**0.65**		0.18		0.16		0.019		**0.379**		**1.35**		0.2 (s)
Iron	mg/L	NA		**26**		**78**		**31**		**45**		**22**		**14**		**15**		**11.4**	R06	**6**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	**0.042**		(< 0.01)	U	0.016		(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	0.0134		0.025 (s)
Magnesium	mg/L	NA		8.5		**66**		**42**		**46**		16	B	14		26		17.6		3.55		35 (s)
Manganese	mg/L	**1.3**		**0.98**		**5.9**		**2.7**		**3.6**		**1.4**		**1.2**		**0.93**		**0.986**		0.113		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	0.032		0.011		0.017		(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.004	J	0.0081		0.1 (s)
Potassium	mg/L	NA		4.7		14		8.3		9.8		4.7		4.9		7.4		5.39		3.59		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	**0.0051**		< 0.005	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**110**		**300**		**440**		**300**		**190**		**140**		**240**		**160**		**24.8**		20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	0.015		0.017		(< 0.01)	U	0.023		(< 0.01)	U	0.012		(<0.0038)	U	0.0014	J	0.0067		---
Zinc	mg/L	(< 0.02)	U	0.22		0.69		0.066		0.26		0.059		0.18		(<0.0094)	U	0.686		0.64		2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-09S																				NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-10		13E0755-03		13K0947-07		14F0194-08		14K0664-08		15E0606-08		15K0954-07		16E0858-07		SC34122-07		SC44621-03		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/4/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/8/2018		
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
Aluminum	mg/L	0.55		0.86		1.5		0.069		0.27		0.48		0.16		0.29		1.11		1.16		---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.045)	U	(<0.045)	U	(<0.0016)	U	**0.0056**	J	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.013**		**0.022**		(< 0.01)	U	**0.021**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0032	J	**0.0144**		0.005 (s)
Barium	mg/L	0.38		0.14		0.061		0.24		0.21		0.25		0.5		0.26		0.861		0.822		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	0.0006	J	0.0006	J	0.005 (s)
Calcium	mg/L	NA		33		44		56		33		43		70		44		34.2		3.22		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	0.025		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0104		0.0114		0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		0.0022	J	0.0018	J	0.005 (s)
Copper	mg/L	(< 0.01)	U	(< 0.01)	U	**0.28**		0.016		0.085		**0.45**		0.12		**0.26**		**1.32**		**1.0**		0.2 (s)
Iron	mg/L	NA		**6.8**		**11**		**7.2**		**4**		**5.3**		**13**		**2.4**		**3.67**	R06	**1.79**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	0.012		0.0104		0.025 (s)
Magnesium	mg/L	NA		8.3		10		16		5.7		7.7	B	13		7.6		6.34		2.17		35 (s)
Manganese	mg/L	**2.2**		**0.31**		**0.46**		**0.62**		0.3		**0.49**		**0.74**		**0.44**		**0.388**		0.026		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.0037	J	0.0038	J	0.1 (s)
Potassium	mg/L	NA		9.4		15		13		9.4		6.5		16		7.2		5.32		3.86		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**250**		**150**		**190**		**91**		**88**		**130**		**90**		**60**		17		20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	(< 0.01)	U	0.013		0.012		(< 0.01)	U	(< 0.01)	U	0.012		(<0.0038)	U	0.0046	J	0.0114		---
Zinc	mg/L	(< 0.02)	U	0.059		0.43		0.022		0.12		0.31		0.18		0.24		0.618		0.626		2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-10D																						NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-03		13E0755-04		13K0947-06		14F0194-05		14K0664-02		15E0606-05		15K0954-04		16E0858-04		SC34122-05		SC44537-06			
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater			
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018			
	Tidal Phase	Ebb		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High			
Aluminum	mg/L	0.64		0.13		(< 0.05)	U	0.21		0.18		0.76		(<0.043)	U	0.15		0.0262		0.0112	J	---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.045)	U	(<0.045)	U	(<0.0016)	U	0.0016	J	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	**0.012**		**0.024**		(<0.0078)	U	(<0.0078)	U	0.0024	J	(<0.00138)	U	0.005 (s)
Barium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.0063)	U	(<0.0063)	U	0.0158		0.006		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	(<0.0004)	U	0.005 (s)
Calcium	mg/L	NA		9.8		24		12		11		27		11		34		60.6		19.7		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.035		(<0.0008)	U	(<0.0008)	U	(<0.0009)	U	(<0.0009)	U	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		0.0016	J	(<0.0008)	U	0.005 (s)
Copper	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.073		(<0.0047)	U	(<0.0047)	U	0.003	J	0.0036	J	0.2 (s)
Iron	mg/L	NA		**6.7**		**8.7**		**4.7**		**8.5**		**44**		**6**		**9.5**		**14.3**	R06	**8.08**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	< 0.01	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	NA		4.6		13		5.7		4.6		10	B	4.9		20		34.7		8.23		35 (s)
Manganese	mg/L	**0.31**		**0.47**		**0.7**		**0.34**		**0.33**		**1.4**		**0.34**		**0.75**		**1.7**		**0.652**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.019		(<0.0036)	U	(<0.0036)	U	0.0048	J	0.0016	J	0.1 (s)
Potassium	mg/L	NA		2.5		5.3		3.1		2.6		5.2		3.1		6.2		11.4		3.3		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**44**		**96**		**71**		**62**		**130**		**52**		**130**		**302**	GS1,D	**65.3**	B	20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0038)	U	(<0.0038)	U	(<0.0011)	U		U	---
Zinc	mg/L	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	0.023		0.078		0.033		0.094		0.007		0.0212		2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-10M																				NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-04		13E0755-06		13K0947-05		14F0194-06		14K0664-05		15E0606-06		15K0954-05		16E0858-05		SC34122-04		SC44537-04		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/6/2018		
	Tidal Phase	Flood		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
Aluminum	mg/L	0.82		0.23		0.72		0.18		0.7		0.69		0.76		0.21		0.589		0.199		---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	**0.06**		(<0.045)	U	(<0.045)	U	(<0.0016)	U	0.0018	J	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.035**		**0.01**		(< 0.01)	U	**0.041**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0017	J	0.0037	J	0.005 (s)
Barium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.0063)	U	(<0.0063)	U	0.0092		0.0162		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	(<0.0004)	U	0.005 (s)
Calcium	mg/L	NA		75		72		110		93		59		57		59		46.2		55.2		---
Chromium	mg/L	0.01		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.01		(<0.0008)	U	0.0058		0.0046	J	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		(<0.0008)	U	(<0.0008)	U	0.005 (s)
Copper	mg/L	(< 0.01)	U	0.01		(< 0.01)	U	0.016		0.077		0.027		0.013		(<0.0047)	U	0.0136		0.0646		0.2 (s)
Iron	mg/L	NA		**53**		**3.5**		**2**		**6.6**		**3**		**3**		**0.93**		**2.96**	R06	**1.89**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	NA		14		18		27		23		18	B	19		20		14.8		19.6		35 (s)
Manganese	mg/L	**0.34**		0.24		**0.8**		**0.43**		**0.34**		0.22		0.22		0.28		**0.321**		**0.426**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	0.012		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.004	J	0.0028	J	0.1 (s)
Potassium	mg/L	NA		12		10		14		12		9.9		9.6		10		9.08		9.12		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**210**		**170**		**390**		**320**		**240**		**230**		**240**		**168**		**216**	B	20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	0.015		(<0.0038)	U	0.0024	J	0.0011	J	---
Zinc	mg/L	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	0.052		(< 0.02)	U	0.024		(<0.0094)	U	0.0036	J	0.0339		2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-10S																				NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-05		13E0755-05		13K0947-04		14F0194-03		14K0664-03		15E0606-03		15K0954-06		16E0858-03		SC34122-03		SC44537-03		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	11/20/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/26/2017		3/6/2018		
	Tidal Phase	Flood		Low/Flood		High/Ebb		Flood/High		Ebb		Low		High		Low		Low		High		
Aluminum	mg/L	1		0.078		(< 0.05)	U	0.35		0.085		0.22		0.12		0.13		0.148		(<0.0103)	U	---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	**0.056**		(<0.045)	U	(<0.045)	U	(<0.0016)	U	(<0.0016)	U	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.014**		**0.019**		(< 0.01)	U	**0.037**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	**0.0054**		(<0.00138)	U	0.005 (s)
Barium	mg/L	0.35		0.13		0.24		0.25		0.24		0.71		0.46		0.58		0.292		0.385		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	(<0.0004)	U	0.005 (s)
Calcium	mg/L	NA		39		100		80		53		110		72		120		72.2		115		---
Chromium	mg/L	0.014		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0016	J	0.002	J	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		(<0.0008)	U	(<0.0008)	U	0.005 (s)
Copper	mg/L	0.02		(< 0.01)	U	(< 0.01)	U	0.011		0.061		0.027		0.011		(<0.0047)	U	0.0076		0.0066		0.2 (s)
Iron	mg/L	NA		**1.6**		**5.7**		**5.9**		**5.2**		**11**		**2.4**		**3.2**		**5.17**	R06	**4.51**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	NA		6		16		12		7.5		15	B	9.6		19		11.3		16.4		35 (s)
Manganese	mg/L	**1.1**		0.14		**0.46**		**0.59**		**0.33**		**1.1**		**0.35**		**0.62**		**0.396**		**0.569**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	0.044		0.001	J	(<0.0009)	U	0.1 (s)
Potassium	mg/L	NA		7.9		23		12		8.7		12		15		14		11.5		10.6		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**220**		**210**		**190**		**160**		**220**		**180**		**150**		**120**		**89.4**	B	20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	0.013		(< 0.01)	U	(< 0.01)	U	0.011		(< 0.01)	U	(< 0.01)	U	0.012		(<0.0038)	U	0.0032	J	0.0011	J	---
Zinc	mg/L	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	0.064		0.046		0.037		(<0.0094)	U	0.0185		0.0115		2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-11D														NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	14F0194-13		14K0664-12		15E0606-09		15K1033-04		16E0858-12		SC34122-09		SC44624-07		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	6/4/2014		11/11/2014		5/13/2015		11/20/2015		5/17/2016		4/28/2017		3/7/2018		
	Tidal Phase	Flood/High		Ebb		Ebb		High		Low		Low		High		
Aluminum	mg/L	0.6		(< 0.05)	U	0.18		(<0.043)	U	0.082		1.1		0.0159	J	---
Antimony	mg/L	(< 0.05)	U	(< 0.05)	U	**0.056**		(<0.045)	U	(<0.045)	U	(<0.0016)	U	(<0.0016)	U	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.04**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0039	J	0.00175	J	0.005 (s)
Barium	mg/L	(< 0.05)	U	0.058		0.053		0.061		0.058		0.0411		0.0124		1 (s)
Beryllium	mg/L	(< 0.004)	U	**0.0044**		(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	0.0012	J	0.005 (s)
Calcium	mg/L	110		110		130		110		150		78		32.2		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0123		(<0.0009)	U	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		0.0024	J	(<0.0008)	U	0.005 (s)
Copper	mg/L	0.017		0.021		0.027		(<0.0047)	U	(<0.0047)	U	0.0154		0.0033	J	0.2 (s)
Iron	mg/L	**7.8**		**13**		**2.8**		**0.55**		**0.4**		**8.98**	R06	**0.353**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	**40**		35		33	B	29		**36**		17.9		27.3		35 (s)
Manganese	mg/L	**4.1**		**3.6**		**3.2**		**1.8**		**2.5**		**2.28**		**0.748**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.0031	J	(<0.0009)	U	0.1 (s)
Potassium	mg/L	15		21		12		10		14		10.8		12.4		---
Selenium	mg/L	--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	**430**		**290**		**340**		**300**		**440**		**387**	GS1,D	**290**	GS1,D	20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	0.011		(< 0.01)	U	(<0.0038)	U	(<0.0038)	U	0.0034	J	(<0.0011)	U	---
Zinc	mg/L	(< 0.02)	U	0.038		(< 0.02)	U	(<0.0094)	U	0.024		0.0136		0.0218		2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C	Location ID	MW-11S														NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	14F0194-12		14K0664-13		15E0606-10		15K1033-03		16E0858-11		SC34122-10		SC44624-08		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	6/4/2014		11/11/2014		5/13/2015		11/20/2015		5/17/2016		4/28/2017		3/7/2018		
	Tidal Phase	Flood/High		Ebb		Ebb		High		Low		Low		High		
Aluminum	mg/L	1.3		1.1		0.74		0.77		0.23		0.0579		0.029		---
Antimony	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.045)	U	(<0.045)	U	(<0.0016)	U	(<0.0016)	U	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.049**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0026	J	0.0025	J	0.005 (s)
Barium	mg/L	0.097		0.11		0.061		0.083		(<0.0063)	U	0.0253		0.0196		1 (s)
Beryllium	mg/L	(< 0.004)	U	**0.0054**		(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	0.0022	J	0.005 (s)
Calcium	mg/L	95		94		59		85		57		50		41.3		---
Chromium	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	(<0.0009)	U	(<0.0009)	U	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		0.0018	J	0.001	J	0.005 (s)
Copper	mg/L	(< 0.01)	U	0.014		0.018		(<0.0047)	U	(<0.0047)	U	(<0.0023)	U	(<0.0023)	U	0.2 (s)
Iron	mg/L	**50**		**30**		**34**		**31**		**38**		**31**	R06	**25.6**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	23		**36**		20	B	**36**		13		15.1		18.4		35 (s)
Manganese	mg/L	**1.6**		**1**		**0.8**		**0.86**		**0.85**		**0.755**		**0.549**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.0022	J	(<0.0009)	U	0.1 (s)
Potassium	mg/L	8.9		23		8		15		6.4		7.5		6.44		---
Selenium	mg/L	--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	**280**		**480**	D	**200**		**350**		**140**		**141**		**121**		20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	0.013		(< 0.01)	U	(<0.0038)	U	(<0.0038)	U	(<0.0011)	U	(<0.0011)	U	---
Zinc	mg/L	(< 0.02)	U	(< 0.02)	U	(< 0.02)	U	(<0.0094)	U	(<0.0094)	U	(<0.0016)	U	0.0028	J	2 (s)

Table 2 Summary of Detected Inorganic Compounds in Groundwater

Parameter List USEPA Method 6010C		DUPLICATE SAMPLES																				NYSDEC Ambient Water Quality Standard Class GA(a) (mg/L)
	Laboratory ID	12K0749-09		13E0755-08		13K0947-11		14F0194-04		14K0664-06		15E0606-04		15K0954-10		16E0858-14		SC34122-02		SC44624-09		
	Sample ID	130110-DUP-1112		130110-MW-DUP01-05		130110-DUP-1113		130110-DUP-0614		130110-DUP-1114		DUP-051215		130110-DUP		DUP-0516		DUP-1-0517		130110-DUP-0318		
	Parent Sample	130110-MW-09D-1112		130110-MW-09S-0513		130110-MW-09S-1113		130110-MW-10S-0614		130110-MW-10M-1114		MW-04		130110-MW-09S		MW-10S-0516		MW-04-0517		MW-11S		
	Sample Date	11/19/2012		5/20/2013		11/21/2013		6/3/2014		11/11/2014		5/12/2015		11/19/2015		5/17/2016		4/27/2017		3/7/2018		
	Tidal Phase	Flood/High		Ebb		Flood/High		Ebb		Ebb		Ebb		High		Low		Low		High		
Aluminum	mg/L	1.6		2.7		2		0.29		0.55		0.22		0.1		0.14		0.516		0.0258		---
Antimony	mg/L	NA		(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	0.055		(<0.045)	U	(<0.045)	U	(<0.0016)	U	(<0.0016)	U	0.003 (s)
Arsenic	mg/L	(< 0.01)	U	**0.015**		**0.033**		(< 0.01)	U	**0.041**		(< 0.01)	U	(<0.0078)	U	(<0.0078)	U	0.0014	J	0.0032	J	0.005 (s)
Barium	mg/L	0.096		0.17		0.1		0.25		(< 0.05)	U	0.72		0.49		0.58		0.0045	J	0.02		1 (s)
Beryllium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.001)	U	(<0.001)	U	(<0.0003)	U	(<0.0003)	U	0.003 (s)
Cadmium	mg/L	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(< 0.004)	U	(<0.0007)	U	(<0.0007)	U	(<0.0004)	U	0.0024	J	0.005 (s)
Calcium	mg/L	NA		36		40		79		92		110		70		120		21.7		41.9		---
Chromium	mg/L	0.013		0.015		**0.15**		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0008)	U	(<0.0008)	U	0.0083		(<0.0009)	U	0.05 (s)
Cobalt	mg/L	--		--		--		--		--		--		--		--		(<0.0008)	U	0.0011	J	0.005 (s)
Copper	mg/L	0.012		0.014		**0.88**		< 0.01	U	0.043		0.025		0.072		(<0.0047)	U	0.0077		(<0.0023)	U	0.2 (s)
Iron	mg/L	NA		**12**		**19**		**5.9**		**4.3**		**11**		**13**		**3.1**		**1.24**	R06	**29.7**		0.3 (s)
Lead	mg/L	(< 0.01)	U	(< 0.01)	U	0.014		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0025)	U	(<0.0025)	U	(<0.0062)	U	(<0.0062)	U	0.025 (s)
Magnesium	mg/L	NA		9.6		9.4		11		23		15	B	13		19		4.15		18.1		35 (s)
Manganese	mg/L	**1.4**		**0.35**		**0.42**		**0.59**		**0.33**		**1.1**		**0.74**		**0.63**		**0.306**		**0.577**		0.3 (s)
Nickel	mg/L	(< 0.01)	U	(< 0.01)	U	0.098		(< 0.01)	U	(< 0.01)	U	(< 0.01)	U	(<0.0036)	U	(<0.0036)	U	0.0035	J	(<0.0009)	U	0.1 (s)
Potassium	mg/L	NA		10		15		11		13		12		17		14		4.16		6.26		---
Selenium	mg/L	--		--		--		--		--		--		--		--		(<0.0042)	U	(<0.0042)	U	0.010 (s)
Silver	mg/L	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(< 0.005)	U	(<0.0029)	U	(<0.0029)	U	(<0.0006)	U	(<0.0006)	U	0.0006 (s)
Sodium	mg/L	NA		**260**		**130**		**180**		**320**		**220**		**130**		**150**		**47.5**		**117**		20 (s)
Thallium	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.022)	U	(<0.022)	U	(<0.0021)	U	(<0.0021)	U	0.001 (s)
Vanadium	mg/L	(< 0.01)	U	0.011		0.016		0.011		(< 0.01)	U	(< 0.01)	U	0.014		(<0.0038)	U	0.0011	J	(< 0.0011)	U	---
Zinc	mg/L	< 0.02	U	0.088		0.87		< 0.02	U	0.026		0.034		0.12		(<0.0094)	U	0.0087		0.0042	J	2 (s)

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-04											
	Laboratory ID	12K0749-02		13K0947-02		14K0664-04		15K0954-03		SC34122-01		SC44537-05	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/19/2012		11/21/2013		11/11/2014		11/19/2015		4/27/2017		3/6/2018	
USEPA Parameters List	Tidal Phase	Ebb		High/Ebb		Ebb		High		Low		High	
ORP	mV	23		45		-88		-27		23		-51	
Dissolved Oxygen	mg/L	1.01		2.34		0		1.99		6.2		1.26	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	3400		170		58		8.81		13.3		15.7	
Nitrate	mg/L	0.54		(< 0.05)	U	0.13		0.06		0.435	O09	0.285	O09
Sulfate	mg/L	330		39		11		13.1		17.9		15.8	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	5.2		3.2		3.2		2		2.66		2.14	
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		--		--		3		(<2.16)	U

NOTES:

USEPA = United States Environmental Protection Agency
ID = Identification
NYSDEC = New York State Department of Environmental Conservation.
ORP = Oxidation-Reduction Potential
mg/L = Milligram(s) per Liter = parts per million (ppm)
µg/L = Microgram(s) per liter = parts per billion (ppb)
mV = Millivolts
-- = Not analyzed
GS1 = Sample dilution required for high concentration of target analytes to be within the instrument calibration range.
R01 = The Reporting Limit has been raised to account for matrix interference.
O09 = Sample was analyzed outside the EPA recommended holding time as per client request.
J = Detected above the method detection limit but below the reporting limit; therefore, result is an estimated concentration (CLP J-flag).
U = Non-detect, detection below the method detection limit.
D = Data reported from a dilution.

Data provided by Con-Test Analytical Laboratory from 2012-2016. Only analytes that were detected in at least one sample are shown.
2017-2018 data is provided by Eurofins Spectrum Analytical.
Concentration values in **BOLD** identify parameters indicative of probable MNA conditions.

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-05R									
	Laboratory ID	13K0947-03		14K0664-01		15K0954-02		SC34122-11		SC44537-02	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/21/2013		11/11/2014		11/19/2015		4/28/2017		3/6/2018	
USEPA Parameters List	Tidal Phase	High/Ebb		Ebb		High		Low		High	
ORP	mV	-112		-120		-145		-139		-181	
Dissolved Oxygen	mg/L	2.01		0		0.63		0		1.78	
Chloride, Nitrate, Sulfate by USEPA Method E300.0											
Chloride	mg/L	510		380		260		312	GS1,D	377	GS1,D
Nitrate	mg/L	(< 0.05)	U	(< 0.05)	U	0.15		(<0.009)	O09,U	(<0.007)	O09,U
Sulfate	mg/L	(< 2)	U	(< 2)	U	(<3.0)	U	0.615	J	2.46	
Sulfide by USEPA SM4500											
Sulfide	mg/L	(< 2)	U	(< 2)	U	--		(<0.066)	U	0.45	
Total Organic Carbon by USEPA Method SM5310B											
Total organic carbon	mg/L	12		12		11		21.9		17	R01,D
Ethane, Ethene, and Methane by USEPA Method EC3											
Ethane	µg/L	--		--		--		35		(<3.48)	U
Ethene	µg/L	--		--		--		31		(<4.58)	U
Methane	µg/L	--		--		--		469		(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	**MW-06**											
	Laboratory ID	12K0749-01		13K0947-01		14K0664-07		15K0954-01		SC34122-06		SC44624-01	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/19/2012		11/21/2013		11/11/2014		11/19/2015		4/26/2017		3/6/2018	
USEPA Parameters List	**Tidal Phase**	Ebb		High/Ebb		Ebb		High		Low		High	
ORP	mV	-66		-133		-119		-125		-107		-103	
Dissolved Oxygen	mg/L	0		0.94		0		3.17		0		0	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	810		320		340		248		348	GS1,D	745	GS1,D
Nitrate	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	0.057		0.029	O09,J	0.008	O09,J
Sulfate	mg/L	75		44		(< 2)	U	66		5.5		64.5	GS1,D
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	0.11	
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	**22**		11		13		12		13.6		13.6	R01,D
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		28		(<3.48)	U
Ethene	µg/L	--		--		--		--		27		(<4.58)	U
Methane	µg/L	--		--		--		--		252		56	

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-08D		MW-08DR									
	Laboratory ID	12K0749-06		13K0947-10		14K0664-11		15K1033-02		SC34122-13		SC44621-02	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/20/2012		11/21/2013		11/11/2014		11/20/2015		4/28/2017		3/8/2018	
USEPA Parameters List	Tidal Phase	Flood		High/Ebb		Ebb		High		Low		High	
ORP	mV	-69		-9		70		-52		-45		-46	
Dissolved Oxygen	mg/L	0		0		0		3.38		0		0	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	1200		350		310		251		217	GS1,D	249	
Nitrate	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	0.1		0.109	O09	1.02	
Sulfate	mg/L	180		63		34		41.7		43.8		54.8	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	8.1		2.1		2.6		2		4.78		4.21	
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		22		(<3.48)	U
Ethene	µg/L	--		--		--		--		31		(<4.58)	U
Methane	µg/L	--		--		--		--		3		(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-08S		MW-08SR									
	Laboratory ID	12K0749-07		13K0947-09		14K0664-10		15K1033-01		SC34122-12		SC44621-01	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/20/2012		11/21/2013		11/11/2014		11/19/2015		4/28/2017		3/8/2018	
USEPA Parameters List	Tidal Phase	Flood		High/Ebb		Ebb		High		Low		High	
ORP	mV	-136		-57		-52		-18		90		55	
Dissolved Oxygen	mg/L	0		0		0		3.06		0		0	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	2100		240		55		32.5		41.1		130	
Nitrate	mg/L	(< 0.05)	U	(< 0.05)	U	0.18		(<0.049)	U	0.204	O09	0.01	J1
Sulfate	mg/L	220		92		46		28.3		10.7		22.5	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	11		9.9		4.5		3.9		4.4		12.2	
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		--		--		(<2.16)	U	(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-09S											
	Laboratory ID	12K0749-10		13K0947-07		14K0664-08		15K0954-07		SC34122-07		SC44621-03	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/19/2012		11/21/2013		11/11/2014		11/19/2015		4/27/2017		3/8/2018	
USEPA Parameters List	Tidal Phase	Ebb		High/Ebb		Ebb		High		Low		High	
ORP	mV	-286		-111		-108		-103		-41		-61	
Dissolved Oxygen	mg/L	0		0.90		0		2.59		0		2.64	
Chloride	mg/L	2000		160		51		109		42.1		23.6	
Nitrate	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	0.071		(<0.009)	O09,U	0.34	
Sulfate	mg/L	41		20		(< 2)	U	4.89		(<0.307)	U	4.4	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	**49**		21		9		6.1		9.13		343	GS1,D
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		--		--		(<2.16)	U	(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-09D											
	Laboratory ID	12K0749-08		13K0947-08		14K0664-09		15K0954-08		SC34122-08		SC44621-04	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/20/2012		11/21/2013		11/11/2014		11/19/2015		4/27/2017		3/6/2018	
USEPA Parameters List	Tidal Phase	Flood		High/Ebb		Ebb		High		Low		High	
ORP	mV	-120		-15		-9		-46		-35		-115	
Dissolved Oxygen	mg/L	0		3.34		0.18		1.6		0		5.93	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	730		750		890		292		310	GS1,D	35.5	
Nitrate	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	0.075		(<0.009)	O09,U	0.22	
Sulfate	mg/L	57		120		100	D	42.7		36.6		4.3	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	0.07	
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	13		13		0.78		0.69		4.33		230	GS1,D
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		--		--		(<2.16)	U	(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-10D											
	Laboratory ID	12K0749-03		13K0947-06		14K0664-02		15K0954-04		SC34122-05		SC44537-06	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/19/2012		11/21/2013		11/11/2014		11/19/2015		4/27/2017		3/6/2018	
USEPA Parameters List	Tidal Phase	Ebb		High/Ebb		Ebb		High		Low		High	
ORP	mV	13		-36		96		-35		15		-78	
Dissolved Oxygen	mg/L	0		0.90		0		0.51		0		1.17	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	180		230		110		93.6		610	GS1,D	128	GS1,D
Nitrate	mg/L	0.075		(< 0.05)	U	(< 0.05)	U	0.072		0.846	O09	0.02	O09,J
Sulfate	mg/L	23		14		2		5.73		61.4	GS1,D	14.6	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	1.7		(< 0.5)	U	(< 0.5)	U	(<0.16)	U	1.09		0.671	J
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		--		--		(<2.16)	U	(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-10M											
	Laboratory ID	12K0749-04		13K0947-05		14K0664-05		15K0954-05		SC34122-04		SC44537-04	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/20/2012		11/21/2013		11/11/2014		11/19/2015		4/27/2017		3/6/2018	
USEPA Parameters List	Tidal Phase	Flood		High/Ebb		Ebb		High		Low		High	
ORP	mV	8		87		8		27		-9		-30	
Dissolved Oxygen	mg/L	0		0		0		0.28		0		0	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	380		330		630		378		170	GS1,D	265	GS1,D
Nitrate	mg/L	0.31		(< 0.05)	U	0.55		0.43		0.252	O09	0.62	O09
Sulfate	mg/L	120		59		65	D	64.2		34.6		45.6	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	4.6		1.2		3.1		2.1		3.42		4.44	
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		--		--		(<2.16)	U	(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

	Well ID	MW-10S											
	Laboratory ID	12K0749-05		13K0947-04		14K0664-03		15K0954-06		SC34122-03		SC44537-03	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/20/2012		11/21/2013		11/11/2014		11/19/2015		4/26/2017		3/6/2018	
USEPA Parameters List	Tidal Phase	Flood		High/Ebb		Ebb		High		Low		High	
ORP	mV	-123		-124		-49		-118		-114		-120	
Dissolved Oxygen	mg/L	0		0.94		0		0.25		0		0	
Chloride, Nitrate, Sulfate by USEPA Method E300.0													
Chloride	mg/L	1700		240		59		99.4		56.4	GS1,D	54.3	GS1,D
Nitrate	mg/L	(< 0.05)	U	(< 0.05)	U	(< 0.05)	U	(<0.049)	U	0.015	O09,J	(<0.007)	O09,U
Sulfate	mg/L	180		140		26		24.2		25.2		25	
Sulfide by USEPA SM4500													
Sulfide	mg/L	(< 2)	U	(< 2)	U	(< 2)	U	--		(<0.066)	U	0.09	
Total Organic Carbon by USEPA Method SM5310B													
Total organic carbon	mg/L	6.5		7.2		5.3		2.4		8.18		8.43	
Ethane, Ethene, and Methane by USEPA Method EC3													
Ethane	µg/L	--		--		--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		--		--		158		121	

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

USEPA Parameters List	Well ID	MW-11D							
	Laboratory ID	14K0664-12		15K1033-04		SC34122-09		SC44624-07	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/11/2014		11/20/2015		4/28/2017		3/7/2018	
	Tidal Phase	Ebb		High		Low		High	
ORP	mV	48		86		138		-25	
Dissolved Oxygen	mg/L	0		0.29		0		0.43	
Chloride, Nitrate, Sulfate by USEPA Method E300.0									
Chloride	mg/L	690		728		526	GS1,D	458	GS1,D
Nitrate	mg/L	1.4		3.4		4.55	O09	1.18	O09
Sulfate	mg/L	80		80.5		104	GS1,D	80.5	GS1,D
Sulfide by USEPA SM4500									
Sulfide	mg/L	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B									
Total organic carbon	mg/L	2.3		1.1		4.23		2.11	
Ethane, Ethene, and Methane by USEPA Method EC3									
Ethane	µg/L	--		--		14		(<3.48)	U
Ethene	µg/L	--		--		29		(<4.58)	U
Methane	µg/L	--		--		(<2.16)	U	(<2.16)	U

Table 3 Summary of Monitored Natural Attenuation Parameters In Groundwater

USEPA Parameters List	Well ID	MW-11S							
	Laboratory ID	14K0664-13		15K1033-03		SC34122-10		SC44624-08	
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater	
	Sample Date	11/11/2014		11/20/2015		4/28/2017		3/7/2018	
	Tidal Phase	Ebb		High		Low		High	
ORP	mV	-195		-187		-172		-260	
Dissolved Oxygen	mg/L	0		0.62		0		0.43	
Chloride, Nitrate, Sulfate by USEPA Method E300.0									
Chloride	mg/L	870		670		217	GS1,D	187	GS1,D
Nitrate	mg/L	(< 0.05)	U	0.082		(<0.009)	O09,U	(<0.007)	O09,U
Sulfate	mg/L	63		64.9		13.4		20.3	
Sulfide by USEPA SM4500									
Sulfide	mg/L	(< 2)	U	--		(<0.066)	U	(<0.05)	U
Total Organic Carbon by USEPA Method SM5310B									
Total organic carbon	mg/L	4.1		3.5		4.98		4.1	
Ethane, Ethene, and Methane by USEPA Method EC3									
Ethane	µg/L	--		--		(<3.48)	U	(<3.48)	U
Ethene	µg/L	--		--		(<4.58)	U	(<4.58)	U
Methane	µg/L	--		--		(<2.16)	U	(<2.16)	U

Table 4 Summary of Detected Per/Poly Fluorinated Alkyl Substances Compounds in Groundwater

	Location ID	MW-04				MW-05R				MW-06				MW-08DR				MW-08SR				
	Laboratory ID	17E00076-01		18C0404-03		17E0006-11		18C0404-02		17E0006-06		18C0404-01		17E0006-13		18C0404-10		17E0006-12		18C0404-09		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	4/27/2017		3/6/2018		4/28/2017		3/6/2018		4/26/2017		3/6/2018		4/28/2017		3/8/2018		4/28/2017		3/8/2018		
Parameter List E537	Tidal Phase	Low		High		Low		High		Low		High		Low		High		Low		High		Guidance Values
Perfluorobutanesulfonic acid (PFBS)	ng/L	75		88		4.3		(<20)	U	10		(<20)	U	170		86		69		76		---
Perfluorodecanoic acid (PFDA)	ng/L	34		38		22		25		4.3		(<20)	U	7.3		(<20)	U	11		(<20)	U	---
Perfluorododecanoic acid (PFDoA)	ng/L	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	---
Perfluoroheptanoic acid (PFHpA)	ng/L	64		34		(<20)	U	26		54		83		(<20)	U	(<20)	U	(<20)	U	(<20)	U	---
Perfluorohexanesulfonic acid (PFHxS)	ng/L	(<2)	U	(<20)	U	3.9		(<20)	U	5.2		(<20)	U	4.4		(<20)	U	9.4		(<20)	U	---
Perfluorohexanoic acid (PFHxA)	ng/L	29		(<20)	U	(<20)	U	22		27		47		(<20)	U	(<20)	U	(<20)	U	(<20)	U	---
Perfluorononanoic acid (PFNA)	ng/L	92		63		28		23		16		(<20)	U	5.9		(<20)	U	9.2		(<20)	U	---
Perfluorooctanesulfonic acid (PFOS)	ng/L	7.6		(<20)	U	**18**		(<20)	U	24		(<20)	U	16		30		11		22		70 [1]
Perfluorooctanoic acid (PFOA)	ng/L	**160**		64		**63**		**74**		**170**		**290**	D	26		26		26		(<20)	U	70 [1]
Perfluoropentanoic Acid (PFPeA)	ng/L	16				11				10				8				6.7				---
Perfluoroundecanoic Acid (PFUnA)	ng/L	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	2.5		(<20)	U	4.7		(<20)	U	---

	Location ID	MW-09D				MW-09S				MW-10D				MW-10M				MW-10S				
	Laboratory ID	17E0006-08		18C0404-08		17E0006-07		18C0404-07		17E0006-05		18C0404-06		17E0006-04		18C0404-05		17E0006-03		18C0404-04		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	4/27/2017		3/6/2018		4/27/2017		3/8/2018		4/27/2017		3/6/2018		4/27/2017		3/6/2018		4/26/2017		3/6/2018		
Parameter List E537	Tidal Phase	Low		High		Low		High		Low		High		Low		High		Low		High		Guidance Values
Perfluorobutanesulfonic acid (PFBS)	ng/L	13		(<20)	U	15		(<20)	U	2.7		(<20)	U	23		33		5		23		---
Perfluorodecanoic acid (PFDA)	ng/L	4.9		(<20)	U	15		(<20)	U	(<2)	U	(<20)	U	35		21		16		(<20)	U	---
Perfluorododecanoic acid (PFDoA)	ng/L	(<2)	U	(<20)	U	2.5		(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	---
Perfluoroheptanoic acid (PFHpA)	ng/L	(<20)	U	(<20)	U	(<20)	U	(<20)	U	(<20)	U	(<20)	U	26		31		(<20)	U	30		---
Perfluorohexanesulfonic acid (PFHxS)	ng/L	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	2.2		(<20)	U	7.1		(<20)	U	---
Perfluorohexanoic acid (PFHxA)	ng/L	(<20)	U	(<20)	U	(<20)	U	(<20)	U	(<20)	U	(<20)	U	(<20)	U	21		(<20)	U	24		---
Perfluorononanoic acid (PFNA)	ng/L	2.9		(<20)	U	8.2		(<20)	U	2.6		(<20)	U	32		27		18		(<20)	U	---
Perfluorooctanesulfonic acid (PFOS)	ng/L	7.3		(<20)	U	9.8		(<20)	U	5.8		(<20)	U	18		(<20)	U	**26**		24		70 [1]
Perfluorooctanoic acid (PFOA)	ng/L	9.3		(<20)	U	15		(<20)	U	17		(<20)	U	**86**		**84**		**52**		**70**		70 [1]
Perfluoropentanoic Acid (PFPeA)	ng/L	4		--		7.6		--		3.9		--		9.2		--		9.8		--		---
Perfluoroundecanoic Acid (PFUnA)	ng/L	3.3		(<20)	U	3.9		(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U	2.1		(<20)	U	---

	Location ID	MW-11D				MW-11S				DUPLICATE SAMPLES[2]					
	Laboratory ID	17E0006-09		18C0404-12		17E0006-10		18C0404-11		17E0006-02		18C0404-13			
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Dup-01		DUP-0318			
	Sample Date	4/28/2017		3/7/2018		4/28/2017		3/7/2018		4/27/2017		3/7/2018			
Parameter List E537	Tidal Phase	Low		High		Low		High		Low		High			Guidance Values
Perfluorobutanesulfonic acid (PFBS)	ng/L	3.5		(<20)	U	3.7		(<20)	U	90		(<20)	U		---
Perfluorodecanoic acid (PFDA)	ng/L	(<2)	U	(<20)	U	(<2)	U	(<20)	U	30		(<20)	U		---
Perfluorododecanoic acid (PFDoA)	ng/L	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U		---
Perfluoroheptanoic acid (PFHpA)	ng/L	(<20)	U	(<20)	U	(<20)	U	(<20)	U	64		(<20)	U		---
Perfluorohexanesulfonic acid (PFHxS)	ng/L	4.8		(<20)	U	22	J	(<20)	U	(<2)	U	(<20)	U		---
Perfluorohexanoic acid (PFHxA)	ng/L	(<20)	U	(<20)	U	(<20)	U	(<20)	U	28		(<20)	U		---
Perfluorononanoic acid (PFNA)	ng/L	3.3		(<20)	U	(<2)	U	(<20)	U	95		(<20)	U		---
Perfluorooctanesulfonic acid (PFOS)	ng/L	**77**		34		**63**	J	45		8.3		46			70 [1]
Perfluorooctanoic acid (PFOA)	ng/L	32		(<20)	U	**9.7**		(<20)	U	**160**		(<20)	U		70 [1]
Perfluoropentanoic Acid (PFPeA)	ng/L	7.1		--		4.3		--		16		--			---
Perfluoroundecanoic Acid (PFUnA)	ng/L	(<2)	U	(<20)	U	(<2)	U	(<20)	U	(<2)	U	(<20)	U		---

[1] EPA health advisory level for drinking water - combined concentrations of PFOA and PFAS.

[2] Parent sample in 2017 was collected from MW-04; Parent sample in 2018 was collected from MW-11S

NOTES:

-- = Not analyzed.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
ng/L = Nanogram(s) per liter = parts per trillion (ppt)
ID = Identification
--- = No guidance value available

Values shown in bold exceed the guidance value indicated.
Data provided by Con-Test Analytical.

Table 5 Summary of Detected Volatile Organic Compounds in Soil Vapor

Parameter List EPA Method TO-15	Sample ID	130110-IA-0318		130110-OA-0318		130110-DUP-0318		NYSDOH Indoor Air Guidance Values[(a)] ($\mu g/m^3$)
	Lab ID	18C0451-01		18C0451-02		18C0451-03		
	Sample Type	Indoor Air		Outdoor Air		Outdoor Air Duplicate		
	Sample Date	3/7/2018		3/7/2018		3/7/2018		
Acetone	$\mu g/m^3$	22	D	9	D	9.6		---
Benzene	$\mu g/m^3$	0.78	D	0.43	D	0.41		---
1,3-Butadiene	$\mu g/m^3$	22	D	(<0.04)	U	(<0.04)	U	---
Carbon Tetrachloride	$\mu g/m^3$	0.51	D	0.39	D	0.42		---
Chloroform	$\mu g/m^3$	0.18	D	(<0.036)	U	(<0.036)	U	---
Chloromethane	$\mu g/m^3$	1.5	D	1.1	D	1.1		---
Cyclohexane	$\mu g/m^3$	0.44	D	(<0.069)	U	(<0.069)	U	---
Dichlorodifluoromethane (Freon 12)	$\mu g/m^3$	2.2	D	1.8	D	1.8		---
Ethanol	$\mu g/m^3$	130	D	6.1	D	6.6		---
Ethyl Acetate	$\mu g/m^3$	1.6	D	0.48	D	(<0.094)	U	---
Ethylbenzene	$\mu g/m^3$	0.47	D	0.38	D	0.38		---
Heptane	$\mu g/m^3$	0.53	D	0.35	D	0.16		---
Isopropanol	$\mu g/m^3$	7.6	D	(<0.11)	U	(<0.11)	U	---
Methyl Isobutyl Ketone	µg/m3	0.21	D	(<0.034)	U	(<0.034)	U	
Methylene Chloride	$\mu g/m^3$	1.2	D	(<0.15)	U	(<0.15)	U	60
Naphthalene	$\mu g/m^3$	0.24	D	(<0.068)	U	(<0.068)	U	---
Styrene	$\mu g/m^3$	10	D	(<0.029)	U	(<0.029)	U	---
Toluene	$\mu g/m^3$	7.4	D	1.4	D	0.68		---
Trichlorofluoromethane (Freon 11)	$\mu g/m^3$	1.6	D	1.5	D	1.4		---
1,2,4-Trimethylbenzene	$\mu g/m^3$	0.53	D	(<0.042)	U	(<0.042)	U	---
1,3,5-Trimethylbenzene	$\mu g/m^3$	0.18	D	(<0.034)	U	(<0.034)	U	---
m,p-Xylene	$\mu g/m^3$	1.5	D	1.5	D	1.6		---
o-Xylene	$\mu g/m^3$	0.58	D	0.48	D	0.48		---

(a) NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York. August 2015. Table 3.1 Indoor Air guideline values derived by the NYSDOH.

NOTE:

ID = Identification
NYSDOH = New York State Department of Health
$\mu g/m^3$ = microgram per cubic meter
--- = No applicable guideline value.
D = The analyte was diluted.
U = The analyte was analyzed for, but was not detected above the sample reporting limit.

The duplicate sample was collected at 130110-IA-0318.
Table includes only those volatile organic compounds detected in one or more samples.
Analytical data results reported by Con-Test Analytical, Inc. using EPA Method TO-15.

Appendix A

Site Management Plan

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Metal Etching Site

NASSAU COUNTY, FREEPORT, NEW YORK

Site Management Plan

NYSDEC Site Number: 130110

Prepared for:
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau E
625 Broadway
Albany, New York 12233-7017

Prepared by:
EA Engineering, P.C. and its Affiliate
EA Science and Technology
6712 Brooklawn Parkway, Suite 104
Syracuse, New York 13211-2158
(315)-431-4610

Revisions to Final Approved Site Management Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date
1	04/11/14	Incorporation of Environmental Notices	
2	11/14/18	Changes in PRR submission and inspection/sampling event frequency; addition of PFC sampling	

NOVEMBER 2018

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NOVEMBER 2018

CERTIFICATION STATEMENT

I Donald F. Conan, P.E. certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan and any DER-approved modifications.

_____ P.E.

11-14-18
_____ DATE

TABLE OF CONTENTS

Page

Page

LIST OF FIGURES

LIST OF TABLES

SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

1.1 INTRODUCTION

This document is required as an element of the remedial program at the Metal Etching Co, Inc. site under the New York State (NYS) Inactive Hazardous Waste Disposal Site Remedial Program administered by New York State Department of Environmental Conservation (NYSDEC). The Class 2 inactive hazardous waste disposal site (Site No. 130110) was remediated in accordance with the Record of Decision (ROD) (NYSDEC 2007)[1].

1.1.1 General

EA Engineering, P.C., and its affiliate EA Science and Technology (EA), along with its Joint Venture Partner, The Louis Berger Group, Inc. (Berger) were tasked by the NYSDEC to oversee the remediation of a 1.05 acre property located in Freeport, Nassau County, New York. The Remedial Party, EA and Berger, was required to investigate and oversee the remediation of contaminated media at the site. A figure showing the site location and boundaries of this 1.05-acre site is provided in Figure 1. The boundaries of the site are more fully described in the metes and bounds site descriptions that are part of three Environmental Notices (ENs) recorded with Nassau County in March 2014 and included in Appendix A. One EN was filed for each of the three parcels that make up the site.

After completion of the remedial work described in the Remedial Action Work Plan, some contamination was left in the subsurface at this site, which is hereafter referred to as remaining contamination. A Site Management Plan (SMP) was prepared in 2012 to manage remaining contamination at the site until the ENs are extinguished. Within this document, the term "first year" refers to 2012. All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in NYS.

This SMP was prepared by EA in accordance with the requirements in NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation (NYSDEC 2010)[2] and the guidelines provided by NYSDEC. This SMP addresses the means for implementing the institutional controls (ICs) and engineering controls (ECs) that are required by the ENs for the site.

1.1.2 Purpose

The site contains contamination left after completion of the remedial action. ECs have been incorporated into the site remedy to control exposure to remaining contamination during the use

1. NYSDEC. 2007. Record of Decision. March.
2. NYSDEC. 2010. DER-10 Technical Guidance for Site Investigation and Remediation.

of the site to ensure protection of public health and the environment. Each of the three ENs recorded with the Nassau County Clerk requires compliance with this SMP and all ECs and ICs placed on the site. The ICs place restrictions on site use; and mandate operation, maintenance, monitoring, and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the ENs for contamination that remains at the site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the ENs and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the site after completion of the remedial action, including: (1) implementation and management of all ECs and ICs; (2) media monitoring; and (3) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports. To address these needs, this SMP includes two plans: (1) an EC/IC Plan for implementation and management of EC/ICs; and (2) a Monitoring Plan for implementation of site monitoring.

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the ENs. Failure to properly implement the SMP is a violation of the ENs.

- Failure to comply with this SMP is also a violation of ECL, 6 New York Code of Rules and Regulations Part 375 and, thereby, subject to applicable penalties.

1.1.3 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the ENs for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files. Revision number 1 was completed in 2014; this document represents revision number 2.

1.2 SITE BACKGROUND

1.2.1 Site Location and Description

The Metal Etching site is a Class 2 Site listed on the NYSDEC Registry of Inactive Hazardous Waste Sites (No. 1-30-110). The site is located adjacent to Freeport Creek at 435 South Main Street, Freeport, Nassau County, New York. A site location map is presented in Figure 1. The site is currently owned by Freeport Creek Associates and leased by Main Street Marina, 500 South Main Street, Freeport, New York. The Metal Etching property is designated as Section

62, Block 45, and Lots 144, 145, and 158 on the tax maps. The Metal Etching property is a 1.05-acre L-shaped area, bounded by Ray Street East and a commercial property to the north, Freeport Creek to the south and east, and Main Street and Ray Street East to the west. Figure 1 depicts the site boundaries. The boundaries of the site are more fully described in Appendix A – Environmental Notices.

The site is currently used as a boat dealership, marina, and boat storage yard. Operations at the site are conducted in a single 2,400 ft^2 building located on the northeast corner of the property. A smaller 1,200 ft^2 building, located on the western portion of the property, has been restored and is used for office space for the boat dealership. Minor boat restoration activities are performed within the 2,400 ft^2 building and include engine rebuilds, sanding, and painting/varnishing. Prior to remediation, most areas of the site grounds were concrete or asphalt paved. Portions of the site adjacent to Freeport Creek were covered with gravel. Soil cover was observed on a small stretch of land on the southern property beneath a two-story boat rack.

1.2.2 Site History

The former Metal Etching buildings at the site were erected prior to 1954; however, the exact date of construction is unknown. These connected buildings occupied approximately 26,650 ft^2 of the property (approximately 60 percent of the Metal Etching portion of the site). Aside for the 2,400 ft^2 building, which was a portion of the Metal Etching quarters, the Metal Etching buildings were demolished in 2001; however, the concrete slabs and footings of the buildings remained in place at the site. A 6-in. thick concrete slab covering an approximate area of 7,750 ft^2 was the foundation of the Metal Etching plating slab and is visible to the west of the 2,400 ft^2 building.

Prior to 1966, the site operated as Flores Manufacturing, which manufactured handbags. The manufacturing process included decorative plating with nickel, chromium, and cadmium. From 1966 to 1999, Metal Etching Corporation manufactured metal nameplates, instrument panels, rulers, and miscellaneous plated products. All products were etched or printed. The process of etching included anodizing, chromate conversion, and chrome/nickel plating. From 1973 to 1982, Metal Etching Co. operated under the name of Plastic Associates, as a wholly owned subsidiary. From July 1982 to June 1999, Metal Etching Co., Inc. was the entity that operated the site. In the later years of the operation of Metal Etching Co., Inc., several of the metal coating operations were discontinued; i.e., chromate conversion (discontinued in 1997), chrome plating (discontinued in 1997), and anodizing (discontinued in 1998). All operations terminated in 1999 and Metal Etching Co., Inc. abandoned the premises during September of 1999. The facility buildings were demolished around 2001. During the demolition, limited decontamination and/or investigation was performed under the oversight of NYSDEC Resource Conservation and Recovery Act personnel. Two 4,000-gal aboveground storage tanks (ASTs), which formerly contained ferric chloride, were decontaminated and removed from the site during demolition activities.

1.2.3 Geologic Conditions

The top 3-4 ft of soil at the site consists of compacted fill material which includes sand, gravel, and brick and wood debris. Fill is underlain by organics and shells to approximately 11 ft below ground surface (bgs). A geologic cross section of the site is provided in Figure 2. Some fill was excavated, disposed offsite, and replaced with clean granular fill during the 2011 remedial action. In areas depicted on Figure 3, fill has been excavated, disposed offsite and replaced with clean granular fill.

Depth to groundwater ranges from 3 to 5 ft bgs and is highly influenced by tides, as discussed in the remedial investigation (RI) report (Environmental Resource Management [ERM] 2007)[3]. Groundwater flow is to the southeast across the site. Overburden and bedrock groundwater flow is shown in Figure 4.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A RI was performed to characterize the nature and extent of contamination at the site. The results of the RI are described in detail in the RI Report (ERM 2007)[3].

Generally, the RI determined that, based on the standards, criteria, and guidance (SCGs) used for the site, surface soil, subsurface soil, groundwater, and sediment contained metals and volatile organic compounds (VOCs) contamination that was to be addressed in the remedy selection. Soil vapor contained VOC contamination which was addressed by an interim remedial measure (IRM) conducted at the site prior to the remedial action.

Below is a summary of site conditions when the RI was performed in 2007.

Soil

Site soil was analyzed for VOCs and metals during the RI. Analytical results indicated that the site soil contained concentrations of VOCs and metals exceeding their SCGs. Metals were detected exceeding their SCGs in the top 7 ft of soil; specifically, nickel, copper, and zinc were detected at concentrations exceeding their SCGs. VOC contamination varied across the site. The eastern area was contaminated with petroleum related compounds including ethylbenzene, chlorobenzene, and xylene. Samples collected from the western area contained xylene and naphthalene exceeding their SCGs. Contaminants tetrachloroethene (PCE) (non-detect [ND] to 4.3 mg/kg), trichloroethene (TCE) (ND to 10 mg/kg), and methyl tert butyl ether (MTBE) (ND to 1.5 mg/kg) were the predominant VOCs detected in soil samples above their SCGs in the eastern central area of the site. The western central area of the site contained only TCE above its SCG.

3 ERM. 2007. Remedial Investigation Report Metal Etching Co. Inc. Site (NYSDEC Site No. 1-30-110), Freeport, New York. Environmental Resource Management. January.

Table 1 and Figures 5-5D show site soil sampling results from the RI.

Site-Related Groundwater

Groundwater samples were collected from 10 on-site monitoring wells at the water table interface and three monitoring wells installed directly above the clay layer. Samples collected from all on-site monitoring wells contained concentrations of VOCs including MTBE and PCE; and PCE breakdown contaminants TCE, dichloroethene (DCE), and vinyl chloride (VC). Samples collected from above the clay layer contained higher concentrations of PCE, TCE, DCE, and VC than samples collected from the water table interface. Concentrations of PCE from samples collected above the clay layer ranged from ND to 1,600 µg/L, while concentrations of PCE from samples collected at the water table interface ranged from ND to 250 µg/L. The highest concentrations of PCE and breakdown contaminants were detected in monitoring wells located west and south of the 2,400 ft^2 building in monitoring wells MW-02S/D and MW-07S/D. The distribution and concentrations of breakdown contaminants across the site indicated that degradation was occurring at the site.

MTBE was detected in groundwater samples across the site at concentrations ranging from ND to 2,100 µg/L. The highest groundwater concentration of MTBE was collected as a grab sample at boring SB-21, south of MW-02S/D in the area of a suspected underground storage tank (UST) southwest of the 2,400 ft^2 building.

Table 2 and Figures 6A and 6B show the groundwater sampling results from the RI.

Site-Related Soil Vapor Intrusion

The potential for vapor intrusion in on-site buildings was evaluated prior to the remedial action. Subslab vapor samples collected in July 2004 indicated that both PCE and TCE were present in subslab air beneath both on-site buildings (office building and warehouse building). The smaller office building subslab vapor sample contained PCE at a concentration of 292 µg/m^3 and TCE at a concentration of 187 µg/m^3. The subslab vapor sample from the larger warehouse building contained PCE at a concentration of 5,772 µg/m^3 and TCE at a concentration of 16,014 µg/m^3. Indoor air samples collected from both buildings did not contain detections of PCE or TCE. Potential vapor intrusion was addressed by the installation of sub-slab depressurization systems in March 2005 at the two on-site buildings prior to the remedial action; however, site soil vapor will continue to be monitored as part of the EC/IC Plan as discussed in Section 2.0.

Table 3 and Figure 7 show the soil vapor sampling results from the RI.

Underground Storage Tanks

One UST was removed from the western area of the site in 1990, prior to the RI. This tank contained heating fuel. During the RI, two additional potential USTs were identified on the site. One was identified east of the smaller building and the other was identified south of the larger building. Contents were unknown prior to the remedial action.

Sediment

Sediment within Freeport Creek surrounding the perimeter of the site was sampled during the RI. Two of the eight samples contained metals (i.e., nickel, chromium, and zinc) exceeding their respective SCGs. The sample collected from sediment just below the outfall in the northeastern part of the site contained nickel at a concentration of 40.4 mg/kg, exceeding the Effect Range-Low (ER-L) of 20.9 mg/kg. The sample collected south of the southeastern bulkhead contained chromium (127 mg/kg) and nickel (28.4 mg/kg) at concentrations exceeding their respective ER-L values (81 mg/kg and 20.9 mg/kg, respectively), as well as zinc (425 mg/kg) exceeding the Effect Range-Medium (ER-M) of 410 mg/kg. ER-L is the 10^{th} percentile on a series of data that is ranked from the lowest, or least toxic concentrations, to the highest, or more toxic concentrations. ER-M is the 50^{th} percentile on this continuum.

In addition to sediment within Freeport Creek, sediment from within an existing storm drain was sampled during the RI. The samples contained metals (i.e., nickel, copper, and zinc) exceeding their respective SCGs. Table 4 and Figure 5D show the sediment sampling results from the RI.

1.4 SUMMARY OF REMEDIAL ACTIONS

The site was remediated in accordance with the NYSDEC-approved remedial design, which was part of the Contract Documents dated August 2010 and addendums dated September 28, 2010, September 30, 2010, and October 1, 2010.

The following is a summary of the remedial actions performed at the site:

- Excavation of 2,684 yd^3 of soil/fill exceeding soil cleanup objectives (SCOs) listed in Table 5A within identified excavation limits, to low-tide groundwater elevation, approximately 5 ft bgs.

- Construction and maintenance of a soil cover system consisting of a geotextile demarcation layer covered by asphalt or permeable pavement to prevent human exposure to contaminated soil/fill remaining at the site.

- Execution and recording of three ENs to restrict land use to commercial or industrial uses, and prevent future exposure to any contamination remaining at the site.

- Removal of approximately 2 yd^3 of sediment from the on-site storm water system and disposal at an approved offsite facility.

- Closure and removal of four USTs on-site in accordance with NYSDEC regulations.

- Limited removal of approximately 183 yd^3 of sediment from delineated area within Freeport Creek and disposal at an approved offsite facility.

- Development and implementation of a SMP for long-term management of remaining contamination as required by the ENs, which include plans for: (1) IC/ECs, (2) monitoring, (3) operation and maintenance, and (4) reporting.

Remedial activities were completed at the site in January 2012.

1.4.1 Removal of Contaminated Materials from the Site

Soil and sediment hot spots were identified on-site and delineated during design activities prior to the remedial construction. Hot spot locations were based on soil sample collection and analysis performed during the 2007 RI (ERM 2007)[3] and the 2008 additional site investigation.

Soil

Remedial activities at the site consisted of excavation and offsite disposal of contaminated soils from within excavation areas EX-1 through EX-7 shown on Figure 3. Asphalt and concrete top layers within excavation limits were saw-cut using walk-behind saw equipment, broken up by a CAT 320 excavator, and disposed of offsite. Remnant foundation walls encountered within excavation areas were removed to the bottom of the excavation limits, broken up, and disposed of offsite along with other construction and demolition (C&D) debris. Approximately 240 tons of C&D materials were removed and disposed offsite at 110 Sand Landfill in Melville, NY.

Soil within excavation areas EX1, EX3, EX4, EX5, and EX6 was removed down to 5 ft bgs. Soil within excavation area EX2 was removed down to 1 ft bgs. Contaminated soil from the excavation areas was removed using a CAT 320 excavator and disposed offsite at 110 Sand Landfill. During excavation within EX6, fuel-impacted soil was encountered directly to the west of excavation limit points EX6-7 and EX6-8. Excavation area EX6 was extended an additional 9 ft to the east of excavation limit points EX6-7 and EX6-8, down to approximately 5 ft bgs to remove visual impacts. Two additional USTs were uncovered within EX3, to the east side of the one-story brick office building. All product from within the USTs was pumped and disposed of at International Petroleum Corporation of Delaware. Cleaned USTs were delivered to Gershow Recycling in Freeport, NY.

During excavation in the vicinity of excavation limit points EX5-11, EX5-12, and EX5-13, down to 5 ft bgs, two USTs were encountered. These USTs were found to extend within the footprint of excavation area EX1. The area to the west of points EX5-11 and EX5-13, and entire excavation area EX1 were excavated down to the bottom of the USTs (approximately 5 ft bgs), and then further excavated another 2-3 ft below the bottom of the USTs to remove visually impacted soils.

Approximately 5,500 tons of contaminated soil was excavated and disposed off-site. This includes approximately 110 tons of fuel-impacted soil encountered within EX1 and EX6, and C&D materials. The fuel-impacted soil encountered at excavations EX1 and EX6 were segregated from other excavated soil, characterized, and disposed at 110 Sand Landfill, following disposal facility approval.
In addition, during excavation activities, monitoring wells MW02S/MW02D, MW03S/MW03D, and MW07S/MW07D were decommissioned, removed, and disposed of offsite in accordance with the Contract Documents. Monitoring wells MW-08S and MW-08D replaced MW-02S and MW-02D; monitoring wells MW-09S and MW-09D replaced MW-07S and MW-07D; and monitoring wells MW-10S and MW-10D replaced MW-03S and MW-03D.

Storm Drain Sediment

Sediment from within an 18-in. reinforced-concrete storm pipe located in the east portion of the site was cleaned out on May 16, 2011 using a vactor truck (2100 Series DEC 1A-727).

No sediment or wash water was observed to flow out of the pipe into Freeport Creek from the outfall end. Following pipe clean out activities, water that had been pumped from the manhole during clean out activities was decanted from the vactor truck back into the manhole, then sediment from the vactor truck was loaded into 55 gal drums. Seven drums were packed with sediment and staged on-site until disposal at Residuals Management Services, Inc. (RMS) in Deer Park, NY on October 3, 2011.

Freeport Creek Contaminated Sediment

Dredging of contaminated sediment located in the 40 ft × 60 ft targeted area within Freeport Creek (delineated by excavation limit points EX7-1 through EX7-4) was performed between 11 and January 20, 2012. Wood-finger docks were removed prior to dredging and restored following dredging activities. A turbidity barrier was installed prior to dredging operations to prevent migration of sediment outside of the targeted area and was removed following completion of dredging activities.

Pre- and post-dredging surveys of the dredging area were performed by Alphonse Pesce Land Surveying to verify the sediment removal limits and the volume of sediment removed. Dredging was performed by Hancock Bulkhead by means of clamshell boom mechanical dredging equipment. Sediment removal progressed in a grid pattern within the targeted area. AARCO

removed sediment from the on-site barge and transported it to 110 Sand Landfill. Approximately 250 tons of dredged sediment were transported and disposed offsite.

A list of the ER-Ls and ER-Ms for the primary contaminants of concern is provided in Table 5B.

A figure showing areas where excavation was performed is shown in Figure 3.

1.4.2 Site-Related Treatment Systems

Two sub-slab depressurization systems (SSDSs) that were installed in March 2005 in the on-site buildings remain. The SSDS that was installed in the office building was not operational from October 2012 until April 2014, when it was repaired. The SSDS that was installed in the warehouse building has not been operational since October 2012. Both systems were damaged during Superstorm Sandy in October 2012. Post-remedial action termination sampling was conducted in November2013 and March 2014 to assess current soil vapor conditions. An evaluation of the need for repairing the warehouse SSDS to return to operational status and/or a decision to decommission the warehouse SSDS will be made in the near future dependent upon the results of the termination sampling events, and in consultation with NYSDEC and New York State Department of Health (NYSDOH). No additional long-term treatment systems were installed as part of the site remedy.

1.4.3 Remaining Contamination

Per the ROD, excavation depth was limited by the low-tide groundwater elevation; therefore, known contamination remains at the site. Mirafi® 180N/O non-woven geotextile was installed at a depth of 5 ft in excavation areas EX3, EX4, EX5, and EX6; it was installed at a depth of 1 ft in excavation areas EX1 and EX2.

During the RI, VOC and metals contamination was identified in various locations throughout the site deeper than the maximum excavation depth of 5 ft. Concentrations of metals and VOCs exceeded the SCOs at sampling intervals 7-8 ft bgs and 12 ft bgs. VOCs (i.e., xylene and naphthalene) were identified in the western area of the site near excavation EX3 7-8 ft bgs and 12 ft bgs. Various VOCs including TCE, benzene, toluene, and MTBE were identified in the central area of the site near excavation EX5 within intervals 7-8 ft bgs and 12 ft bgs. Xylenes were identified 7-8 ft bgs and 12 ft bgs in the northeast area of the site near an existing electrical conduit. Ethylbenzene, xylene, and chlorobenzene were identified 8 ft bgs in the southeast area of the site.

Metals including chromium, copper, nickel, and zinc were identified at concentrations exceeding the SCOs in soil within the central portion of the site 7-8 ft bgs and 12 ft bgs. Copper, nickel, and zinc were identified in soil within the east area of the site 7-8 ft bgs and 12 ft bgs. A confining clay layer was identified 31-38 ft bgs across the site.

Confirmation soil samples were collected at the excavation boundaries following remediation work. VOCs detected in confirmation soil samples with concentrations exceeding the site-specific SCGs include xylenes (north sidewall of EX1 and south-central area of EX5); and 1,2-DCE as a combination of *cis*- and *trans*-1,2-DCE, and toluene (south central area of EX5).

Metals detected in confirmation soil samples with concentrations exceeding the site-specific SCGs include chromium, copper, nickel, and zinc. Some confirmation samples collected from the bottom of excavations EX1 and EX2 contained all four metals at concentrations in exceedance of the site-specific SCGs.

Of the three confirmation samples collected from the bottom of EX3, only one sample contained zinc at a concentration exceeding the site-specific SCGs. Four of the five side wall samples from EX3 contained zinc at a concentration exceeding the site-specific SCGs as well.

The bottom sample collected from EX4 contained chromium, copper, and zinc at concentrations exceeding the SCGs, while only one of the three side wall samples from EX4 contained a concentration of zinc exceeding the site-specific SCGs.

A majority of the bottom samples of EX5 contained a concentration of copper exceeding the site-specific SCGs, while the northwest quadrant contained chromium and the northeast quadrant contained nickel at concentrations exceeding the respective site-specific SCGs. A majority of side samples from EX5 contained concentrations of copper and zinc exceeding the site-specific SCGs, while 4 of 13 samples contained concentrations of nickel exceeding the site-specific SCGs. Only one side wall sample from EX5 contained chromium at a concentration exceeding the site-specific SCGs.

Excavation EX6 consisted of a northern and southern portion separated by the utility right-of-way. Both bottom samples in the northern portion and all three of the bottom samples in the southern portion contained concentrations of copper and zinc exceeding the site-specific SCGs. One of the northern bottom samples and two of the three southern bottom samples contained nickel at a concentration greater than the site-specific SCGs. All side wall samples collected from EX6 contained concentrations of zinc exceeding the site-specific SCGs, while all but two (along the northern and northwestern excavation boundary) contained concentrations of copper exceeding the site-specific SCGs. All but two of the side wall samples collected from the southern portion of EX6 and one of the side wall samples collected from the northern portion of EX6 (along the boundary with the right-of-way) contained nickel at a concentration exceeding the site-specific SCGs. One side wall sample along the southern boundary of EX6 contained a concentration of chromium at a concentration exceeding the site-specific SCGs.

EX7 was a 2 ft excavation within Freeport Creek. Documentation samples collected following dredging activities contained copper and mercury exceeding their respective ER-Ls of 34 mg/Kg and 0.15 mg/Kg. Sample location EX7P2 contained copper at a concentration of 299 mg/Kg exceeding the Effects Range-High (ER-H) of 270 mg/Kg. Sample location EX7P3 contained mercury at a concentration of 1.86 mg/Kg exceeding the ER-H of 0.71 mg/Kg. Four of the five

documentation samples collected from EX7 contained concentrations of arsenic which exceeded the ER-L of 8.2 mg/Kg. Concentrations ranged from 8.48 mg/Kg in EX7P5 to 17.2 mg/Kg in EX7P2.

Tables 6A and 6B, and Figures 8-8C summarize the results of all soil samples remaining at the site after completion of remedial action that exceed the unrestricted levels for VOCs and metals, respectively. Tables 7A and 7B, and Figures 9-9C summarize the remaining soil contamination that exceeds the site-specific SCOs for VOCs and metals, respectively. Table 8 and Figure 9D summarizes the results of all sediment samples remaining at the site after completion of dredging activities that exceed the ER-L and ER-H.

Since contaminated soil and groundwater remain beneath the site after completion of the remedial action, ECs and ICs are required to protect human health and the environment. These ECs and ICs are described in the following sections. Long-term management of these ECs and ICs, and residual contamination will be performed under this SMP.

2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

2.1 INTRODUCTION

2.1.1 General

Since remaining contaminated soil exists beneath the site, ECs and ICs are required to protect human health and the environment. This EC/IC Plan describes the procedures for the implementation and management of all EC/ICs at the site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the site
- The basic implementation and intended role of each EC/IC
- A description of the key components of the ICs set forth in the ENs
- A description of the features to be evaluated during each required inspection and periodic review
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan (EWP) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the site
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

2.2.1.1 Final Cover System

Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. Cover system maintenance includes but is not limited to asphalt pavement patching, porous pavement sweeping, and replacement of rip-rap. Site

drainage features including the two slotted drains at the site entrances are also to be inspected to maintain proper drainage at the site. Maintenance may include cleaning out the drain of debris or full replacement. The EWP that appears in Appendix B outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. A figure showing the location of the different cover types is provided as Figure 10.

2.2.1.2 Sub-Slab Depressurization Systems

Exposure to indoor air impacted with VOCs within the site buildings was prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings. Both systems remained in operation until October 2012, but became inoperable due to a large storm, Superstorm Sandy, that resulted in site flooding. The office building was renovated following the flooding and re-occupied beginning in 2013. The SSDS at this building was repaired in April 2014 and is again operational.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The composite cover system is a permanent control; the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

2.2.2.2 Sub-Slab Depressurization Systems

The SSDSs will be monitored on an annual basis to determine whether the systems remain necessary at the site, or if the remedial action objectives were achieved.

2.3 INSTITUTIONAL CONTROLS

A series of ICs is required by the ROD to: (1) implement, maintain and monitor EC systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the site to commercial or industrial uses only. Adherence to these ICs on the site is required by the ENs and will be implemented under this SMP. These ICs are:

- Compliance with the ENs and this SMP by the Grantor and the Grantor's successors and assigns.

- All ECs must be operated and maintained as specified in this SMP.
- All ECs on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Groundwater and indoor air monitoring must be performed as defined in this SMP.
- Submission of a periodic certification of institutional and ECs to the NYSDEC by the property owner.
- Data and information pertinent to site management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

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

The site has a series of ICs in the form of site restrictions. Adherence to these ICs is required by the ENs. Site restrictions that apply to the Controlled Property are:

- The property may only be used for commercial use provided that the long-term ECs and ICs included in this SMP are employed. The property may also be used for industrial use, in conformance of local zoning.
- The property may not be used for a higher level of use, such as unrestricted use without additional remediation and amendment of the ENs, as approved by the NYSDEC.
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP.
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed within the site boundaries, and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.
- The site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the

controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

The site has been remediated for commercial or industrial uses. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the EWP that is attached as Appendix B to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site. A sample HASP is attached as Appendix B-1 to the EWP that is in current compliance with DER-10, and 29 Code of Federal Regulations (CFR) 1910, 29 CFR 1926, and all other applicable federal, state, and local regulations. Based on future changes to state and federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the notification provided in Section A-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP, and CAMP; and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (Section 5).

The site owner and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owner will ensure that site development activities will not interfere with, or otherwise impair or compromise, the ECs described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any enclosed structures within the area identified on Figure 11, a soil vapor intrusion (SVI) evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, a SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive SSDS that is capable of being converted to an active system.

Prior to conducting a SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH Guidance for Evaluating Vapor

Intrusion in the State of New York (NYSDOH 2006)[4]. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (un-validated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the property owner within 30 days of validation. If any indoor air test results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the property within 15 days of receipt of validated data.

SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the site will be conducted at the frequency specified in the SMP Monitoring Plan schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether ECs continue to perform as designed
- If these controls continue to be protective of human health and the environment
- Compliance with requirements of this SMP and the ENs
- Achievement of remedial performance criteria
- Sampling and analysis of appropriate media during monitoring events
- If site records are complete and up to date
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

4 New York State Department of Health. 2006. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. New York State Department of Health, Division of Environmental Health Assessment, Center for Environmental Health. October.

2.4.2 Notifications

Notifications will be submitted by the property owner to the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use in accordance with the ROD.
- 15-day advance notice of any proposed ground-intrusive activities pursuant to the EWP.
- Notice within 48-hours of any damage or defect to the foundations structures that reduces or has the potential to reduce the effectiveness of other ECs and likewise any action to be taken to mitigate the damage or defect.
- Notice within 48-hours of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, including a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of all approved work plans and reports, including this SMP
- Within 15 days after the transfer of all or part of the site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, or serious weather conditions.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally-related situation or unplanned occurrence requiring assistance, the Owner or Owner's representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be

contacted. Prompt contact should also be made to the NYSDEC project manager. These emergency contact lists must be maintained in an easily accessible location at the site.

Emergency Contact Numbers	
Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3-day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Contact Numbers	
NYSDEC Division of Environmental Remediation	518-402-9814
Eric Hausamann (SSDS)	518-402-9814
NOTE: Contact numbers subject to change and should be updated as necessary	

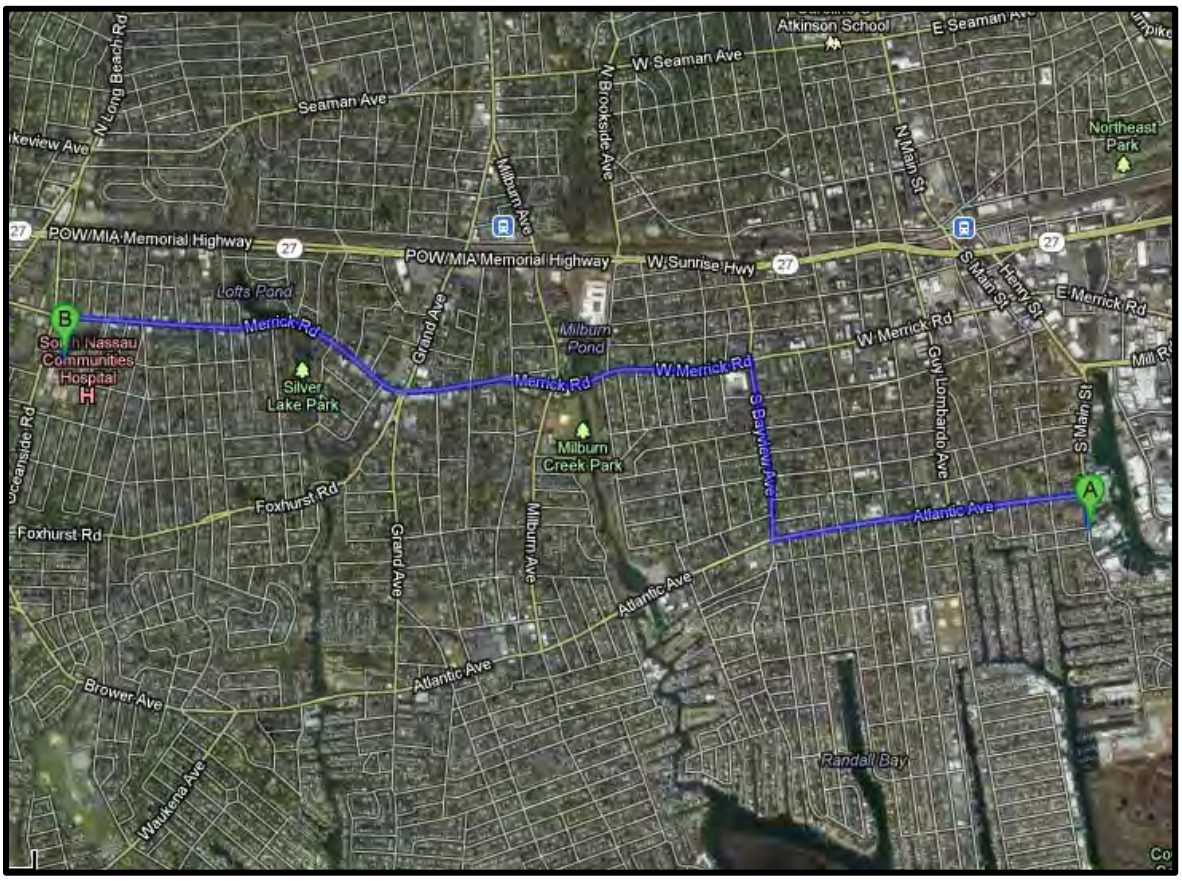
2.5.2 Map and Directions to Nearest Health Facility

Site Location: Metal Etching Site
Nearest Hospital Name: South Nassau Communities Hospital
Hospital Location: 1 Healthy Way, Oceanside, New York 11572
Hospital Telephone: 516-632-3000

Directions to the Hospital:
1. Go north on S Main Street.
2. Take 1st left onto Atlantic Avenue.
3. Turn right onto S Bayview Avenue.
4. Turn left onto W Merrick Road.
5. Turn left onto Healthy Way.

Total Distance: 3.6 miles
Total Estimated Time: 10 minutes

Map Showing Route from the site to the Hospital:



*Map is from maps.google.com

2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan. The list will also be posted prominently at the site and made readily available to all personnel at all times.

2.5.3.1 Spill Procedures

In the event that a hazardous substance is released on the site, all site personnel shall be notified immediately. If the substance poses an immediate threat to human health and the environment, evacuation and notification of the appropriate authorities including the NYSDEC Spill Response team (listed in previous table) may be necessary. If the release is minimal and does not pose a health risk, the leak shall be contained, and the spilled material shall be cleaned up with appropriately sized absorbent pads. Materials used to contain the substance shall be disposed of properly.

2.5.3.2 Evacuation Plan

If site evacuation is necessary, site personnel shall exit the site on Main Street. All site personnel shall be notified of the evacuation.

3.0 SITE MONITORING PLAN

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the site, the soil cover system, and all affected site media identified below. Monitoring of other ECs is described in Chapter 4, Operation and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor)
- Assessing compliance with applicable NYSDEC SCGs, particularly ambient groundwater standards and Part 375 SCOs for soil
- Assessing achievement of the remedial performance criteria.
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency
- Information on all designed monitoring systems (e.g., well logs)
- Analytical sampling program requirements
- Reporting requirements
- Quality Assurance (QA)/Quality Control (QC) requirements
- Inspection and maintenance requirements for monitoring wells and SSDS
- Monitoring well decommissioning procedures
- Annual inspection and periodic certification.

Semi-annual monitoring of the performance of the remedy and overall reduction in contamination on-site will be conducted for the first five years, and annually thereafter or as determined by NYSDEC. Trends in contaminant levels in air, soil, and/or groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving

remedial goals. Monitoring programs are summarized in the following table and outlined in detail in Sections 3.2 and 3.3 below.

Monitoring/Inspection Schedule			
Monitoring Program	**Frequency(1)**	**Matrix**	**Analysis**
Groundwater	Semi-Annually for first 5 years, annually thereafter	Water	VOCs and Metals
Groundwater	Annually	Water	Monitored Natural Attenuation (MNA) parameters and Perfluorinated Chemicals (PFCs)
Site Cover Inspection	Semi-Annually for first year, annually thereafter	NA	NA
SSDS/Indoor Air	Annually for SSDS/As recommended by State Agencies for indoor air (During heating season)	Air	VOCs
(1) The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH			

3.2 COVER SYSTEM MONITORING

For the first year of monitoring, the cover system will be inspected on a semi-annual basis and after large storm events to ensure proper drainage, and to look for sedimentation issues. The inspector will also note whether the asphalt and porous pavement has settled unevenly, been overloaded, or otherwise disturbed. The porous pavement will be checked for signs of clogging by soil or debris or chemical sealers. Rip-rap areas will be inspected for disturbance and effectiveness. Concrete surrounding the slotted drains at the site entrances will be inspected for cracking or crumbling. Cover system monitoring is to be conducted annually following the first year of monitoring.

3.3 MEDIA MONITORING PROGRAM

Groundwater and indoor air will be monitored as part of the management of this site.

3.3.1 Groundwater Monitoring

The network of monitoring wells has been installed to monitor both upgradient and downgradient groundwater conditions at the site during high tide and low tide. The network of on-site wells was designed and installed during the RI. A total of 10 wells were installed including three monitoring well clusters of one shallow and one deep well, three single shallow wells, and one single deep micro well. Deep wells were installed to a maximum of 33 ft bgs, which is the depth of the top of the clay layer observed during the soil boring investigation. Shallow wells were installed to 13 ft bgs to intercept any light non-aqueous phase liquid that may

have been present. All wells were constructed with 10 ft of screen. Well locations were selected based on the geophysical, soil boring and groundwater investigations which took place as part of the RI and field observations. Wells are located throughout the site. Figure 12 show the shallow and deep monitoring well arrays.

As noted in Section 1.4.1, monitoring wells MW02S/MW02D, MW03S/MW03D, and MW07S/MW07D were decommissioned during soil excavation activities. These monitoring wells were replaced with monitoring wells MW-08S and MW-08D, MW-09S and MW-09D, and MW-10S and MW-10D following cover installation in similar locations and to similar depths as the original wells. In addition, monitoring wells MW-05R, MW-11S, and MW-11D were installed to provide better site coverage for both high tide and low tide groundwater flow directions. The groundwater monitoring well network is shown in Figure 12. Monitoring well construction details for all wells present at the site are included in Appendix C.

New monitoring wells were initially sampled on December 14, 2011. Samples were analyzed for oil and grease (Method E1664A), polychlorinated biphenyls (PCBs) and pesticides (Method E608), metals and mercury (Methods SW6010B and SW7470A, respectively,) VOCs (Method SW8260B), and semivolatile organic compounds (Method SW8270C). Results of the initial post-remedial groundwater sampling are shown on Figure 13.

Groundwater monitoring is to be performed twice per year for the first five years and annually thereafter, or as directed by NYSDEC. Groundwater is to be analyzed for VOCs by EPA Method 8260C; metals/mercury by EPA Methods 6010C/7470A; and monitored natural attenuation (MNA) parameters including chloride, nitrate, and sulfate by EPA Method 300.0, sulfide by EPA Method SM200-11, total organic carbon (TOC) by EPA Method 5310B, and dissolved gasses (methane, ethene, and ethane, added 2017) by EPA Method RSK-137.

In April 2017, samples were also analyzed for perfluorinated chemicals (PFCs) by EPA Method E357 and 1,4-dioxane by EPA Method SW-846 8270D. Concentrations of PFCs exceeding the EPA's Integrated Risk Information System for drinking water criteria were detected in five of the twelve onsite wells during this initial event. As a result, NYSDEC requested that PFC sampling be added to the annual groundwater sampling program. Results of the initial PFC sampling performed in April 2017 are summarized in Table 10 and shown on Figure 14.

The following monitoring wells are to be sampled for VOCs, metals/mercury, MNA parameters, and PFCs annually as part of the groundwater monitoring program for the Metal Etching site.

Monitoring Wells at the Metal Etching Site	
On-site Monitoring Wells	**Well Depth (ft bgs)**
MW-06	13
MW-04	13
MW-05R	13
MW-08SR	14
MW-08DR	31

MW-09S	14
MW-09D	32
MW-10S	14
MW-10D	32
MW-10M	26
Off-site Monitoring Wells	**Well Depth (ft bgs)**
MW-11S	15
MW-11D	30

The sampling frequency may be modified with the approval of the NYSDEC. This SMP will be modified to reflect changes in sampling plans approved by the NYSDEC.

Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Sampling Protocol

All monitoring well sampling activities will be recorded in a field book and a groundwater sampling log presented in Appendix D. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

Prior to sampling, all monitoring wells shall be inspected and gauged to obtain the static water levels for the site. Monitoring well purging will be performed and groundwater samples will be collected from the monitoring wells using a submersible pump and dedicated section of polyethylene tubing. A water quality meter (Horiba U-52 or similar) with flow-through cell (flushed with distilled water before use at each well) will be used during well purging for field measurement of pH, specific conductance, temperature, Eh, turbidity, and dissolved oxygen. Each well shall be purged three well volumes or until field parameters stabilize, whichever occurs first. Purge water is to be discharged to the ground surface near the well. In the event that a strong odor or sheen is evident, water is to be drummed, characterized, handled, and disposed of at a licensed treatment, storage, and disposal facility.

The following procedures will be used for monitoring well groundwater sampling:

- Wear appropriate personal protective equipment as specified in the site-specific HASP Addendum (Appendix B-1). In addition, samplers will use new nitrile sampling gloves for the collection of each sample.

- Unlock and remove the well cap.

- Measure the static water level in the well with an electronic water level indicator.

- The water level indicator will be washed with Alconox detergent and water, then rinsed with deionized water between individual monitoring wells to prevent cross-contamination.

- Calculate the volume of water in the well.

- Place polyethylene sheeting around the well casing to prevent contamination of sampling equipment in the event sampling equipment is dropped.

- Purge 3-5 well volumes of water from the well or until water quality parameters are stabilized, using the method described below.

- Pump with a submersible pump equipped with new polyethylene tubing dedicated to each well. Set pump intake at the approximate mid-point of the monitoring wells screened interval and start pump.

- Allow field parameters of pH, reduction-oxidation potential (Eh), dissolved oxygen, specific conductivity, turbidity, and temperature to stabilize before sampling. Purging will be considered complete if the following conditions are met:
    - Consecutive pH readings are ±0.1 pH units of each other
    - Consecutive dissolved oxygen readings are ±10 percent of each other
    - Consecutive Redox readings are ±0.10 units of each other
    - Consecutive measured specific conductance is ±3 percent of each other
    - Turbidity < 50 Nephelometric turbidity units

If these parameters are not met after purging a volume equal to 3-5 times the volume of standing water in the well, the EA Project Manager will be contacted to determine the appropriate action(s).

- If the well is purged dry before the required volumes are removed, the well may be sampled when it recovers (recovery period up to 24 hours).

- Place analytical samples in cooler and chill to 4°C. Samples will be shipped to the analytical laboratories within 24 hours.

- Pump will be decontaminated, and the polyethylene suction/discharge line will be properly discarded.

- Re-lock well cap.

- Fill out field sampling form, labels, custody seals, and chain-of-custody forms.

Groundwater samples will be placed in appropriate sample containers, sealed, and submitted to the laboratory for analysis.

Due to the high sensitivity of PFC sampling associated with the potential sources of trace levels of these compounds, several precautions should be taken to reduce the risk of false detections within samples.

- ***Food Considerations***:
  - Field personnel should avoid the use of paper bags, paper packaging, aluminum foil, and coated paper packaging or coated textiles to be in contact with food products.
  - Avoid eating any fried foods.
  - Do not eat snacks or meals within the immediate vicinity of the monitoring wells or inside the vehicle.
  - Remove gloves prior to eating.
  - Meals should be eaten downwind of the well locations, if necessary.
- ***Field Gear:***
  - Field personnel should avoid plastic coating or glued materials, waterproof field books/paper, pens and sharpie markers. The use of aluminum clipboards is allowed with loose leaf paper.
  - Disposable nitrile gloves should be worn and changed frequently.
  - Do not wear water resistant, waterproof, or stain-treated clothing. Field clothing was laundered with minimal use of soap, and no fabric softeners or scented products were used. Clothing should be rinsed with water after the initial cleaning.
- ***Field Vehicle:***
  - The field vehicle seats should be covered with a well laundered cotton blanket for the duration of the sampling event.
- ***Personal Hygiene:***
  - Field personnel should not use shampoo, conditioner, hand cream, etc. as part of their personal cleaning/showering routine on the day of the sampling event. A shower the night before the sampling event, or a rinse with water the day of is acceptable.

— Moisturizers, cosmetics, sunscreen or insect repellent should not be used throughout the duration of the sampling event.

— Handwashing with soap is allowed, however, field personnel should allow extra rinsing time with water after use of soap.

Samples are to be collected using a high-density polyethylene (HDPE) tubing. Sample tubing did not touch the sample jars during sample collection. Dedicated tubing should be used at each well.

3.3.1.2 Monitoring Well Repairs, Replacement, and Decommissioning

If biofouling or silt accumulation occurs in the on-site and/or offsite monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Well decommissioning procedures are as follows:

- Measure total depth of the well to ensure the well depth is consistent with the recorded construction depth.
- Remove the steel manhole or steel stickup protective casing with an effort being made to ensure that the riser does not splinter and/or become structurally unstable for pulling.
- The bottom of the casing shall be punctured, and the casing freed from the hole using suitable equipment (i.e., drill rig cable system). Well materials shall be disposed of at a licensed disposal facility.
- The well shall be tremie-grouted with a cement bentonite grout while removing the casing. The grout shall be completed to a depth of approximately 5 ft below grade.
- A bentonite seal shall be placed on top of the grout.
- The remaining riser shall be sealed with a Portland cement plug to the ground surface.

In the event the casing or well screen is severed during casing pulling, or if a borehole collapse occurs, the remaining materials will be removed by over-drilling using the conventional augering method described below:

- Overdrilling shall be conducted by either using a hollow-stem auger with outward facing carbide cutting teeth with a diameter 2 in. larger than the casing and/or using a hollow-stem auger fitting with a plug used to grind the well materials which will be brought to

the surface by the auger. Spoils shall be drummed and disposed of at a licensed disposal facility.

- Overdrilling shall be advanced 0.5 ft beyond the original bore depth.

- Once the desired drilling depth has been completed (using open ended hollow-stem auger method) the casing and screen shall be retrieved from the center of the augers.
- As the augers are being retracted, cement-bentonite grout shall be pumped down the center of the augers.

- Bore hole shall be grouted and sealed with bentonite and Portland cement as described above.

Replacement wells shall be constructed using methods consistent with those used during the RI. Monitoring well construction logs are provided in Appendix C.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's Commissioner Policy – 43 Groundwater Monitoring Well Decommissioning Policy (NYSDEC 2009)[5]. Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

3.3.2 Indoor Air Monitoring

Indoor air sampling is to take place in the existing office building and warehouse (Figure 15), as discussed in Section 1.3 of this plan, on-site on an annual basis to monitor effectiveness of SSDSs and potential SVI. Samples are to be analyzed by an Environmental Laboratory Analytical Program-certified laboratory for VOCs using U.S. Environmental Protection Agency (EPA) Method TO-15. In accordance with the NYSDOH guidance for evaluating SVI, the analysis for the indoor air samples is to achieve detection limits of 0.25 $\mu g/m^3$ for each compound.

Prior to collection of indoor air, an inspection of general site conditions is to be performed. The inspection is to include the following activities:

5 NYSDEC. 2009. Commissioner Policy–43 Groundwater Monitoring Well Decommissioning Policy. 3 November.

- Completion of the NYSDOH Indoor Air Quality Questionnaire and Building Inventory included in Indoor Air Sampling and Analysis Guidance (NYSDOH 2006)[4]. A sample of the questionnaire is provided in Appendix D. As directed by NYSDEC, a limited product inventory will be prepared. Sections 1 through 12 of the questionnaire will be completed with the exception of Section 4. In addition, a floor plan sketch of the first floor will not be required.

- Documentation of weather conditions outside and temperature inside.

- Ambient air (indoor and outdoor) screening using field equipment (i.e., parts per billion photoionization detector).

- Selection of air sampling locations.

An active approach, utilizing laboratory batch-certified Summa canisters, regulated for an 8-hour sample collection, will be used to monitor the indoor air conditions. An associated outdoor ambient air sample shall be collected during the same time period as the indoor air sample. The following procedures will be used for all indoor and outdoor air sampling:

- Visually assess the building to be sampled. Select an area for indoor air sampling that is approximately 3-4 ft above the floor surface, out of the line of traffic, and away from any vents or windows. Select an area for outdoor air sampling that is approximately 3-4 ft above the ground surface, out of the line of traffic, and in the vicinity of the building to be sampled.

- Place a canister in the selected sample location. The canister must be certified clean in accordance with EPA Method TO-15 and under a vacuum pressure of no more than -30 in. of mercury in Hg. Flow controllers must be set for an 8-hour collection period.

- Record the serial number of the canister and associated regulator on the chain-of-custody form and field notebook/sample form. Assign a sample identification on the canister identification tag and record this on chain-of-custody and field notebook/sample form. For the property owner's privacy, do not use a sample identifier containing the name of the property owner or the address of the property.

- Record the gauge pressure; the vacuum gauge pressure must read -25 in Hg or less, or the canister cannot be used.

- Record the start time on the chain-of-custody form and on the air sampling form (Appendix D) and take a digital photograph of canister setup and the surrounding area.

To terminate the sample collection:

- Close the canister valve; record the stop time on the chain-of-custody form and in the field notebook/sample form.
- Record the final gauge pressure and disconnect the pressure gauge/flow controller from the canister.
- Install the plug on the canister inlet fitting and place the sample container in the original box.
- Complete the sample collection log with the appropriate information and log each sample on the chain-of-custody form.

3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed once a year. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed (Appendix D). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage
- An evaluation of the condition and continued effectiveness of ECs
- General site conditions at the time of the inspection
- The site management activities being conducted including, where appropriate, sampling and a health and safety inspection
- Compliance with permits and schedules included in the Operation and Maintenance Plan
- Confirm that site records are up to date.
- Confirm that site use has not changed since the previous inspection.

SSDS inspections will take place as part of the annual site-wide inspection and are discussed in Section 4.0 of this plan.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the site (Appendix E). Main components of the QAPP include:

- QA/QC Objectives for Data Measurement
- Sampling Program:
  - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
  - Sample holding times will be in accordance with the NYSDEC Analytical Services Protocol requirements.
  - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody
- Calibration Procedures:
  - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
  - The laboratory will follow all calibration procedures and schedules as specified in EPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.
- Analytical Procedures
- Preparation of a Data Usability Summary Report, which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks
- QA Performance and System Audits
- Preventative Maintenance Procedures and Schedules
- Corrective Action Measures.

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared subsequent to each sampling event. The report will include, at a minimum:

- Date of event
- Personnel conducting sampling
- Description of the activities performed
- Type of samples collected (e.g., groundwater, indoor air, etc.)
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.)
- Sampling results in comparison to appropriate standards/criteria
- A figure illustrating sample type, sampling locations, and analytical results
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format)
- Any observations, conclusions, or recommendations
- A determination as to whether groundwater conditions have changed since the last reporting event.

Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables is provided below.

Schedule of Monitoring/Inspection Reports	
Task	**Reporting Frequency(1)**
Letter Inspection and Monitoring Report	Twice a year for the first year, annually thereafter
Periodic Review Report	January 2014 (first), annually (five years), Triennially after(1)
(1) The frequency of events will be conducted as specified until otherwise approved by NYSDEC	

4.0 OPERATION AND MAINTENANCE PLAN

4.1 INTRODUCTION

This Operation and Maintenance Plan describes the measures necessary to operate, monitor, and maintain the mechanical components of the remedy in place at the site. This Operation and Maintenance Plan:

- Includes the steps necessary to allow individuals unfamiliar with the site to operate and maintain the SSDSs
- Includes an operation and maintenance contingency plan
- Will be updated periodically to reflect changes in site conditions or the manner in which the SSDSs are operated and maintained.

Information on non-mechanical ECs (i.e., soil cover system) is provided in Section 2 - Engineering and Institutional Control Plan. A copy of this Operation and Maintenance Plan, along with the complete SMP, will be kept at the site. This Operation and Maintenance Plan is not to be used as a stand-alone document, but as a component document of the SMP.

4.2 SUB-SLAB DEPRESSURIZATION SYSTEM OPERATION AND MAINTENANCE

There are two SSDSs on-site: one in the small office building and another in the larger warehouse building. The systems serve to reduce sub-slab pressure and vent built-up soil gas outside of the building. The systems consist of slotted screen installed beneath the slabs, connected to polyvinyl chloride pipe, an in-line ventilation fan, and an exterior exhaust point. The pipe for the smaller office building runs up the exterior wall and vents above the roof of the building. The pipe for the larger warehouse building runs up an interior wall, along the ceiling, and out through an existing hole in a window. Both vent fans are outside of the buildings. Both exhaust points are covered with rain caps. System locations are shown on Figure 15. Both systems ran continuously from March 2005 until October 2012 when Superstorm Sandy caused flooding on the site. The system for the office building was repaired in April 2014; the warehouse building system is currently being evaluated for termination and/or repair by the NYSDEC and NYSDOH.

4.2.1 Scope

Typically, SSDSs are continuously operational, and require minimal maintenance and oversight; however, annual inspections are required to verify continuous and effective operation. The following sections detail system startup, inspections, and maintenance.

4.2.1.1 System Startup and Testing

Prior to system startup, the building slab, including the system slab and wall penetration and any gaps between the slab and the walls are to be sealed with a polyurethane sealant. After the fan is turned on, the operating pressure is to be marked on the pressure gauge located on the vertical pipe. The pressure is to be checked weekly during continuous operation, until the pressure is observed to be the same during two consecutive weeks.

Following system startup, a field test is to be conducted to check negative pressure beneath the slab. Starting approximately 5 ft from the system, a ¼-in. diameter hole is to be drilled completely through the concrete slab. The vacuum is to be measured using a handheld electric manometer at the test location. This is to be repeated an additional 5 ft from each previous test hole, until the furthest possible point on the slab has been tested. Each previously tested hole is to be filled with fast-setting concrete prior to the succeeding test. The system is working properly if all points tested show a pressure drop of 0.5 Pa or higher.

The system testing described above will be conducted if, in the course of the SSDS lifetime, significant changes are made to the system, and the system must be restarted.

4.2.1.2 System Operation: Equipment Maintenance

In the event that the annual inspection discussed in Section 4.3 reveals system failure or potential for system failure, the building owner and NYSDEC SSDS contact should be notified immediately. Faulty parts of the system should be replaced if possible, or cracks should be sealed using a polyurethane sealant. Depending on the complexity of the problem, an experienced professional should be consulted to return the system to service.

4.3 ENGINEERING CONTROL SYSTEM PERFORMANCE MONITORING

Sub-slab depressurization systems have been installed to mitigate possible SVI into occupied buildings. While the systems involve very little in the way of operation and maintenance, monitoring is necessary to verify system functionality and effectiveness. An annual inspection described in Section 4.3.1 will serve to verify that the system components are in working condition and are not compromised in any way. Annual air sampling as discussed in Section 4.3.2 will serve to verify that the system is effectively mitigating vapor intrusion.

4.3.1 General Equipment Monitoring

An annual inspection will be performed on both systems in conjunction with the annual site-wide inspection discussed in Section 3.4 of this plan. The inspection is to include the following:

- Inspect all visible system components, including the system piping, fans, manometer, etc. Note any cracks in piping or other operational issues

- Inspect slab for cracks, noting location and size of gaps, or where seals have begun to fail
- Make sure that contact information on the SSDS is up to date
- Note changes in building use and changes in heating, ventilation and air conditioning.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the SSDS has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the SSDS are specified later in this plan.

A complete list of components to be checked is provided in the Inspection Checklist, which is part of the site-wide inspection form presented in Appendix D. If any equipment readings are not within their typical range, if any equipment is observed to be malfunctioning, or the system is not performing within specifications, maintenance and repair as per the Operation and Maintenance Plan are required immediately, and the SSDS is to be restarted.

4.3.2 Sampling Event Protocol

Indoor air monitoring is to take place on an annual basis and is discussed in Section 3.3.2 of this plan. In the event that indoor air monitoring indicates VOC contamination in the air, or per NYSDEC's request, a full sub-slab soil vapor intrusion evaluation is to be completed. This would include the collection of an indoor air sample, a sub-slab air sample, and an outdoor air sample. The indoor sample is to be collected as discussed in Section 3.3.2. The following procedures will be used for collection of sub-slab soil vapor samples:

- Visually assess the condition of the floor. Select an area for sampling that is out of the line of traffic and away from major cracks and other floor penetrations (sumps, pipes, etc.). Refer to historical sample forms (Appendix F) for ideal sample locations.
- Drill a ⅜-in. diameter hole completely through the concrete floor slab using an electric hammer drill.
- Sweep concrete dust away from the drill hole and wipe the floor with a dampened towel. Concrete dust can be cleaned up with a vacuum equipped with a high efficiency particulate air filter only after the sample tubing is properly sealed and sample collection has begun.
- Insert the Teflon-lined polyethylene tubing (¼-in. inside diameter × ⅜-in. outside diameter, approximately 3-ft long) into the hole drilled in the floor, extending no further than 2 in. below the bottom of the floor slab.

- Pour the melted beeswax around the tubing at the floor penetration, packing it in tightly around the tubing.
- Attach a syringe to the sample tube and purge approximately 100 mL of air/vapor. The syringe will be capped and the air released outside the building as to not interfere with the indoor air sample collection.

- Place a canister on the floor adjacent to the sample tube. The canister will be a 6-L canister (provided by an independent laboratory) with a vacuum gauge and flow controller. The canister must be certified clean in accordance with EPA Method TO-15 and under a vacuum pressure of no more than -30 in. of mercury in HG. Flow controllers must be set for a 24-hour collection period.

- Record the serial number of the canister and associated regulator on the chain-of-custody form and field notebook/sample form. Assign a sample identification on the canister identification tag and record this on the chain-of-custody form and field notebook/sample form. For the property owner's privacy, do not use a sample identifier containing the name of the property owner or the address of the property.

- Record the gauge pressure; the vacuum gauge pressure must read -25 in Hg or less, or the canister cannot be used.

- Record the start time on the chain-of-custody form and on the field record of air sampling (Appendix D) and take a digital photograph of canister setup and the surrounding area.

To complete the sample collection:

- Close the canister valve and record the stop time on the chain-of-custody form and in the field notebook/sample form.

- Record the final gauge pressure and disconnect the sample tubing and the pressure gauge/flow controller from the canister, if applicable.

- Install the plug on the canister inlet fitting and place the sample container in the original box.

- Complete the sample collection log with the appropriate information and log each sample on the chain-of-custody form.

- Remove the temporary subsurface probe and properly seal the hole in the slab with hydraulic cement.

Field QC samples will include duplicates and trip blanks. Field duplicates will be collected at the rate of 1 duplicate per 20 original samples (20 percent). Field duplicates will be collected by

installing an in-line "tee," which will essentially split the flow coming from the sample tubing penetrating the floor to two canisters set up adjacent to each other and each collecting vapors at identical flow rates.
Concurrently with the indoor air and sub-slab soil vapor monitoring program, one outdoor ambient air sample will be collected each day that indoor air monitoring occurs. The ambient air samples will be collected during the same 8-hour period as the indoor air samples, which represent outdoor air conditions for the sampling area. The ambient air samples will be collected in a laboratory batch-certified Summa canister regulated for an 8-hour sample collection. A section of Teflon or polyethylene tubing that is identified as laboratory- or food-grade will be extended from the Summa canister to collect the ambient air sample from the breathing zone at approximately 3-5 ft above ground surface. Consistent with the indoor and sub-slab vapor sampling, the collecting rate of the outdoor air sample will be less than 0.2 L per minute.

Air samples will be analyzed by an Environmental Laboratory Analytical Program-certified laboratory for VOCs using EPA Method TO-15. In accordance with the NYSDOH Indoor Air Sampling and Analysis Guidance, the analysis for indoor and outdoor air samples will achieve a minimum reporting limit of 0.25 $\mu g/m^3$. The analysis for sub-slab soil vapor samples will achieve minimum reporting limit of 5 $\mu g/m^3$ for structures with full slab foundations, and a minimum 1 $\mu g/m^3$ for structures with less than a full slab foundation. For specific parameters identified by NYSDOH, where the selected parameters may have a higher detection limit (e.g., acetone), the higher detection limits will be designated by NYSDOH. The analytical turnaround time will be 14 days from receipt of sample containers. Analytical results will be provided as an electronic data deliverable.

4.4 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the site will be filed on-site. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

4.4.1 Maintenance Reports

During each maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities
- Presence of leaks

- Date of leak repair

- Other repairs or adjustments made to the system
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet)

- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

5. INSPECTIONS, REPORTING AND CERTIFICATIONS

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedule provided in Section 3 Monitoring Plan of this SMP. Inspections of remedial components (SSDS in this case) will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

A general site-wide inspection form will be completed during the site-wide inspection (Appendix D). This form is subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective
- The Monitoring Plan is being implemented
- Operation and maintenance activities are being conducted properly; and, based on the above items
- The site remedy continues to be protective of public health and the environment and is performing as designed in the Remedial Action Work Plan and Final Engineering Report.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional will prepare the following certification:

For each IC/EC identified for the site, I certify that all of the following statements are true:

- The inspection of the site to confirm the effectiveness of the ICs and ECs required by the remedial program was performed under my direction
- The IC and/or EC employed at this site is unchanged from the date the control was put in place, or last approved by the NYSDEC
- Nothing has occurred that would impair the ability of the control to protect the public health and environment
- Nothing has occurred that would constitute a violation or failure to comply with any SMP for this control
- Access to the site will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document
- Use of the site is compliant with the ENs
- The EC systems are performing as designed and are effective
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program
- The information presented in this report is accurate and complete.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative]. The signed certification will be included in the Periodic Review Report described below.

For each IC identified for the site, I certify that all of the following statements are true:

- The IC employed at this site is unchanged from the date the control was put in place, or last approved by the NYSDEC
- Nothing has occurred that would impair the ability of the control to protect the public health and environment
- Nothing has occurred that would constitute a violation or failure to comply with any site

management plan for this control

- Access to the site will continue to be provided to the NYSDEC to evaluate the remedy, including access to evaluate the continued maintenance of this control

- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document

- Use of the site is compliant with the ENs.

- The information presented in this report is accurate and complete.

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative]

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be submitted to the NYSDEC every year, beginning 18 months after approval of the Final Engineering Report for the first five years, then triennially or as requested by NYSDEC. In the event that the site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the site described in Appendix A (Environmental Notices). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 45 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment, and certification of all ECs/ICs required by the remedy for the site

- Results of the required annual site inspections and severe condition inspections, if applicable

- All applicable inspection forms and other records generated for the site during the reporting period in electronic format

- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions

- Data summary tables and graphical representations of contaminants of concern by media (e.g., groundwater, soil vapor), which include a listing of all compounds analyzed, along

with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format

- A site evaluation, which includes the following:

    - The compliance of the remedy with the requirements of the site-specific Remedial Action Work Plan, ROD or Decision Document;
    - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;
    - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
    - The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in electronic-copy format, to the NYSDEC Central Office and Regional Office in which the site is located, and in electronic format to NYSDEC Central and Regional Offices, and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an IC/EC, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

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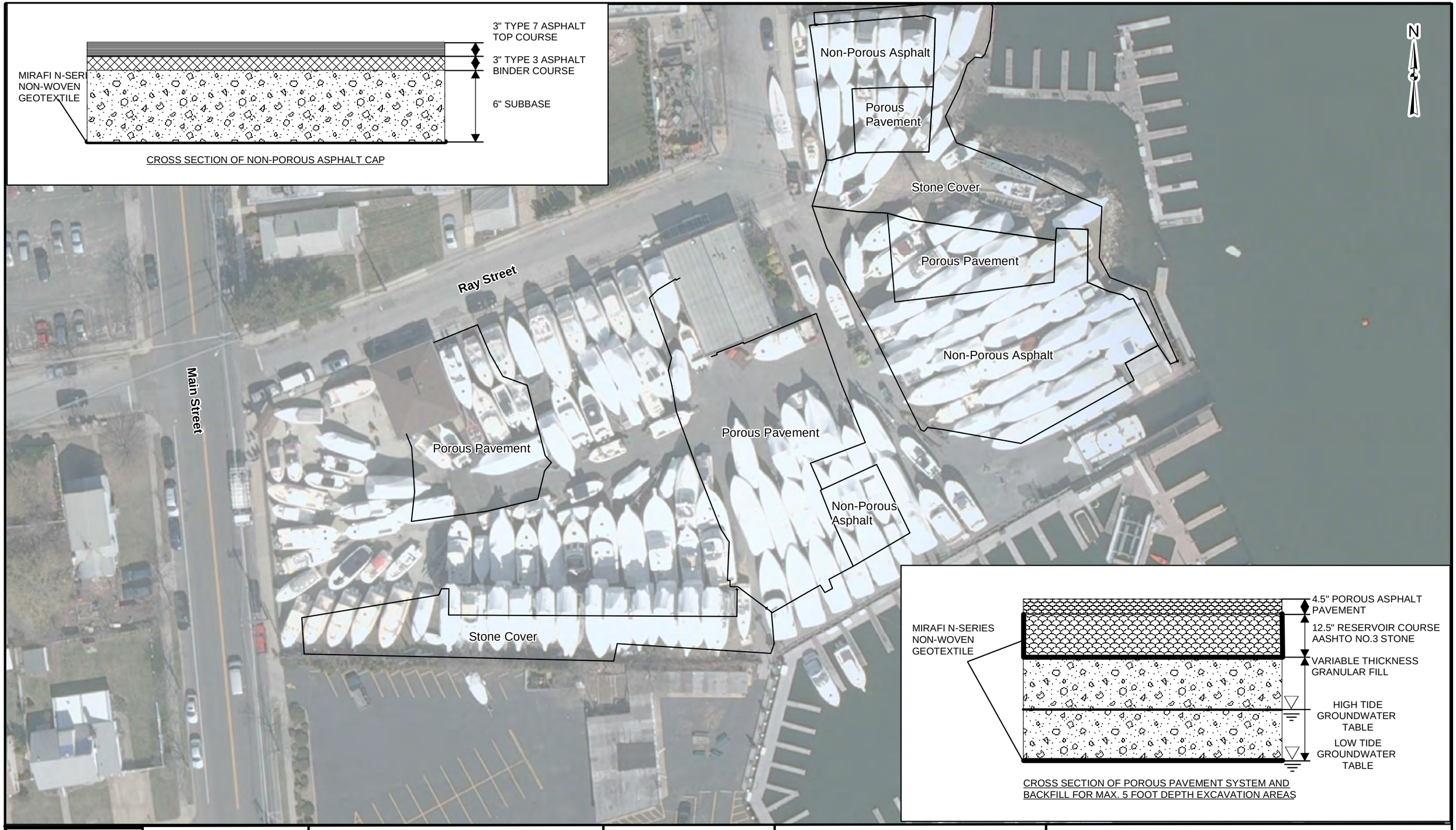
	FREEPORT METAL ETCHING SITE MANAGEMENT PLAN FREEPORT, NEW YORK			FIGURE 1 Site Location and Boundary Map		0 25 50 100 Feet		
	PROJECT MGR: RSC	DESIGNED BY: RSC	CREATED BY: MEM	CHECKED BY: RSC	PROJECT NO: 14474.37	DATE: APRIL 2014	SCALE: AS SHOWN	FILE NO: G:\Projects\SMP\FIG1

Site Boundary
PropertyParcels
Existing Buildings
Approximate Locations of Former Buildings
Site Location

Source: NYS GIS Clearing House



FREEPORT METAL ETCHING
SITE MONITORING PLAN
FREEPORT, NEW YORK

FIGURE 2
Cross Sections

0 25 50 100 Feet

Source: NYS GIS Clearing House

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig2

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 5
Remedial Investigation Soil and Sediment Sample Locations

0 12.525 50 75 100 Feet

Legend

Source: NYS GIS Clearing House

- Surveyed Location of Excavated Underground Storage Tanks 1 and 2
- Excavation Area Boundaries
- Approxmate Location of Excavated Underground Storage Tanks 3 and 4
- Cross Section

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG3

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 4
Groundwater Contours
June 2008

0 25 50 100 Feet

Source: NYS GIS Clearing House

Legend

- Monitoring Well (Groundwater Elevation ft amsl)
- Groundwater Contours
- Groundwater Flow Direction

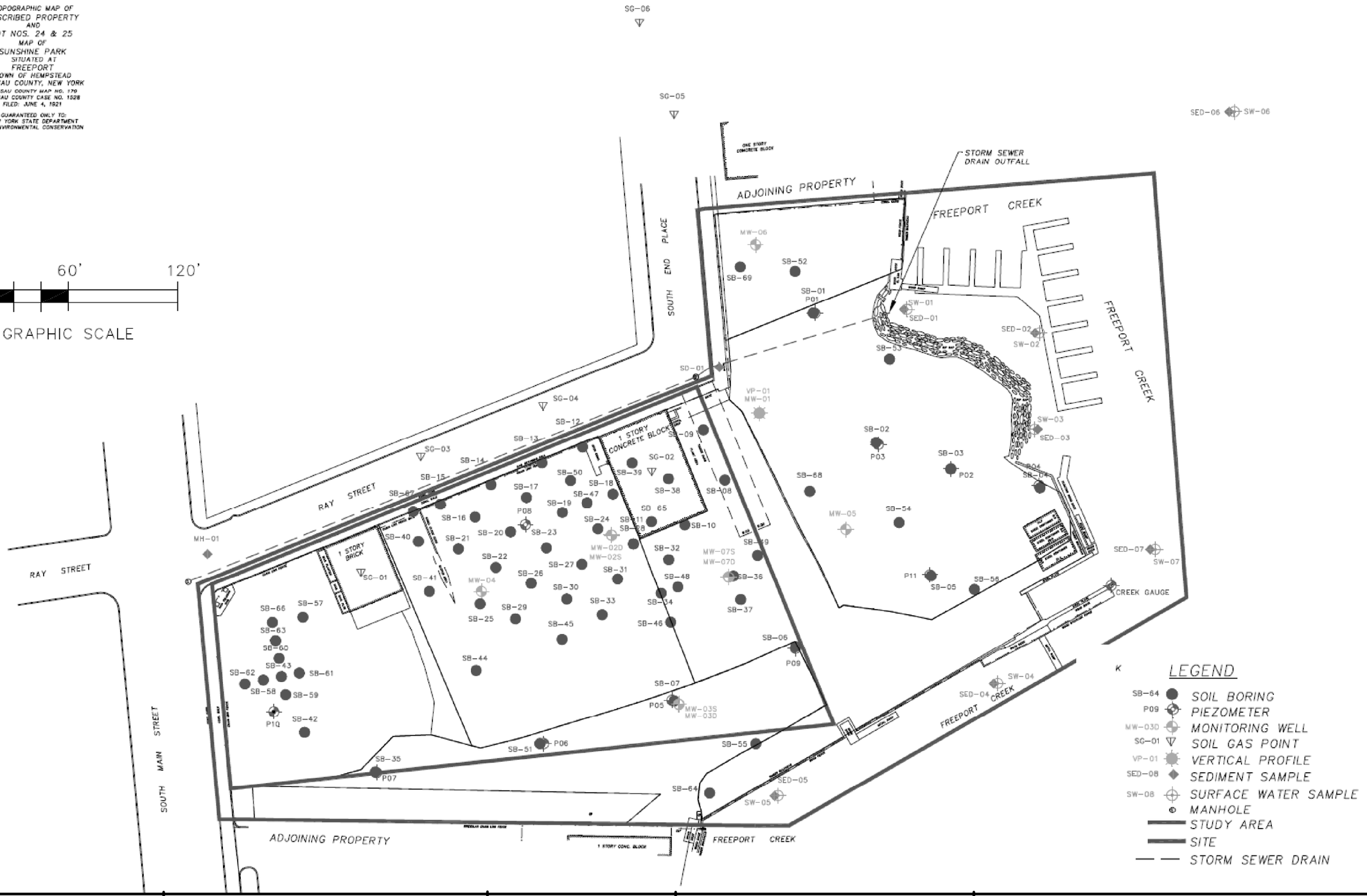
PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\MegalEtching\SMP\Fig4

MAP DERIVED FROM
TOPOGRAPHIC MAP OF
DESCRIBED PROPERTY
AND
LOT NOS. 24 & 25
MAP OF
SUNSHINE PARK
SITUATED AT
FREEPORT
TOWN OF HEMPSTEAD
NASSAU COUNTY, NEW YORK
NASSAU COUNTY MAP NO. 179
NASSAU COUNTY CASE NO. 1528
FILED: JUNE 4, 1921
GUARANTEED ONLY TO:
NEW YORK STATE DEPARTMENT
OF ENVIRONMENTAL CONSERVATION

N

0 60' 120'

GRAPHIC SCALE



LEGEND

- SB-64 SOIL BORING
- P09 PIEZOMETER
- MW-03D MONITORING WELL
- SG-01 SOIL GAS POINT
- VP-01 VERTICAL PROFILE
- SED-08 SEDIMENT SAMPLE
- SW-08 SURFACE WATER SAMPLE
- MANHOLE
- STUDY AREA
- SITE
- STORM SEWER DRAIN

FREEPORT METAL ETCHING SITE MANAGEMENT PLAN FREEPORT, NEW YORK			FIGURE 5 Remedial Investigation Soil and Sediment Sample Locations				Source: ERM Remedial Investigation (2007) Figure 2-2
PROJECT MGR: RSC	DESIGNED BY: RSC	CREATED BY: MEM	CHECKED BY: RSC	PROJECT NO: 14474.37	DATE: APRIL 2014	SCALE: AS SHOWN	FILE NO: G:\Projects\SMP\FIG2

SB-23 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	3.9	[52]	[1500]	[120]
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	4	4.3	[130]	10
Nickel	13	4.5 U	4.5 U	[33]	4.4 U
Zinc	20	7.3	4.5 U	[40]	4.4 U

SB-24 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00	16.00	20.00	24.00	33.00
Chromium	50	29	29	[190]	[140]	43	35	[58]	38
Chromium(Hexavalent)	NA	NA	NA	6.52	NA	NA	NA	NA	NA
Copper	25	2.8 U	2.7 U	[25]	13	7.4	7.1	5.1	[25]
Nickel	13	4.6 U	4.5 U	4.1 U	5.1 U	5.2 U	<4.7 U	<4.9 U	[19]
Zinc	20	4.6 U	4.5 U	4.7	5.1 U	5.2 U	<4.7 U	<4.9 U	[51]

SB-18 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[120]	3.3	33	23
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[30]	2.8 U	[37]	6.6
Nickel	13	[46]	4.6 U	[16]	3.7 U
Zinc	20	[81]	6.4	[77]	4.9

SB-39 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	3.5	10	3.1	2 U
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	5.6	20	2.8 U	2.9 U
Nickel	13	4.8 U	7.6	4.6 U	4.9 U
Zinc	20	8.2	[41]	19	4.9 U

SB-69 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	6.7	3	2.8	3.5
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	9.7	3.6	3.5	4.1
Nickel	13	4.5	2.2 U	2.3 U	2.2 U
Zinc	20	[23]	4.8	4.5	3.2

SB-20 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	39	4.7	23	[98]
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	16	3.6	4.3	6.9
Nickel	13	8.5	7.3	5.3 U	12
Zinc	20	18	6.8	6.6	5.1

SB-19 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	5.7	2.9	[51]	[85]
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	5	3.9	12	14
Nickel	13	5.2 U	4.5 U	4.4 U	6.2
Zinc	20	8	5.4	7.4	12

SB-12 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[220]	[640]	[500]	28
Chromium(Hexavalent)	NA	88.9	NA	218	NA
Copper	25	3.2	2.8	2.7	4.1
Nickel	13	4.2	3.6	8.1	[25]
Zinc	20	3.6	4.1	3.7	3.6

SB-65 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	3.9	9.9	2.5	6
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	3.6	[65]	2	20
Nickel	13	2.2 U	11	2 U	3.8
Zinc	20	6.2	[29]	3.1	[20]

SB-38 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	9.5	3.7	1.7	1.8
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	4.9	7.1	2.5 U	2.5
Nickel	13	4.2 U	5.2 U	4.2 U	3.8 U
Zinc	20	6	[33]	4.2 U	3.8 U

SB-52 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[100]	34	7	7
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[100]	[180]	5.3	[45]
Nickel	13	6.2	[21]	3.7 U	4.1 U
Zinc	20	[48]	[1200]	[350]	[150]

SB-09 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	10	2.5	2.3	2.1
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	18	2.8 U	3.4	3.3
Nickel	13	6	4.7 U	4.7 U	9.9
Zinc	20	[37]	[27]	[33]	[31]

SB-16 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00	16.00	20.00	37.00
Chromium	50	[120]	[1100]	[180]	[80]	48	37	2
Chromium(Hexavalent)	NA	4.26 U	19.4	5.94	NA	NA	NA	NA
Copper	25	[40]	[49]	13	3	5.2	7	<2.6 U
Nickel	13	2.3 U	2.2 U	5	4.3	4.5 U	<3.9 U	<4.4 U
Zinc	20	4.9	2.2	7.3	2.9	4.5 U	6.4	<4.4 U

SB-17 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00	0.50
Chromium	50	[470]	[160]	17	20	
Chromium(Hexavalent)	NA	NA	NA	NA	NA	4.58 U
Copper	25	16	12	5.1	5.8	
Nickel	13	4.5 U	5.2 U	4.6 U	3.7 U	
Zinc	20	4.5 U	5.2 U	4.6 U	3.7 U	

SB-11 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	6.9	36	5.2	2.8
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[100]	[130]	6.3	2.9
Nickel	13	[440]	[1300]	9.6	4.2 U
Zinc	20	[180]	[290]	7.3	4.2 U

SB-32 Constituent	NYSDEC RSCOs	7.00	12.00
Chromium	50	4.3	2.1
Chromium(Hexavalent)	NA	NA	NA
Copper	25	6.6	2.9 U
Nickel	13	11	4.8 U
Zinc	20	8.4	4.8 U

SB-01 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	14	13	14	3.4
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[530]	[5700]	[220]	15
Nickel	13	9	9.3	6.9	5 U
Zinc	20	[140]	[790]	[170]	5 U

SB-67 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[310]	[68]	10	[76]
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[890]	[31]	10	13
Nickel	13	[280]	8.4	5.5	4.1
Zinc	20	[160]	7.1	14	9.1

SB-15 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	9.7	4.7	38	36
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[110]	9.5	3.5	2.7
Nickel	13	[13]	2.8	2.2	2.2 U
Zinc	20	[58]	[44]	3.9	3

SB-14 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	13	4.4	9.1	15
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[64]	4.6	3.1	3.3
Nickel	13	[170]	2.4	3.2	2.4 U
Zinc	20	[67]	[21]	8.9	4

SB-47 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	31	2.5	[57]	22
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[55]	3.5	7.6	7.9
Nickel	13	[24]	3.5 U	5.4 U	4.4 U
Zinc	20	[25]	4.5	5.4 U	4.4 U

SB-53 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	27	18	6.1	6.6
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[85]	[66]	12	5
Nickel	13	[15]	[14]	4.7 U	4.9 U
Zinc	20	[130]	[95]	[26]	13

SB-40 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	5.6	35	36	25
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	20	9.6	3.8	5.3
Nickel	13	5.5	10	5.2	4.7 U
Zinc	20	[81]	[26]	4.8 U	5.1

SB-21 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	4.3	[170]	[59]	[73]
Chromium(Hexavalent)	NA	NA	NA	7.21	NA
Copper	25	5.6	[110]	7.5	3.4
Nickel	13	5 U	9.8	8.7	5
Zinc	20	6.8	[32]	7.6	4.8 U

SB-31 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[150]	21	3.9	4.1
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[330]	24	2.7 U	5.3
Nickel	13	[13]	[15]	4.5 U	4.4 U
Zinc	20	[140]	[140]	9.5	12

SB-50 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[50]	18	[75]	49
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	9.5	[110]	8.4	2.6
Nickel	13	4.5 U	[320]	4.5 U	3.6 U
Zinc	20	5.8	[78]	4.5 U	3.6 U

SB-68 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	42	7.3	3.4	5.5
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[540]	[35]	[160]	24
Nickel	13	10	4.4	2.2 U	3
Zinc	20	[200]	[110]	[31]	[160]

SB-27 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	6.7	8.3	3.1	5.5
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[58]	[43]	[92]	5.3
Nickel	13	4.8 U	4.7 U	9.3	11
Zinc	20	[100]	[120]	9.6	[24]

SB-13 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	15	10	9.5	8
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[310]	6.2	[44]	3.3
Nickel	13	[140]	[53]	[380]	2.4 U
Zinc	20	[310]	8.8	[47]	2.9

SB-02 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	7	[1200]	13	9.5
Chromium(Hexavalent)	NA	NA	24.3	NA	NA
Copper	25	[30]	[1600]	[93]	[44]
Nickel	13	9.1	[19]	[24]	7.8
Zinc	20	[110]	[1200]	[130]	[42]

SB-26 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	9	12	[82]	[120]
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[210]	[310]	7.5	9.6
Nickel	13	11	[13]	4.4 U	4.5 U
Zinc	20	[640]	[810]	4.5	4.9

SB-22 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	4	3.5	36	2.4
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	3	4.1	10	3
Nickel	13	4.7 U	4.7 U	4.8	4.2 U
Zinc	20	6.7	9.3	4.5 U	9.8

SB-03 Constituent	NYSDEC RSCOs	7.00	0.50	2.50	12.00
Chromium	50	22	[57]	13	15
Chromium(Hexavalent)	NA	NA	4.56 U	NA	NA
Copper	25	[640]	[2000]	[180]	11
Nickel	13	[20]	[71]	[13]	5.2 U
Zinc	20	[360]	[1600]	[240]	13

SB-41 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	6.4	6.9	3	3.3
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[31]	[29]	6.9	3.6
Nickel	13	[220]	9.8	5.7	3.8 U
Zinc	20	[46]	[320]	13	6

SB-25 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	43	11	5.3	3
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[960]	[290]	6.9	12
Nickel	13	[240]	[32]	[13]	5 U
Zinc	20	[3600]	[910]	[24]	7.9

SB-04 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	14	5.7	22	22
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[39]	[40]	[100]	10
Nickel	13	5 U	5 U	[15]	9.9
Zinc	20	[22]	[20]	[160]	[31]

SB-57 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	8.5	7.3	2.5	7.9
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	14	5.3	4	5.5
Nickel	13	4.7 U	4.3	4.9 U	5 U
Zinc	20	[34]	11	4.9 U	12

SB-54 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	3.9	9.9	24	14
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	16	15	[170]	4.4
Nickel	13	5.1 U	9.9	[15]	4.7
Zinc	20	14	[94]	[260]	17

SB-61 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	5.1	8.4	3.2	2.7
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	14	4.9	3.1 U	2.9 U
Nickel	13	4.8 U	5.4	5.2 U	4.8 U
Zinc	20	[69]	14	5.2 U	4.8 U

SB-60 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	4.6	6.1	1.9	4.9
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	8	5.3	2.4	4.3
Nickel	13	4.2 U	4.8 U	3.8 U	5.4 U
Zinc	20	[63]	13	3.8 U	5.4 U

SB-56 Constituent	NYSDEC RSCOs	8.00	14.00	24.00	38.00
Chromium	50	14	2.2 U	31	5.9
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[57]	3.3 U	[69]	3.5
Nickel	13	[16]	5.6 U	5 U	4.3
Zinc	20	[150]	5.6 U	5 U	13

SB-66 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	13	6.4	1.8	6.6
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[26]	6.4	2.5	3.2
Nickel	13	6.4	4.3	2.7	2.3 U
Zinc	20	[110]	11	6.5	10

SB-62 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	6.7	8.6	3.8	3.5
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	2.5 U	4.2	2.8	3.2 U
Nickel	13	4.2	5.2 U	4 U	5.3 U
Zinc	20	13	13	6.2	5.3 U

SB-05 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	30	11	8.8	1.9
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[87]	[69]	9.6	2.9
Nickel	13	9.3	7.7	5 U	4.2 U
Zinc	20	[70]	[87]	[34]	4.2 U

SB-63 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	34	5.8	2.6	2.8
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[68]	6.3	2.9	3
Nickel	13	[18]	3.1	2.4 U	2.2 U
Zinc	20	[210]	[24]	2.7	2.5

SB-59 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	3.5	5.8	2.2	6.6
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	11	4.1	3.6	3.5
Nickel	13	4.5 U	4.2 U	4 U	4.5 U
Zinc	20	[46]	11	5.3	4.5 U

SB-49 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	14	9.5	16	11
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[32]	17	[25]	[37]
Nickel	13	7	4.9	9.8	5.5
Zinc	20	[73]	[160]	[84]	[54]

SB-58 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	15	7.4	4.9	2.1 U
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	21	6.3	4.7	3.1 U
Nickel	13	4.2 U	5.2 U	3.6 U	5.2 U
Zinc	20	[70]	13	6	5.2 U

SB-29 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	4.6	5.4	2.2 U	4.9
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	9.6	8.7	3.3 U	6.8
Nickel	13	5.4 U	5.1 U	5.6 U	5 U
Zinc	20	[22]	[37]	13	[67]

SB-30 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	12	13	2.4	1.7
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[31]	[48]	2.7 U	2.1 U
Nickel	13	11	6.1	4.5 U	3.5
Zinc	20	[62]	[49]	4.5 U	4.6

SB-46 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	44	6.9	20	5.8
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[140]	15	[130]	5.3
Nickel	13	[18]	4.9 U	6.1	4.5 U
Zinc	20	[100]	[23]	[52]	5.6

SB-55 Constituent	NYSDEC RSCOs	8.00	14.00	24.00	34.00
Chromium	50	12	13	32	19
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	21	[140]	7.7	7.9
Nickel	13	5 U	4.7	4.2 U	4.7 U
Zinc	20	[59]	[87]	4.2 U	4.7 U

SB-06 Constituent	NYSDEC RSCOs	2.50	0.50	7.00	12.00
Chromium	50	7.1	35	3.6	9
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[90]	[31]	9.1	2.7 U
Nickel	13	9.4	6	4.7 U	4.5 U
Zinc	20	[130]	[83]	[50]	4.5 U

SB-08 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	18	12	3.1	3.4
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[81]	13	3.1 U	2.7
Nickel	13	[34]	6.7	5.2 U	4.5 U
Zinc	20	[110]	[46]	5.2 U	4.5 U

SB-43 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	4	8.6	2.9	5.9
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	8.9	3.8	3.4	2.9
Nickel	13	4.3 U	5.6	3.9 U	4.8 U
Zinc	20	[36]	17	5	8.8

SB-44 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	27	6	2	3.1
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[240]	14	3.5	4.1
Nickel	13	11	4.6	4.2 U	5.4 U
Zinc	20	[81]	[39]	18	5.4 U

SB-33 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	4.4	10	3.4	2.7
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[25]	5.4	2.9 U	3
Nickel	13	4.5 U	6.5	4.8 U	4.5 U
Zinc	20	15	15	9	4.5 U

SB-07 Constituent	NYSDEC RSCOs	0.50	7.00	12.00	2.50	0.50
Chromium	50	[740]	[690]	3.9	[320]	
Chromium(Hexavalent)	NA	NA	9.93	NA	13.6	4.39 U
Copper	25	[260]	[84]	2.4 U	[130]	
Nickel	13	[37]	[240]	4 U	[45]	
Zinc	20	[280]	[99]	4 U	[180]	

SB-48 Constituent	NYSDEC RSCOs	12.00	0.50	2.50	7.00
Chromium	50	8.1	26	5.3	24
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	5.3	[180]	[43]	[150]
Nickel	13	6.2	[99]	[21]	[49]
Zinc	20	10	[240]	[26]	[85]

SB-37 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[74]	8.5	3.6	7.7
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[3600]	[110]	22	[83]
Nickel	13	[23]	[20]	4.6 U	5 U
Zinc	20	[470]	[79]	[24]	[130]

SB-36 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	23	6	12	3.1
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[65]	9.6	[64]	2.2 U
Nickel	13	[20]	4.9 U	9.9	3.7 U
Zinc	20	[420]	[32]	[140]	3.7 U

SB-42 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	1.8 U	3.9	2.3	2 U
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	6.2	10	2.9	2.9 U
Nickel	13	4.5 U	5.3 U	4.8 U	4.9 U
Zinc	20	7.6	[28]	5.6	4.9 U

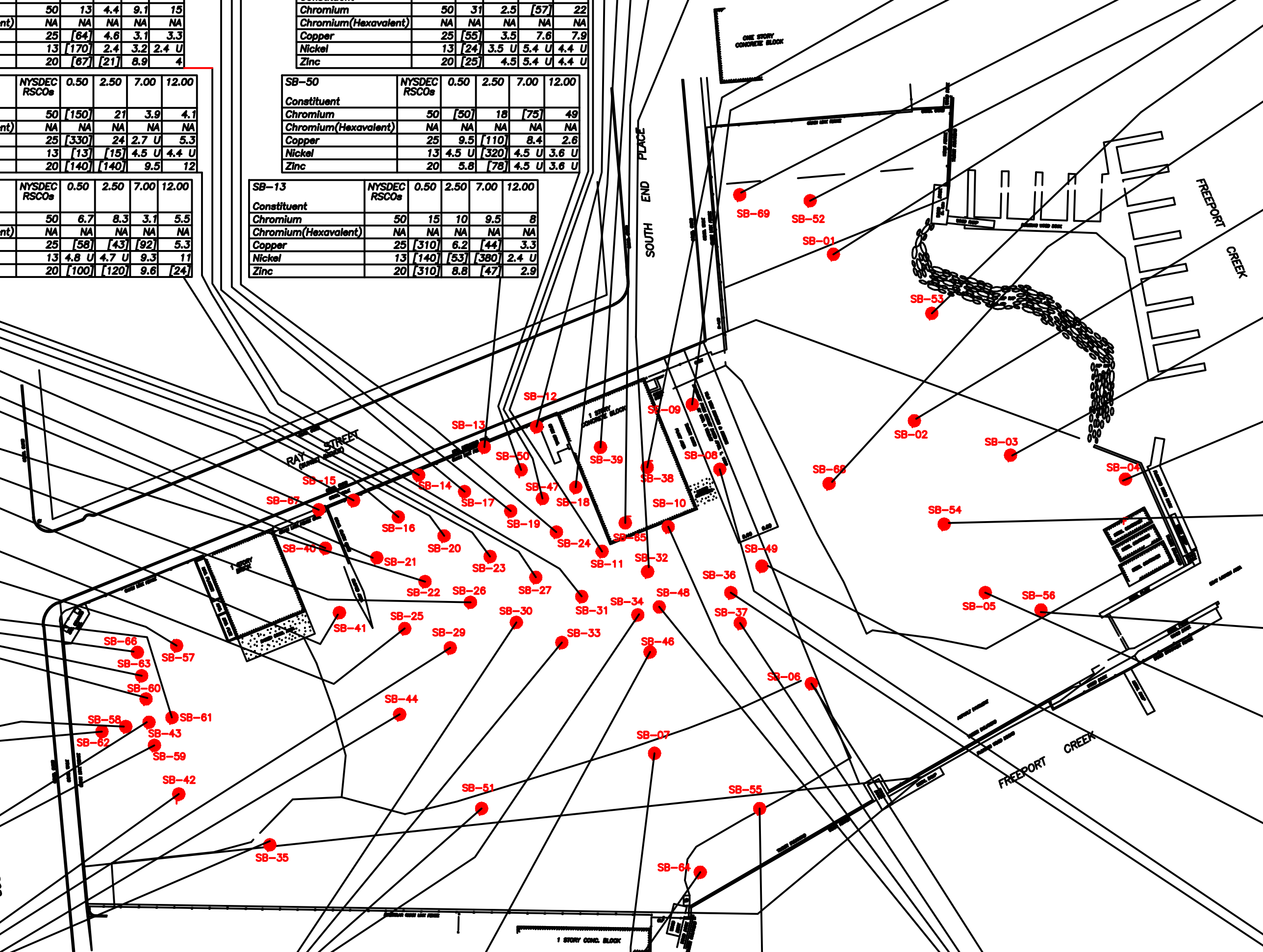
SB-35 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	4.6	9.8	2.9	3.7
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	13	[35]	3.6	3.1
Nickel	13	5 U	4.8 U	4.9 U	4.7 U
Zinc	20	[32]	[55]	13	4.7 U

SB-51 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	15	18	29	3.4
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[35]	[47]	[1300]	12
Nickel	13	10	5.8	7.5	5 U
Zinc	20	[170]	[38]	[69]	7.3

SB-34 Constituent	NYSDEC RSCOs	0.50	7.00	12.00	0.50	8.00
Chromium	50	[230]	14	2.7		44
Chromium(Hexavalent)	NA	NA	NA	NA	7.09	NA
Copper	25	[290]	[28]	3.3		[51]
Nickel	13	[48]	4.7 U	5.4		[16]
Zinc	20	[140]	17	[35]		[27]

SB-10 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	[390]	[2200]	16	3.2
Chromium(Hexavalent)	NA	19.2	14.3	NA	NA
Copper	25	[500]	[370]	15	21
Nickel	13	[40]	[13]	[50]	4.7 U
Zinc	20	[150]	[69]	[500]	[20]

SB-64 Constituent	NYSDEC RSCOs	0.50	2.50	7.00	12.00
Chromium	50	13	44	16	0.92 U
Chromium(Hexavalent)	NA	NA	NA	NA	NA
Copper	25	[1300]	[77]	[44]	4
Nickel	13	[17]	[28]	9.4	2.3 U
Zinc	20	[600]	[250]	[57]	2.3 U



MAP DERIVED FROM
TOPOGRAPHIC MAP OF
DESCRIBED PROPERTY
AND
LOT NOS. 24 & 25
MAP OF
SUNSHINE PARK
SITUATED AT
FREEPORT
TOWN OF HEMPSTEAD
NASSAU COUNTY, NEW YORK
NASSAU COUNTY MAP NO. 179
NASSAU COUNTY CASE NO. 1528
FILED: JUNE 4, 1921

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FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

Figure 5A
Remedial Investigation
Soil Sample Results - Metals

0 50' 100'

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	1447437	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG5A

Legend

SB-57 ● Soil boring location
Concentrations of constituents are shown in milligrams per kilogram (mg/kg)
[ ] Detected soil concentration is above NYSDEC TAGM SCO's
U Not Detected at indicated detection limit

Note: Map was developed for the 2007 Remedial Investigation by Environmental Remedial Management, Inc.

N

SED–01 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	34.7
Mercury	(mg/kg)	0.71	2.5 J
Nickel	(mg/kg)	51.6	15.4 J
Zinc	(mg/kg)	410	338 J

SED–06 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	89.2 J
Mercury	(mg/kg)	0.71	0.61 J
Nickel	(mg/kg)	51.6	26.8 J
Zinc	(mg/kg)	410	417 J

SED–02 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	16.0
Mercury	(mg/kg)	0.71	0.065 J
Nickel	(mg/kg)	51.6	8.8 J
Zinc	(mg/kg)	410	93.2 J

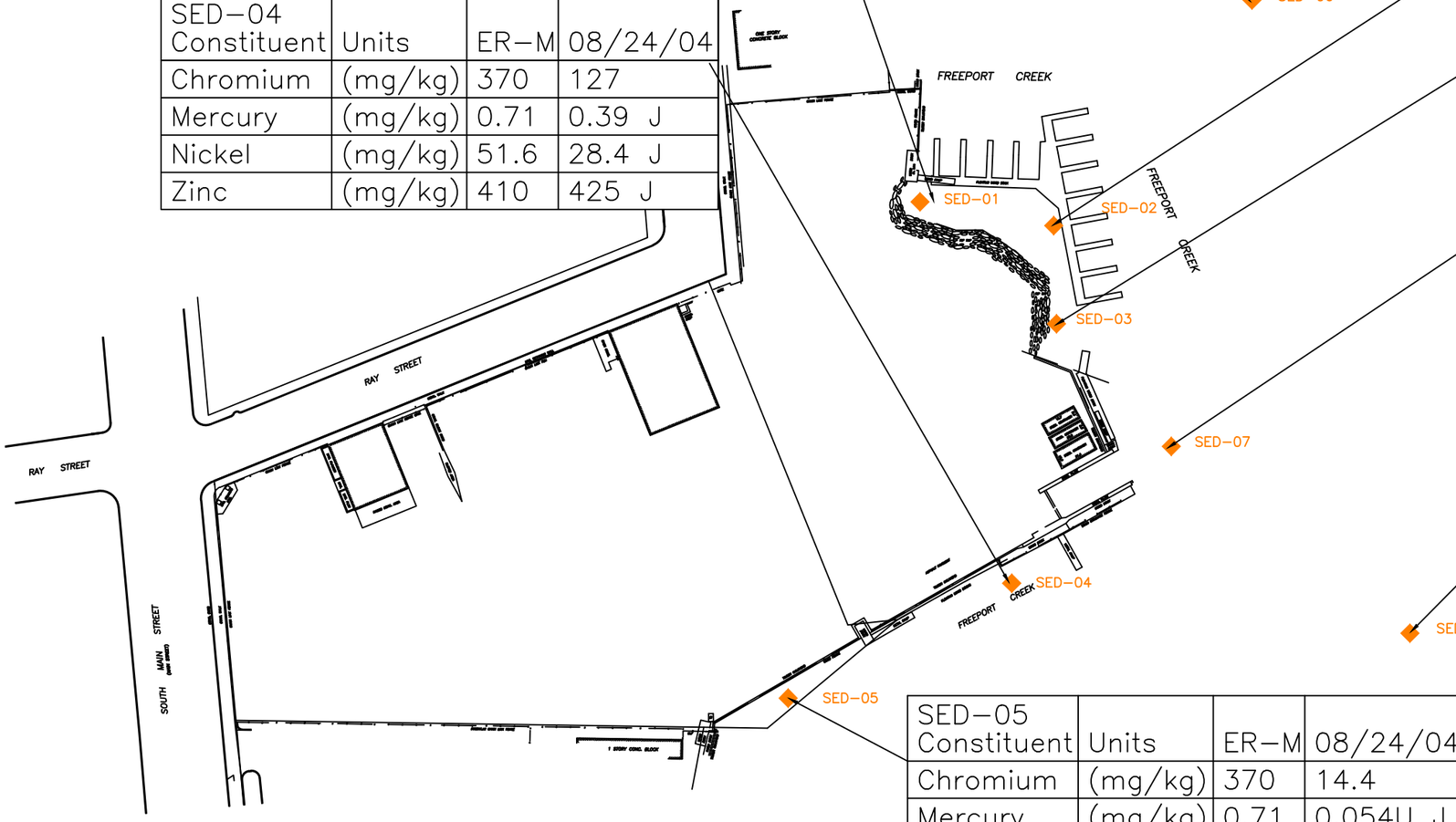
SED–04 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	127
Mercury	(mg/kg)	0.71	0.39 J
Nickel	(mg/kg)	51.6	28.4 J
Zinc	(mg/kg)	410	425 J

SED–03 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	3.3
Mercury	(mg/kg)	0.71	0.059U J
Nickel	(mg/kg)	51.6	3.2 J
Zinc	(mg/kg)	410	59.7 J

SED–07 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	3.4
Mercury	(mg/kg)	0.71	0.047U J
Nickel	(mg/kg)	51.6	1.4 J
Zinc	(mg/kg)	410	16.5 J

SED–08 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	6.5
Mercury	(mg/kg)	0.71	0.089 J
Nickel	(mg/kg)	51.6	2.6 J
Zinc	(mg/kg)	410	26.5 J

SED–05 Constituent	Units	ER–M	08/24/04
Chromium	(mg/kg)	370	14.4
Mercury	(mg/kg)	0.71	0.054U J
Nickel	(mg/kg)	51.6	2.3 J
Zinc	(mg/kg)	410	46.5 J



TOPOGRAPHIC MAP OF DESCRIBED PROPERTY AND LOT NOS. 24 & 25 MAP OF SUNSHINE PARK SITUATED AT FREEPORT TOWN OF HEMPSTEAD NASSAU COUNTY, NEW YORK NASSAU COUNTY MAP NO. 179 NASSAU COUNTY CASE NO. 1528 FILED: JUNE 4, 1921

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FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

Figure 5B
Remedial Investigation
Sediment Sample Results - Metals

0 80' 160'

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	1447437	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG5B

Legend

SED–07 Sediment sample location

ER-M Effect Range-Median- Values derived from NYSDEC Technical Guidance for Screening Contaminated Sediments (NYSDEC 1999)

Note: Map was developed for the 2007 Remedial Investigation by Environmental Remedial Management, Inc.

SB-31 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	240 U	240 U	260 U	270 U
Toluene	1500	240 U	60 J	260 U	70 J
Ethylbenzene	5500	240 U	240 U	260 U	270 U
Xylenes (total)	1200	240 U	240 U	260 U	270 U
Methyl-tert-butyl-ether	120	240 U	240 U	[280]	70 J
Naphthalene	13000	240 U	240 U	260 U	270 U
Tetrachloroethene	1400	710	240 U	260 U	60 J
Trichloroethene	700	240 U	240 U	260 U	270 U
trans-1,2-Dichloroethene	300	240 U	240 U	260 U	270 U
cis-1,2-Dichloroethene		240 U	240 U	260 U	270 U
Vinyl chloride	200	240 U	240 U	260 U	270 U
Chlorobenzene	1700	240 U	240 U	260 U	270 U

SB-11 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	260 U	250 U	270 U	250 U
Toluene	1500	80 J	870	270 U	250 U
Ethylbenzene	5500	260 U	250 J	270 U	250 U
Xylenes (total)	1200	260 U	620	270 U	250 U
Methyl-tert-butyl-ether	120	260 U	[200] J	270 U	250 U
Naphthalene	13000	260 U	250 U	270 U	250 U
Tetrachloroethene	1400	520	[3700]	270 U	250 U
Trichloroethene	700	100 J	580	270 U	250 U
trans-1,2-Dichloroethene	300	260 U	250 U	270 U	250 U
cis-1,2-Dichloroethene		270	990	270 U	250 U
Vinyl chloride	200	260 U	100 J	270 U	250 U
Chlorobenzene	1700	260 U	250 U	270 U	250 U

SB-10 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	250 U	240 U	270 U	240 U
Toluene	1500	60 J	240 U	90 J	240 U
Ethylbenzene	5500	250 U	240 U	270 U	240 U
Xylenes (total)	1200	250 U	240 U	270 U	240 U
Methyl-tert-butyl-ether	120	250 U	240 U	270 U	240 U
Naphthalene	13000	250 U	240 U	270 U	240 U
Tetrachloroethene	1400	250 U	200 J	270 U	240 U
Trichloroethene	700	100 J	[1700]	270 U	240 U
trans-1,2-Dichloroethene	300	250 U	240 U	270 U	240 U
cis-1,2-Dichloroethene		70 J	200 J	70 J	240 U
Vinyl chloride	200	250 U	240 U	270 U	240 U
Chlorobenzene	1700	250 U	240 U	270 U	240 U

SB-48 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	12.00	0.50	2.50	7.00
Benzene	60	270 U	260 U	270 U	250 U
Toluene	1500	270 U	260 U	270 U	60 J
Ethylbenzene	5500	270 U	260 U	270 U	250 U
Xylenes (total)	1200	270 U	260 U	270 U	80 J
Methyl-tert-butyl-ether	120	[450]	260 U	80 J	250 U
Naphthalene	13000	100 J	260 U	200 J	640
Tetrachloroethene	1400	270 U	260 U	270 U	200 J
Trichloroethene	700	200 J	260 U	80 J	[730]
trans-1,2-Dichloroethene	300	270 U	260 U	270 U	250 U
cis-1,2-Dichloroethene		60 J	260 U	270 U	70 J
Vinyl chloride	200	270 U	260 U	270 U	250 U
Chlorobenzene	1700	270 U	260 U	270 U	250 U

SB-41 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	250 U	260 U	270 U	250 U
Toluene	1500	250 U	260 U	270 U	250 U
Ethylbenzene	5500	250 U	260 U	270 U	250 U
Xylenes (total)	1200	250 U	260 U	270 U	250 U
Methyl-tert-butyl-ether	120	250 U	260 U	270 U	250 U
Naphthalene	13000	250 U	260 U	270 U	250 U
Tetrachloroethene	1400	250 U	260 U	270 U	250 U
Trichloroethene	700	250 U	[1200]	270 U	250 U
trans-1,2-Dichloroethene	300	250 U	260 U	270 U	250 U
cis-1,2-Dichloroethene		250 U	260 U	270 U	250 U
Vinyl chloride	200	250 U	260 U	270 U	250 U
Chlorobenzene	1700	250 U	260 U	270 U	250 U

SB-52 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	240 U	250 U	250 U	260 U
Toluene	1500	240 U	250 U	360	80 J
Ethylbenzene	5500	240 U	250 U	5200	1500
Xylenes (total)	1200	240 U	250 U	[4000]	[1700]
Methyl-tert-butyl-ether	120	240 U	250 U	250 U	260 U
Naphthalene	13000	240 U	250 U	6700	2800
Tetrachloroethene	1400	240 U	250 U	250 U	260 U
Trichloroethene	700	240 U	250 U	250 U	260 U
trans-1,2-Dichloroethene	300	240 U	250 U	250 U	260 U
cis-1,2-Dichloroethene		240 U	250 U	250 U	260 U
Vinyl chloride	200	240 U	250 U	250 U	260 U
Chlorobenzene	1700	240 U	250 U	250 U	260 U

SB-02 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	250 U	260 U	250 U	260 U
Toluene	1500	250 U	260 U	250 U	260 U
Ethylbenzene	5500	250 U	1600	200 J	260 U
Xylenes (total)	1200	250 U	[2000]	60 J	260 U
Methyl-tert-butyl-ether	120	250 U	260 U	250 U	260 U
Naphthalene	13000	250 U	1200	3800	350
Tetrachloroethene	1400	250 U	260 U	250 U	260 U
Trichloroethene	700	250 U	260 U	250 U	260 U
trans-1,2-Dichloroethene	300	250 U	260 U	250 U	260 U
cis-1,2-Dichloroethene		250 U	260 U	250 U	260 U
Vinyl chloride	200	250 U	260 U	250 U	260 U
Chlorobenzene	1700	250 U	260 U	250 U	260 U

SB-56 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	8.00	14.00	24.00	38.00
Benzene	60	260 U	260 U	250 U	230 U
Toluene	1500	270	260 U	250 U	230 U
Ethylbenzene	5500	[14000]	280	250 U	230 U
Xylenes (total)	1200	[15000]	320	250 U	230 U
Methyl-tert-butyl-ether	120	260 U	260 U	250 U	230 U
Naphthalene	13000	11000	1200	60 J	230 U
Tetrachloroethene	1400	260 U	260 U	250 U	230 U
Trichloroethene	700	260 U	260 U	250 U	230 U
trans-1,2-Dichloroethene	300	260 U	260 U	250 U	230 U
cis-1,2-Dichloroethene		260 U	260 U	250 U	230 U
Vinyl chloride	200	260 U	260 U	250 U	230 U
Chlorobenzene	1700	[3700]	90 J	250 U	230 U

SB-63 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	250 U	230 U	250 U	220 U
Toluene	1500	250 U	230 U	250 U	220 U
Ethylbenzene	5500	250 U	230 U	1600	220 U
Xylenes (total)	1200	250 U	230 U	[3100]	220 U
Methyl-tert-butyl-ether	120	250 U	230 U	250 U	220 U
Naphthalene	13000	200 J	80 J	[19000]	1600
Tetrachloroethene	1400	250 U	230 U	250 U	220 U
Trichloroethene	700	250 U	230 U	250 U	220 U
trans-1,2-Dichloroethene	300	250 U	230 U	250 U	220 U
cis-1,2-Dichloroethene		250 U	230 U	250 U	220 U
Vinyl chloride	200	250 U	230 U	250 U	220 U
Chlorobenzene	1700	250 U	230 U	250 U	220 U

SB-60 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	260 U	270 U	260 U	260 U
Toluene	1500	260 U	270 U	260 U	260 U
Ethylbenzene	5500	260 U	270 U	3600	80 J
Xylenes (total)	1200	260 U	270 U	[11000]	200 J
Methyl-tert-butyl-ether	120	260 U	270 U	260 U	260 U
Naphthalene	13000	260 U	270 U	[25000]	4500
Tetrachloroethene	1400	260 U	270 U	260 U	260 U
Trichloroethene	700	260 U	270 U	260 U	260 U
trans-1,2-Dichloroethene	300	260 U	270 U	260 U	260 U
cis-1,2-Dichloroethene		260 U	270 U	260 U	260 U
Vinyl chloride	200	260 U	270 U	260 U	260 U
Chlorobenzene	1700	260 U	270 U	260 U	260 U

SB-43 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	260 U	250 U	240 U	250 U
Toluene	1500	260 U	250 U	240 U	250 U
Ethylbenzene	5500	260 U	250 U	1600	680
Xylenes (total)	1200	260 U	250 U	[2400]	[1200]
Methyl-tert-butyl-ether	120	260 U	250 U	240 U	250 U
Naphthalene	13000	260 U	250 U	[22000]	[16000]
Tetrachloroethene	1400	260 U	250 U	240 U	250 U
Trichloroethene	700	260 U	250 U	240 U	250 U
trans-1,2-Dichloroethene	300	260 U	250 U	240 U	250 U
cis-1,2-Dichloroethene		260 U	250 U	240 U	250 U
Vinyl chloride	200	260 U	250 U	240 U	250 U
Chlorobenzene	1700	260 U	250 U	240 U	250 U

SB-37 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	270 U	260 U	250 U	250 U
Toluene	1500	80 J	260 U	250 U	250 U
Ethylbenzene	5500	270 U	260 U	250 U	250 U
Xylenes (total)	1200	270 U	260 U	250 U	250 U
Methyl-tert-butyl-ether	120	270 U	260 U	250 U	250 U
Naphthalene	13000	270 U	260 U	250 U	250 U
Tetrachloroethene	1400	[430]	200 J	100 J	100 J
Trichloroethene	700	[270]	80 J	250 U	70 J
trans-1,2-Dichloroethene	300	[300]	260 U	250 U	250 U
cis-1,2-Dichloroethene		12000	300 J	100 J	100 J
Vinyl chloride	200	[1800]	260 U	250 U	250 U
Chlorobenzene	1700	270 U	260 U	250 U	250 U

SB-36 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	250 U	250 U	250 U	230 U
Toluene	1500	[2800]	250 U	250 U	230 U
Ethylbenzene	5500	250 U	250 U	250 U	230 U
Xylenes (total)	1200	250 U	250 U	250 U	230 U
Methyl-tert-butyl-ether	120	250 U	250 U	250 U	230 U
Naphthalene	13000	250 U	250 U	250 U	230 U
Tetrachloroethene	1400	80 J	250 U	100 J	230 U
Trichloroethene	700	560	250 U	[1000]	230 U
trans-1,2-Dichloroethene	300	250 U	250 U	250 U	230 U
cis-1,2-Dichloroethene		470	200 J	300	230 U
Vinyl chloride	200	250 U	250 U	250 U	230 U
Chlorobenzene	1700	250 U	250 U	250 U	230 U

SB-58 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	240 U	220 U	240 U	230 U
Toluene	1500	240 U	220 U	240 U	230 U
Ethylbenzene	5500	240 U	220 U	420	230 U
Xylenes (total)	1200	240 U	220 U	[4000]	230 U
Methyl-tert-butyl-ether	120	240 U	220 U	240 U	230 U
Naphthalene	13000	240 U	220 U	10000	1300
Tetrachloroethene	1400	240 U	220 U	240 U	230 U
Trichloroethene	700	240 U	220 U	240 U	230 U
trans-1,2-Dichloroethene	300	240 U	220 U	240 U	230 U
cis-1,2-Dichloroethene		240 U	220 U	240 U	230 U
Vinyl chloride	200	240 U	220 U	240 U	230 U
Chlorobenzene	1700	240 U	220 U	240 U	230 U

SB-65 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	2.50	7.00	12.00
Benzene	60	250 U	250 U	250 U	260 U
Toluene	1500	250 U	250 U	250 U	260 U
Ethylbenzene	5500	250 U	250 U	250 U	260 U
Xylenes (total)	1200	250 U	250 U	250 U	260 U
Methyl-tert-butyl-ether	120	250 U	250 U	250 U	260 U
Naphthalene	13000	250 U	250 U	250 U	260 U
Tetrachloroethene	1400	200 J	250 U	250 U	260 U
Trichloroethene	700	[10000]	100 J	250 U	[1100]
trans-1,2-Dichloroethene	300	250 U	250 U	250 U	260 U
cis-1,2-Dichloroethene		1700	250 U	250 U	200 J
Vinyl chloride	200	250 U	250 U	250 U	260 U
Chlorobenzene	1700	250 U	250 U	250 U	260 U

SB-07 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	7.00	12.00	2.50
Benzene	60	250 U	[480]	250 U	[1400]
Toluene	1500	250 U	350	250 U	1100
Ethylbenzene	5500	250 U	70 J	250 U	200 J
Xylenes (total)	1200	80 J	370	250 U	1000
Methyl-tert-butyl-ether	120	250 U	230 U	250 U	270 U
Naphthalene	13000	200 J	2600	310	8300
Tetrachloroethene	1400	250 U	230 U	250 U	270 U
Trichloroethene	700	250 U	230 U	250 U	270 U
trans-1,2-Dichloroethene	300	250 U	230 U	250 U	270 U
cis-1,2-Dichloroethene		250 U	230 U	250 U	270 U
Vinyl chloride	200	250 U	230 U	250 U	270 U
Chlorobenzene	1700	250 U	230 U	250 U	270 U

SB-34 Constituent	NYSDEC RSCOs & EASTERN USA BACKGROUND	0.50	7.00	12.00	8.00
Benzene	60	260 U	230 U	220 U	260 U
Toluene	1500	100 J	[35000]	200 J	[78000]
Ethylbenzene	5500	260 U	200 J	220 U	200 J
Xylenes (total)	1200	260 U	410	220 U	470
Methyl-tert-butyl-ether	120	[370]	[1500]	220 U	260 U
Naphthalene	13000	370	1300	220 U	680
Tetrachloroethene	1400	260 U	230 U	220 U	260 U
Trichloroethene	700	260 U	230 U	220 U	260 U
trans-1,2-Dichloroethene	300	260 U	230 U	220 U	260 U
cis-1,2-Dichloroethene		260 U	230 U	220 U	260 U
Vinyl chloride	200	260 U	230 U	220 U	260 U
Chlorobenzene	1700	260 U	230 U	220 U	260 U

TOPOGRAPHIC MAP OF
DESCRIBED PROPERTY
AND
LOT NOS. 24 & 25
MAP OF
SUNSHINE PARK
SITUATED AT
FREEPORT
TOWN OF HEMPSTEAD
NASSAU COUNTY, NEW YORK
NASSAU COUNTY MAP NO. 179
NASSAU COUNTY CASE NO. 1528
FILED: JUNE 4, 1921

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NOTES: ELEVATIONS SHOWN ESTABLISHED FROM BENCHMARK 22011 EL. 9.642 FROM THE NASSAU COUNTY DEPARTMENT OF PUBLIC WORKS BENCHMARK BOOK. U.S.C. & G.S. DATUM.

HORIZONTAL DATUM IS N.A.D. 1927 ESTABLISHED FROM NASSAU COUNTY GIS GPS MONUMENTS 11ED6EN AND 11ED8NAZ.

BEARINGS SHOWN TAKEN FROM RECORD DESCRIPTIONS. ABSTRACT OF TITLE AND EASEMENTS FOR SUBJECT PARCEL AND ADJOINING PARCELS NOT PROVIDED FOR THE PREPERATION OF THIS SURVEY. ABSENCE OF EASEMENTS DOES NOT DENY THE EXISTENCE OF SAME.

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FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

Figure 5C
Remedial Investigation
Soil Sample Results - VOCs

0 30' 60'
GRAPHIC SCALE

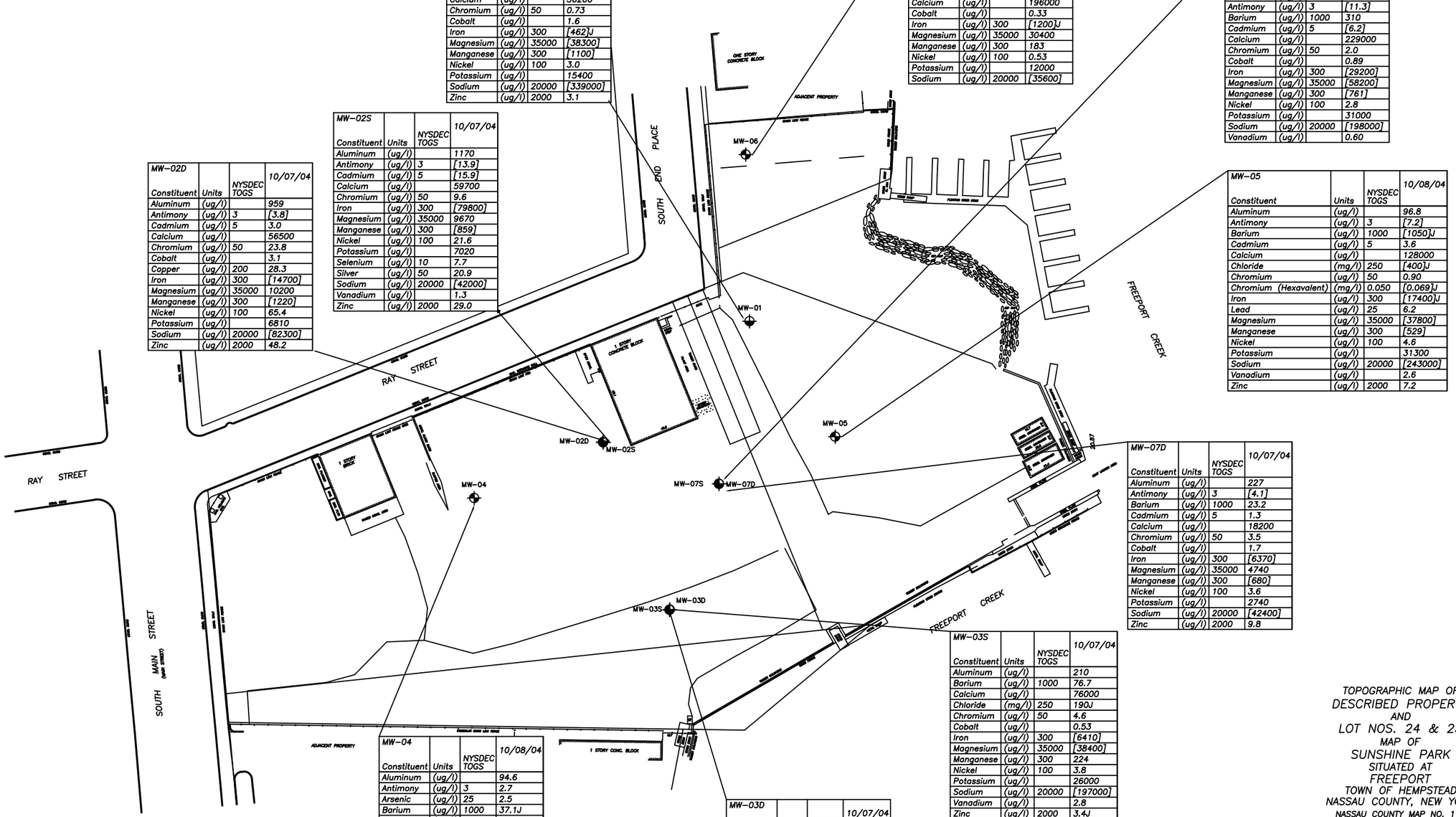
Legend

SB-56 ● Soil Boring location exceeding the NYSDEC RSCO (Recomended Soil Cleanup Objective per TAGM 4046)

Concentrations reported in micrograms per kilogram (ug/mg)

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	1447437	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG5C

Note: Map was developed for the 2007 Remedial Investigation by Environmental Remedial Management, Inc.



MW-01 Constituent	Units	NYSDEC TOGS	10/08/04
Aluminum	(ug/l)		26.4
Antimony	(ug/l)	3	[5.1]
Arsenic	(ug/l)	25	2.4
Barium	(ug/l)	1000	51.0J
Calcium	(ug/l)		36200
Chromium	(ug/l)	50	0.73
Cobalt	(ug/l)		1.6
Iron	(ug/l)	300	[462]J
Magnesium	(ug/l)	35000	[38300]
Manganese	(ug/l)	300	[1100]
Nickel	(ug/l)	100	3.0
Potassium	(ug/l)		15400
Sodium	(ug/l)	20000	[339000]
Zinc	(ug/l)	2000	3.1

MW-02S Constituent	Units	NYSDEC TOGS	10/07/04
Aluminum	(ug/l)		1170
Antimony	(ug/l)	3	[13.9]
Cadmium	(ug/l)	5	[15.9]
Calcium	(ug/l)		59700
Chromium	(ug/l)	50	9.6
Iron	(ug/l)	300	[79800]
Magnesium	(ug/l)	35000	9670
Manganese	(ug/l)	300	[859]
Nickel	(ug/l)	100	21.6
Potassium	(ug/l)		7020
Selenium	(ug/l)	10	7.7
Silver	(ug/l)	50	20.9
Sodium	(ug/l)	20000	[42000]
Vanadium	(ug/l)		1.3
Zinc	(ug/l)	2000	29.0

MW-02D Constituent	Units	NYSDEC TOGS	10/07/04
Aluminum	(ug/l)		959
Antimony	(ug/l)	3	[3.8]
Cadmium	(ug/l)	5	3.0
Calcium	(ug/l)		56500
Chromium	(ug/l)	50	23.8
Cobalt	(ug/l)		3.1
Copper	(ug/l)	200	28.3
Iron	(ug/l)	300	[14700]
Magnesium	(ug/l)	35000	10200
Manganese	(ug/l)	300	[1220]
Nickel	(ug/l)	100	65.4
Potassium	(ug/l)		6810
Sodium	(ug/l)	20000	[82300]
Zinc	(ug/l)	2000	48.2

MW-04 Constituent	Units	NYSDEC TOGS	10/08/04
Aluminum	(ug/l)		94.6
Antimony	(ug/l)	3	2.7
Arsenic	(ug/l)	25	2.5
Barium	(ug/l)	1000	37.1J
Calcium	(ug/l)		90900
Chromium	(ug/l)	50	14.7
Cobalt	(ug/l)		0.33
Iron	(ug/l)	300	171J
Magnesium	(ug/l)	35000	10000
Manganese	(ug/l)	300	21.3
Nickel	(ug/l)	100	16.5
Potassium	(ug/l)		10800
Sodium	(ug/l)	20000	[63500]
Zinc	(ug/l)	2000	10.9

MW-03D Constituent	Units	NYSDEC TOGS	10/07/04
Aluminum	(ug/l)		158
Chromium	(ug/l)	50	4.0
Iron	(ug/l)	300	[892]
Manganese	(ug/l)	300	[380]
Potassium	(ug/l)		6450
Zinc	(ug/l)	2000	2.8

MW-03S Constituent	Units	NYSDEC TOGS	10/07/04
Aluminum	(ug/l)		210
Barium	(ug/l)	1000	76.7
Calcium	(ug/l)		76000
Chloride	(mg/l)	250	190J
Chromium	(ug/l)	50	4.6
Cobalt	(ug/l)		0.53
Iron	(ug/l)	300	[6410]
Magnesium	(ug/l)	35000	[38400]
Manganese	(ug/l)	300	224
Nickel	(ug/l)	100	3.8
Potassium	(ug/l)		26000
Sodium	(ug/l)	20000	[197000]
Vanadium	(ug/l)		2.8
Zinc	(ug/l)	2000	3.4J

MW-05 Constituent	Units	NYSDEC TOGS	10/08/04
Aluminum	(ug/l)		96.8
Antimony	(ug/l)	3	[7.2]
Barium	(ug/l)	1000	[1050]J
Cadmium	(ug/l)	5	3.6
Calcium	(ug/l)		128000
Chloride	(mg/l)	250	[400]J
Chromium	(ug/l)	50	0.90
Chromium (Hexavalent)	(mg/l)	0.050	[0.069]J
Iron	(ug/l)	300	[17400]J
Lead	(ug/l)	25	6.2
Magnesium	(ug/l)	35000	[37800]
Manganese	(ug/l)	300	[529]
Nickel	(ug/l)	100	4.6
Potassium	(ug/l)		31300
Sodium	(ug/l)	20000	[243000]
Vanadium	(ug/l)		2.6
Zinc	(ug/l)	2000	7.2

MW-06 Constituent	Units	NYSDEC TOGS	10/08/04
Aluminum	(ug/l)		150
Antimony	(ug/l)	3	2.5
Arsenic	(ug/l)	25	3.8
Cadmium	(ug/l)	5	0.33
Calcium	(ug/l)		196000
Cobalt	(ug/l)		0.33
Iron	(ug/l)	300	[1200]J
Magnesium	(ug/l)	35000	30400
Manganese	(ug/l)	300	183
Nickel	(ug/l)	100	0.53
Potassium	(ug/l)		12000
Sodium	(ug/l)	20000	[35600]

MW-07D Constituent	Units	NYSDEC TOGS	10/07/04
Aluminum	(ug/l)		227
Antimony	(ug/l)	3	[4.1]
Barium	(ug/l)	1000	23.2
Cadmium	(ug/l)	5	1.3
Calcium	(ug/l)		18200
Chromium	(ug/l)	50	3.5
Cobalt	(ug/l)		1.7
Iron	(ug/l)	300	[6370]
Magnesium	(ug/l)	35000	4740
Manganese	(ug/l)	300	[680]
Nickel	(ug/l)	100	3.6
Potassium	(ug/l)		2740
Sodium	(ug/l)	20000	[42400]
Zinc	(ug/l)	2000	9.8

MW-07S Constituent	Units	NYSDEC TOGS	10/07/04
Aluminum	(ug/l)		64.5
Antimony	(ug/l)	3	[11.3]
Barium	(ug/l)	1000	310
Cadmium	(ug/l)	5	[6.2]
Calcium	(ug/l)		229000
Chromium	(ug/l)	50	2.0
Cobalt	(ug/l)		0.89
Iron	(ug/l)	300	[29200]
Magnesium	(ug/l)	35000	[58200]
Manganese	(ug/l)	300	[761]
Nickel	(ug/l)	100	2.8
Potassium	(ug/l)		31000
Sodium	(ug/l)	20000	[198000]
Vanadium	(ug/l)		0.60

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FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

Figure 6A
Remedial Investigation
Groundwater Sample Results - Metals

0 60' 120'

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	1447437	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG6A

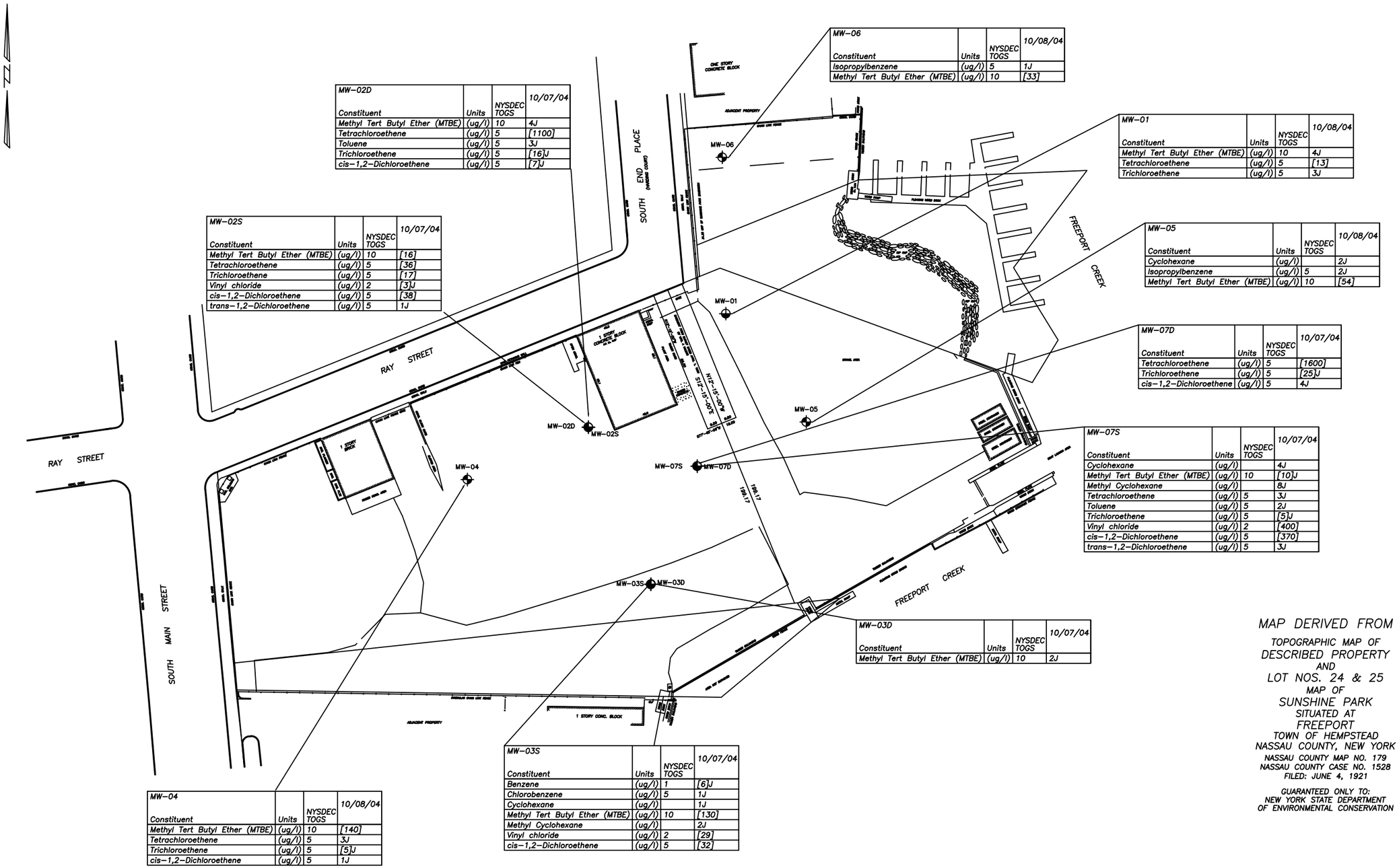
Legend

MW-05 Monitoring Well Location

[ ] Detected groundwater concentration is above NYSDEC TOGS Class GA Groundwater Standard

J Estimated value

Note: Map was developed for the 2007 Remedial Investigation by Environmental Remedial Management, Inc.



MW-06 Constituent	Units	NYSDEC TOGS	10/08/04
Isopropylbenzene	(ug/l)	5	1J
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	[33]

MW-02D Constituent	Units	NYSDEC TOGS	10/07/04
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	4J
Tetrachloroethene	(ug/l)	5	[1100]
Toluene	(ug/l)	5	3J
Trichloroethene	(ug/l)	5	[16]J
cis-1,2-Dichloroethene	(ug/l)	5	[7]J

MW-01 Constituent	Units	NYSDEC TOGS	10/08/04
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	4J
Tetrachloroethene	(ug/l)	5	[13]
Trichloroethene	(ug/l)	5	3J

MW-02S Constituent	Units	NYSDEC TOGS	10/07/04
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	[16]
Tetrachloroethene	(ug/l)	5	[36]
Trichloroethene	(ug/l)	5	[17]
Vinyl chloride	(ug/l)	2	[3]J
cis-1,2-Dichloroethene	(ug/l)	5	[38]
trans-1,2-Dichloroethene	(ug/l)	5	1J

MW-05 Constituent	Units	NYSDEC TOGS	10/08/04
Cyclohexane	(ug/l)		2J
Isopropylbenzene	(ug/l)	5	2J
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	[54]

MW-07D Constituent	Units	NYSDEC TOGS	10/07/04
Tetrachloroethene	(ug/l)	5	[1600]
Trichloroethene	(ug/l)	5	[25]J
cis-1,2-Dichloroethene	(ug/l)	5	4J

MW-07S Constituent	Units	NYSDEC TOGS	10/07/04
Cyclohexane	(ug/l)		4J
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	[10]J
Methyl Cyclohexane	(ug/l)		8J
Tetrachloroethene	(ug/l)	5	3J
Toluene	(ug/l)	5	2J
Trichloroethene	(ug/l)	5	[5]J
Vinyl chloride	(ug/l)	2	[400]
cis-1,2-Dichloroethene	(ug/l)	5	[370]
trans-1,2-Dichloroethene	(ug/l)	5	3J

MW-03D Constituent	Units	NYSDEC TOGS	10/07/04
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	2J

MW-03S Constituent	Units	NYSDEC TOGS	10/07/04
Benzene	(ug/l)	1	[6]J
Chlorobenzene	(ug/l)	5	1J
Cyclohexane	(ug/l)		1J
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	[130]
Methyl Cyclohexane	(ug/l)		2J
Vinyl chloride	(ug/l)	2	[29]
cis-1,2-Dichloroethene	(ug/l)	5	[32]

MW-04 Constituent	Units	NYSDEC TOGS	10/08/04
Methyl Tert Butyl Ether (MTBE)	(ug/l)	10	[140]
Tetrachloroethene	(ug/l)	5	3J
Trichloroethene	(ug/l)	5	[5]J
cis-1,2-Dichloroethene	(ug/l)	5	1J

MAP DERIVED FROM
TOPOGRAPHIC MAP OF
DESCRIBED PROPERTY
AND
LOT NOS. 24 & 25
MAP OF
SUNSHINE PARK
SITUATED AT
FREEPORT
TOWN OF HEMPSTEAD
NASSAU COUNTY, NEW YORK
NASSAU COUNTY MAP NO. 179
NASSAU COUNTY CASE NO. 1528
FILED: JUNE 4, 1921

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FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

Figure 6B
Remedial Investigation
Groundwater Sample Results - VOCs

0 60' 120'

Legend
- MW-05 Monitoring Well Location
- [ ] Detected groundwater concentration is above NYSDEC TOGS Class GA Groundwater Standard
- J Estimated value

Note: Map was developed for the 2007 Remedial Investigation by Environmental Remedial Management, Inc.

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
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433-SM-FF Constituent	Units	03/31/05
Acetone	(ug/m3)	19J
Benzene	(ug/m3)	1.3
Benzene, 1,2,4-trimethyl	(ug/m3)	0.78
Chloromethane	(ug/m3)	0.84
Dichlorodifluoromethane	(ug/m3)	2.6
Ethanol	(ug/m3)	3.6J
Ethylbenzene	(ug/m3)	4.4
m+p-Xylene	(ug/m3)	15
o-Xylene	(ug/m3)	3.2
Toluene	(ug/m3)	3.6
Trichlorofluoromethane	(ug/m3)	2.1

433-SM-CS Constituent	Units	03/31/05
Acetone	(ug/m3)	4.9J
Benzene	(ug/m3)	1.2
Benzene, 1,2,4-trimethyl	(ug/m3)	1
Chloromethane	(ug/m3)	0.65
Dichlorodifluoromethane	(ug/m3)	2.2
Ethanol	(ug/m3)	1.9J
Ethylbenzene	(ug/m3)	0.72
m+p-Xylene	(ug/m3)	2.8
o-Xylene	(ug/m3)	0.84
Toluene	(ug/m3)	3.6
Trichlorofluoromethane	(ug/m3)	1.7

433-SM-B Constituent	Units	03/31/05
Acetone	(ug/m3)	6.8J
Benzene	(ug/m3)	1.7
Benzene, 1,2,4-trimethyl	(ug/m3)	0.83
Chloromethane	(ug/m3)	0.63
Dichlorodifluoromethane	(ug/m3)	2.4
Ethanol	(ug/m3)	1.8J
Ethylbenzene	(ug/m3)	1.1
m+p-Xylene	(ug/m3)	3.1
o-Xylene	(ug/m3)	0.84
Toluene	(ug/m3)	3.4
Trichlorofluoromethane	(ug/m3)	1.9

SG-01 Constituent	Units	07/15/04
1,1,1-Trichloroethane	(ug/m3)	22.97J
2-Butanone	(ug/m3)	57.81J
Acetone	(ug/m3)	736.39
Benzene	(ug/m3)	7.00J
Benzene, 1,2,4-trimethyl	(ug/m3)	66.36J
Benzene, 1,3,5-trimethyl-	(ug/m3)	42.77J
Carbon disulfide	(ug/m3)	106.50
Methyl Tertiary Butyl Ether	(ug/m3)	28.09J
n-Heptane	(ug/m3)	22.99J
p-Ethyltoluene	(ug/m3)	93.89J
Propylene	(ug/m3)	13.42J
Tetrachloroethene	(ug/m3)	292.32
Toluene	(ug/m3)	32.52J
Trichloroethene	(ug/m3)	187.01
Trichlorofluoromethane	(ug/m3)	16.29J

3-RAY-SG Constituent	Units	03/31/05
Acetone	(ug/m3)	2.5
Benzene	(ug/m3)	0.54
Chloromethane	(ug/m3)	0.57J
Dichlorodifluoromethane	(ug/m3)	1.4
Ethanol	(ug/m3)	2.6
m+p-Xylene	(ug/m3)	1.5
Toluene	(ug/m3)	1.1

SG-03 Constituent	Units	08/26/04
1,1,1-Trichloroethane	(ug/m3)	13.37J
2-Butanone	(ug/m3)	35.98
Acetone	(ug/m3)	189.56
Benzene	(ug/m3)	9.07J
Benzene, 1,2,4-trimethyl	(ug/m3)	16.27J
Benzene, 1,3,5-trimethyl-	(ug/m3)	5.01J
Carbon disulfide	(ug/m3)	6.76J
Cyclohexane	(ug/m3)	9.22J
Ethylbenzene	(ug/m3)	7.90J
Isooctane	(ug/m3)	20.88
m+p-Xylene	(ug/m3)	32.44J
Methyl Tertiary Butyl Ether	(ug/m3)	5.30J
n-Heptane	(ug/m3)	11.72J
n-Hexane	(ug/m3)	14.73
o-Xylene	(ug/m3)	12.03J
p-Ethyltoluene	(ug/m3)	7.91J
Propylene	(ug/m3)	15.58
Tetrachloroethene	(ug/m3)	318.10
Toluene	(ug/m3)	33.28
Xylene (total)	(ug/m3)	44.29J

433-4-ER-AA Constituent	Units	03/31/05
Acetone	(ug/m3)	15
Benzene	(ug/m3)	1.2
Benzene, 1,2,4-trimethyl	(ug/m3)	3
Benzene, 1,3,5-trimethyl-	(ug/m3)	1.1
Chloromethane	(ug/m3)	1.2J
Dichlorodifluoromethane	(ug/m3)	3
Ethanol	(ug/m3)	4.1
Ethylbenzene	(ug/m3)	1.9
m+p-Xylene	(ug/m3)	8.5
o-Xylene	(ug/m3)	2.6
Tetrahydrofuran	(ug/m3)	4.5
Toluene	(ug/m3)	6.7
Trichlorofluoromethane	(ug/m3)	1.6

4-ER-FF Constituent	Units	03/31/05
Acetone	(ug/m3)	13J
Benzene	(ug/m3)	1.5
Benzene, 1,2,4-trimethyl	(ug/m3)	2
Benzene, 1,3,5-trimethyl-	(ug/m3)	0.77
Chloroform	(ug/m3)	1.1
Chloromethane	(ug/m3)	0.72
Dichlorodifluoromethane	(ug/m3)	2.7
Ethanol	(ug/m3)	88J
Ethylbenzene	(ug/m3)	1.2
Isopropanol	(ug/m3)	11
m+p-Xylene	(ug/m3)	4.7
Methylene chloride	(ug/m3)	1.2
o-Xylene	(ug/m3)	1.4
Styrene	(ug/m3)	0.66
Toluene	(ug/m3)	24
Trichlorofluoromethane	(ug/m3)	2

SG-06 Constituent	Units	08/27/04
Acetone	(ug/m3)	6.32
Dichlorodifluoromethane	(ug/m3)	3.41J
Isopropanol	(ug/m3)	2.65J
Propylene	(ug/m3)	1.25J

4-PRESIDENT-SG Constituent	Units	03/31/05
Acetone	(ug/m3)	240
n-Heptane	(ug/m3)	760
Tetrachloroethene	(ug/m3)	0.64
Toluene	(ug/m3)	76
Trichloroethene	(ug/m3)	0.36

435-SM-SG Constituent	Units	03/31/05
Acetone	(ug/m3)	30
Dichlorodifluoromethane	(ug/m3)	8.2
Tetrachloroethene	(ug/m3)	15
Toluene	(ug/m3)	5.6
Trichloroethene	(ug/m3)	2.5
Trichlorofluoromethane	(ug/m3)	500

SG-05 Constituent	Units	08/27/04
1,1,1-Trichloroethane	(ug/m3)	4550.33
1,1-Dichloroethane	(ug/m3)	890.44
2-Butanone	(ug/m3)	26.93J
Acetone	(ug/m3)	185.29
Chloroethane	(ug/m3)	77.57
cis-1,2-Dichloroethene	(ug/m3)	27.48J
Cyclohexane	(ug/m3)	74.35
Isooctane	(ug/m3)	320.03
Methyl Tertiary Butyl Ether	(ug/m3)	44.71J
n-Heptane	(ug/m3)	25.86J
n-Hexane	(ug/m3)	58.86J
Propylene	(ug/m3)	148.18
Tetrachloroethene	(ug/m3)	40.76J
Trichloroethene	(ug/m3)	34.98J

4-ER-CS Constituent	Units	03/31/05
Acetone	(ug/m3)	3.6J
Benzene	(ug/m3)	1
Benzene, 1,2,4-trimethyl	(ug/m3)	1.1
Chloromethane	(ug/m3)	0.57
Dichlorodifluoromethane	(ug/m3)	2.2
Ethanol	(ug/m3)	2.3J
Ethylbenzene	(ug/m3)	0.65
m+p-Xylene	(ug/m3)	2.3
o-Xylene	(ug/m3)	0.88
Toluene	(ug/m3)	3.1
Trichlorofluoromethane	(ug/m3)	1.7

4-ER-B Constituent	Units	03/31/05
Acetone	(ug/m3)	4.4J
Benzene	(ug/m3)	1.1
Benzene, 1,2,4-trimethyl	(ug/m3)	1.2
Chloromethane	(ug/m3)	0.73
Dichlorodifluoromethane	(ug/m3)	2.8
Ethanol	(ug/m3)	3.4J
Ethylbenzene	(ug/m3)	0.75
m+p-Xylene	(ug/m3)	2.4
o-Xylene	(ug/m3)	0.7
Toluene	(ug/m3)	3.3
Trichlorofluoromethane	(ug/m3)	2

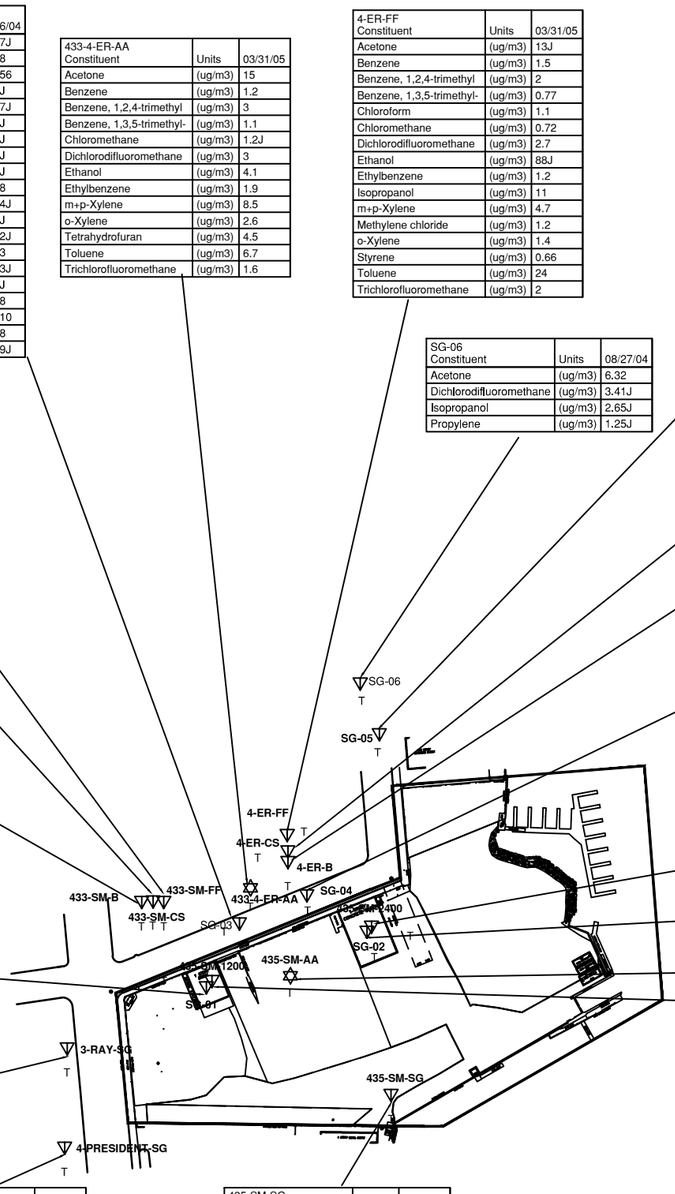
SG-04 Constituent	Units	08/27/04
1,1,1-Trichloroethane	(ug/m3)	136.95
2-Butanone	(ug/m3)	11.94
Acetone	(ug/m3)	89.55
Benzene	(ug/m3)	11.37
Benzene, 1,2,4-trimethyl	(ug/m3)	15.29
Benzene, 1,3,5-trimethyl-	(ug/m3)	4.12J
Carbon disulfide	(ug/m3)	10.25
Cyclohexane	(ug/m3)	4.47J
Dichlorodifluoromethane	(ug/m3)	4.83J
Ethylbenzene	(ug/m3)	6.60J
m+p-Xylene	(ug/m3)	20.50
Methylene chloride	(ug/m3)	1.97J
n-Heptane	(ug/m3)	5.37J
n-Hexane	(ug/m3)	8.07
o-Xylene	(ug/m3)	7.34J
p-Ethyltoluene	(ug/m3)	6.10J
Propylene	(ug/m3)	38.72
Tetrachloroethene	(ug/m3)	219.75
Toluene	(ug/m3)	21.56
Trichlorofluoromethane	(ug/m3)	3.76J
Xylene (total)	(ug/m3)	27.83

435-SM-2400 Constituent	Units	03/31/05
2-Butanone	(ug/m3)	12
Acetone	(ug/m3)	1800E
Benzene	(ug/m3)	30
Benzene, 1,2,4-trimethyl	(ug/m3)	320
Benzene, 1,3,5-trimethyl-	(ug/m3)	110
Cyclohexane	(ug/m3)	14
Dichlorodifluoromethane	(ug/m3)	13
Ethanol	(ug/m3)	120J
Ethylbenzene	(ug/m3)	290
Isopropanol	(ug/m3)	10
m+p-Xylene	(ug/m3)	1200
Methyl Tertiary Butyl Ether	(ug/m3)	390
n-Heptane	(ug/m3)	30
n-Hexane	(ug/m3)	64
n-Propylbenzene	(ug/m3)	87
o-Xylene	(ug/m3)	320
p-Ethyltoluene	(ug/m3)	410
Styrene	(ug/m3)	400
Tetrachloroethene	(ug/m3)	1
Toluene	(ug/m3)	370
Trichloroethene	(ug/m3)	2
Trichlorofluoromethane	(ug/m3)	21

SG-02 Constituent	Units	07/15/04
1,1,1-Trichloroethane	(ug/m3)	35.19J
2-Butanone	(ug/m3)	56.92J
Acetone	(ug/m3)	84.80
Benzene	(ug/m3)	4.79J
Benzene, 1,2,4-trimethyl	(ug/m3)	634.13
Benzene, 1,3,5-trimethyl-	(ug/m3)	321.00
Carbon disulfide	(ug/m3)	129.24
cis-1,2-Dichloroethene	(ug/m3)	283.88
n-Heptane	(ug/m3)	29.14J
o-Xylene	(ug/m3)	28.75J
p-Ethyltoluene	(ug/m3)	702.95
Propylene	(ug/m3)	10.46J
Tetrachloroethene	(ug/m3)	5771.83
Toluene	(ug/m3)	14.66J
trans-1,2-Dichloroethene	(ug/m3)	33.46J
Trichloroethene	(ug/m3)	16014.00
Trichlorofluoromethane	(ug/m3)	10.84J
Xylene (total)	(ug/m3)	63.40J

435-SM-AA Constituent	Units	03/31/05
Acetone	(ug/m3)	24
Benzene	(ug/m3)	0.83
Benzene, 1,2,4-trimethyl	(ug/m3)	2.7
Benzene, 1,3,5-trimethyl-	(ug/m3)	1.1
Bromomethane	(ug/m3)	0.72
Chloromethane	(ug/m3)	1.2J
Dichlorodifluoromethane	(ug/m3)	3.1
Ethanol	(ug/m3)	1.5
Ethylbenzene	(ug/m3)	2.2
m+p-Xylene	(ug/m3)	9.3
o-Xylene	(ug/m3)	2.6
Toluene	(ug/m3)	11
Trichlorofluoromethane	(ug/m3)	1.5

435-SM-1200 Constituent	Units	03/31/05
2-Butanone	(ug/m3)	8.7
Acetone	(ug/m3)	20J
Benzene	(ug/m3)	1.2
Benzene, 1,2,4-trimethyl	(ug/m3)	2.5
Benzene, 1,3,5-trimethyl-	(ug/m3)	0.81
Chloromethane	(ug/m3)	0.62
Dichlorodifluoromethane	(ug/m3)	2.4
Ethanol	(ug/m3)	9.4J
Ethylbenzene	(ug/m3)	1.3
Isopropanol	(ug/m3)	3.4
m+p-Xylene	(ug/m3)	4.2
o-Xylene	(ug/m3)	1.5
Styrene	(ug/m3)	6.8
Tetrahydrofuran	(ug/m3)	5
Toluene	(ug/m3)	12
Trichloroethene	(ug/m3)	1
Trichlorofluoromethane	(ug/m3)	1.8



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MAP DERIVED FROM
TOPOGRAPHIC MAP OF
AND
MAP OF
SITUATED AT
TOWN OF HEMPSTEAD
NASSAU COUNTY, NEW YORK
NASSAU COUNTY MAP NO. 179
NASSAU COUNTY CASE NO. 1628
FILED: JUNE 6, 1921
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

LEGEND

AMBIENT AIR

T

SG-01 = 1200 Square Foot Building Sub-Slab Sample
SG-02 = 2400 Square Foot Building Sub-Slab Sample
SG-03 = Subsurface Soil Gas
SG-04 = Subsurface Soil Gas
SG-05 = Subsurface Soil Gas
SG-06 = Subsurface Soil Gas
433-SM-CS = 433 South Main-Crawl Space
433-SM-B = 433 South Main-Basement
433-SM-First Floor = 433 South Main-First Floor
4-ER-CS = 4-East Ray-Crawl Space
4-ER-B = 4 East Ray-Basement
4-ER-First Floor = 4 East Ray-First Floor
435-SM-1200 = 435 South Main-1200 (Small Show Room Building Indoor Air)
435-SM-2400 = 435 South Main-2400 (Larger Garage/Maintenance Building Indoor Air)
433-4-ER-AA = 433 South Main & 4 East Ray-Ambient Air
435-SM-AA = 435 South Main-Ambient Air
4-President-SG = 4 President-Soil Gas
435-SM-SG = 435 South Main-Soil Gas
3-Ray-SG = 3 Ray-Soil Gas

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FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

Figure 7
Remedial Investigation
Soil Vapor Data

0 75' 150'

Note: Map was developed for the 2007 Remedial Investigation by Environmental Remedial Management, Inc.

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	1447437	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG7

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 8
Documentation Soil & Sedment Sample Locations

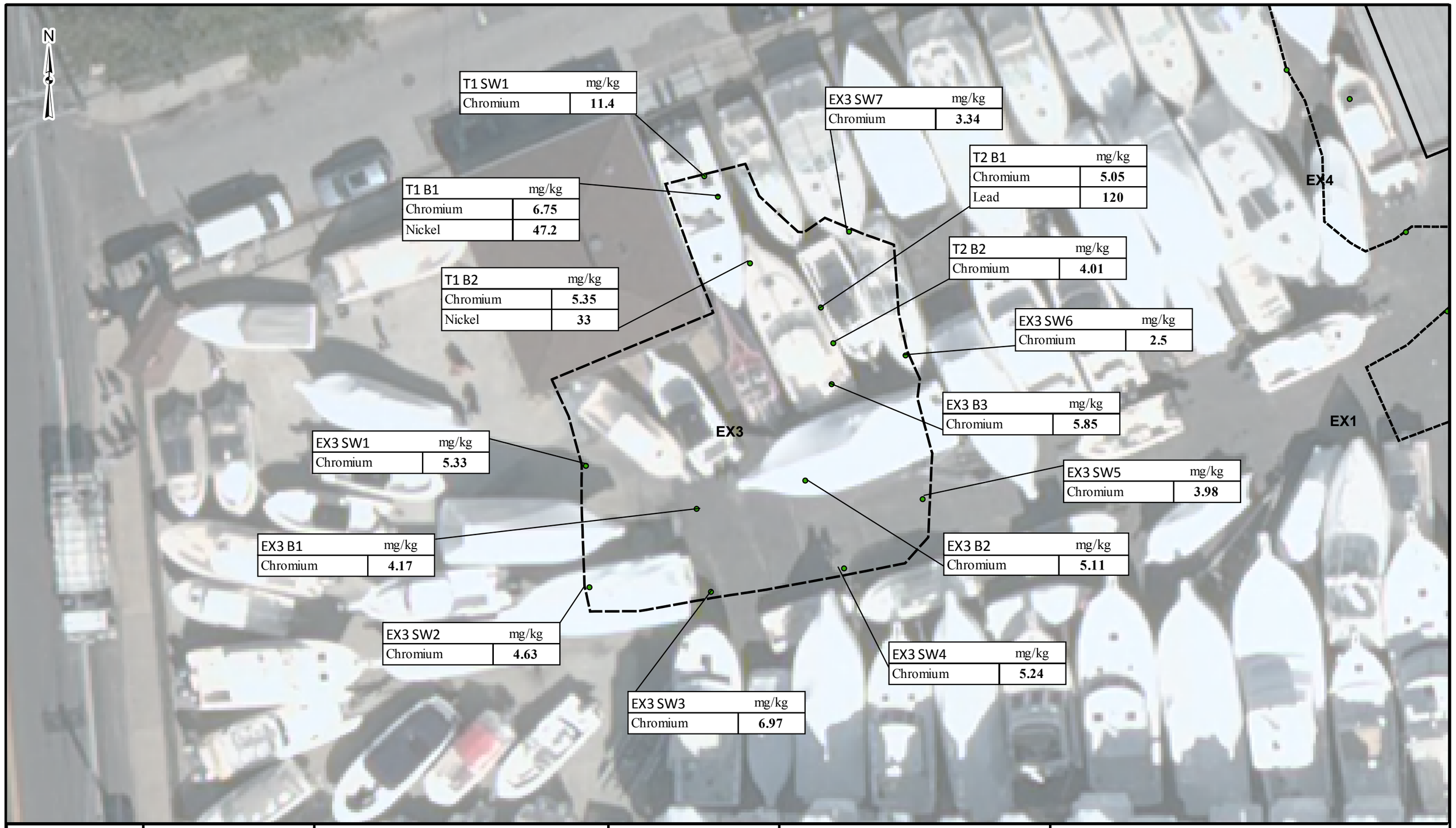
0 20 40 80 Feet

Source: NYS GIS Clearing House

Legend

---- Excavation Area Boundaries

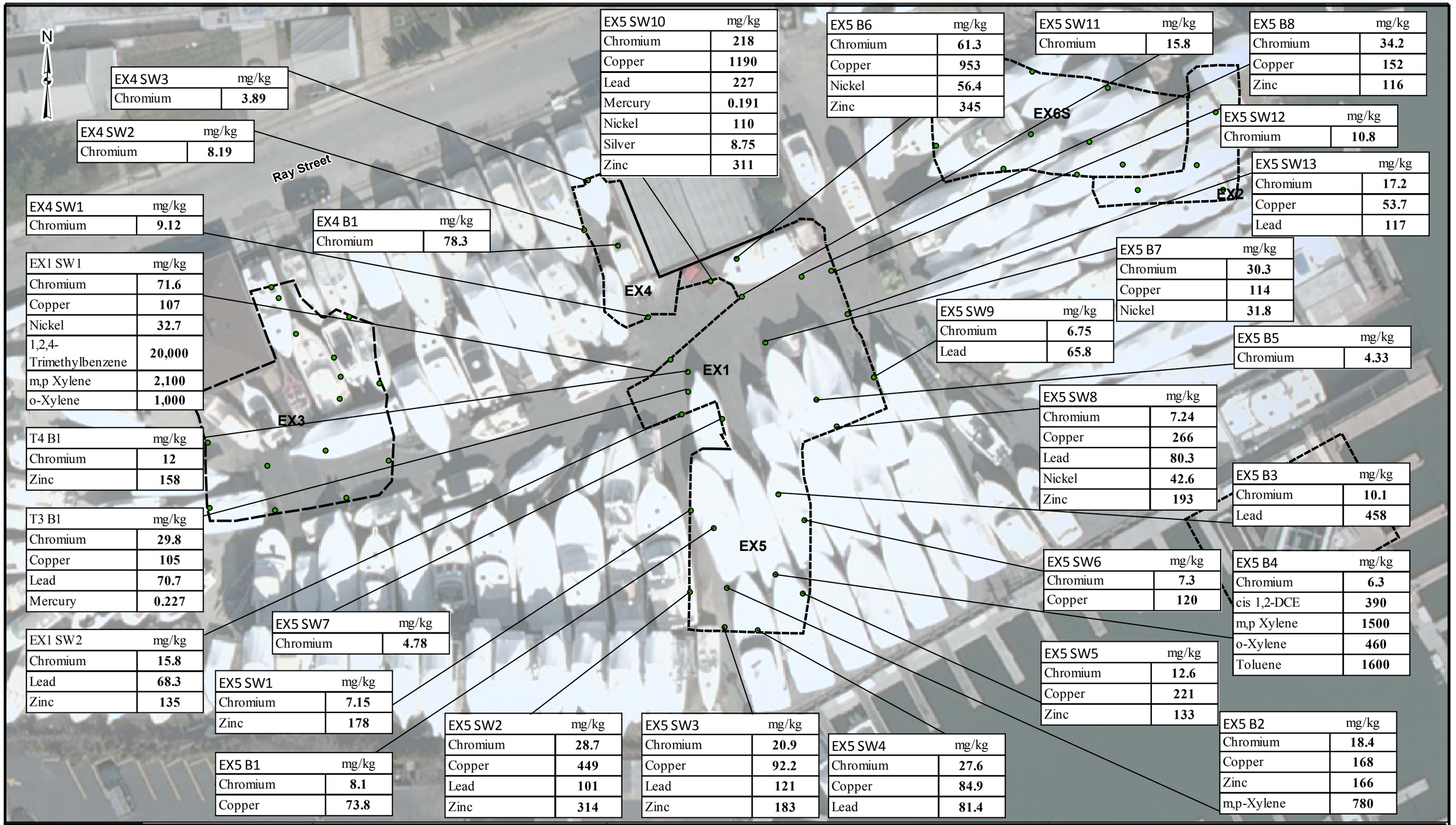
PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig8



	FREEPORT METAL ETCHING SITE MANAGEMENT PLAN FREEPORT, NEW YORK		FIGURE 8A Documentation Sample Locations with Exceedences of Unrestricted Levels in EX-3		Feet 0 5 10 20			Source: NYS GIS Clearing House
	PROJECT MGR: RSC	DESIGNED BY: RSC	CREATED BY: MEM	CHECKED BY: RSC	PROJECT NO: 14474.37	DATE: APRIL 2014	SCALE: AS SHOWN	FILE NO: G:\Projects\Fig8

Legend

- Documentation Sample Location
- ---- Excavation Area Boundaries



EX4 SW3	mg/kg
Chromium	3.89

EX4 SW2	mg/kg
Chromium	8.19

EX4 SW1	mg/kg
Chromium	9.12

EX4 B1	mg/kg
Chromium	78.3

EX1 SW1	mg/kg
Chromium	71.6
Copper	107
Nickel	32.7
1,2,4-Trimethylbenzene	20,000
m,p Xylene	2,100
o-Xylene	1,000

T4 B1	mg/kg
Chromium	12
Zinc	158

T3 B1	mg/kg
Chromium	29.8
Copper	105
Lead	70.7
Mercury	0.227

EX1 SW2	mg/kg
Chromium	15.8
Lead	68.3
Zinc	135

EX5 SW10	mg/kg
Chromium	218
Copper	1190
Lead	227
Mercury	0.191
Nickel	110
Silver	8.75
Zinc	311

EX5 B6	mg/kg
Chromium	61.3
Copper	953
Nickel	56.4
Zinc	345

EX5 SW11	mg/kg
Chromium	15.8

EX5 B8	mg/kg
Chromium	34.2
Copper	152
Zinc	116

EX5 SW12	mg/kg
Chromium	10.8

EX5 SW13	mg/kg
Chromium	17.2
Copper	53.7
Lead	117

EX5 B7	mg/kg
Chromium	30.3
Copper	114
Nickel	31.8

EX5 SW9	mg/kg
Chromium	6.75
Lead	65.8

EX5 B5	mg/kg
Chromium	4.33

EX5 SW8	mg/kg
Chromium	7.24
Copper	266
Lead	80.3
Nickel	42.6
Zinc	193

EX5 B3	mg/kg
Chromium	10.1
Lead	458

EX5 SW6	mg/kg
Chromium	7.3
Copper	120

EX5 B4	mg/kg
Chromium	6.3
cis 1,2-DCE	390
m,p Xylene	1500
o-Xylene	460
Toluene	1600

EX5 SW5	mg/kg
Chromium	12.6
Copper	221
Zinc	133

EX5 SW7	mg/kg
Chromium	4.78

EX5 SW1	mg/kg
Chromium	7.15
Zinc	178

EX5 B1	mg/kg
Chromium	8.1
Copper	73.8

EX5 SW2	mg/kg
Chromium	28.7
Copper	449
Lead	101
Zinc	314

EX5 SW3	mg/kg
Chromium	20.9
Copper	92.2
Lead	121
Zinc	183

EX5 SW4	mg/kg
Chromium	27.6
Copper	84.9
Lead	81.4

EX5 B2	mg/kg
Chromium	18.4
Copper	168
Zinc	166
m,p-Xylene	780

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 8B
Documentation Sample Locations with Exceedences of Unrestricted Levels in EX-1, -4, & -5

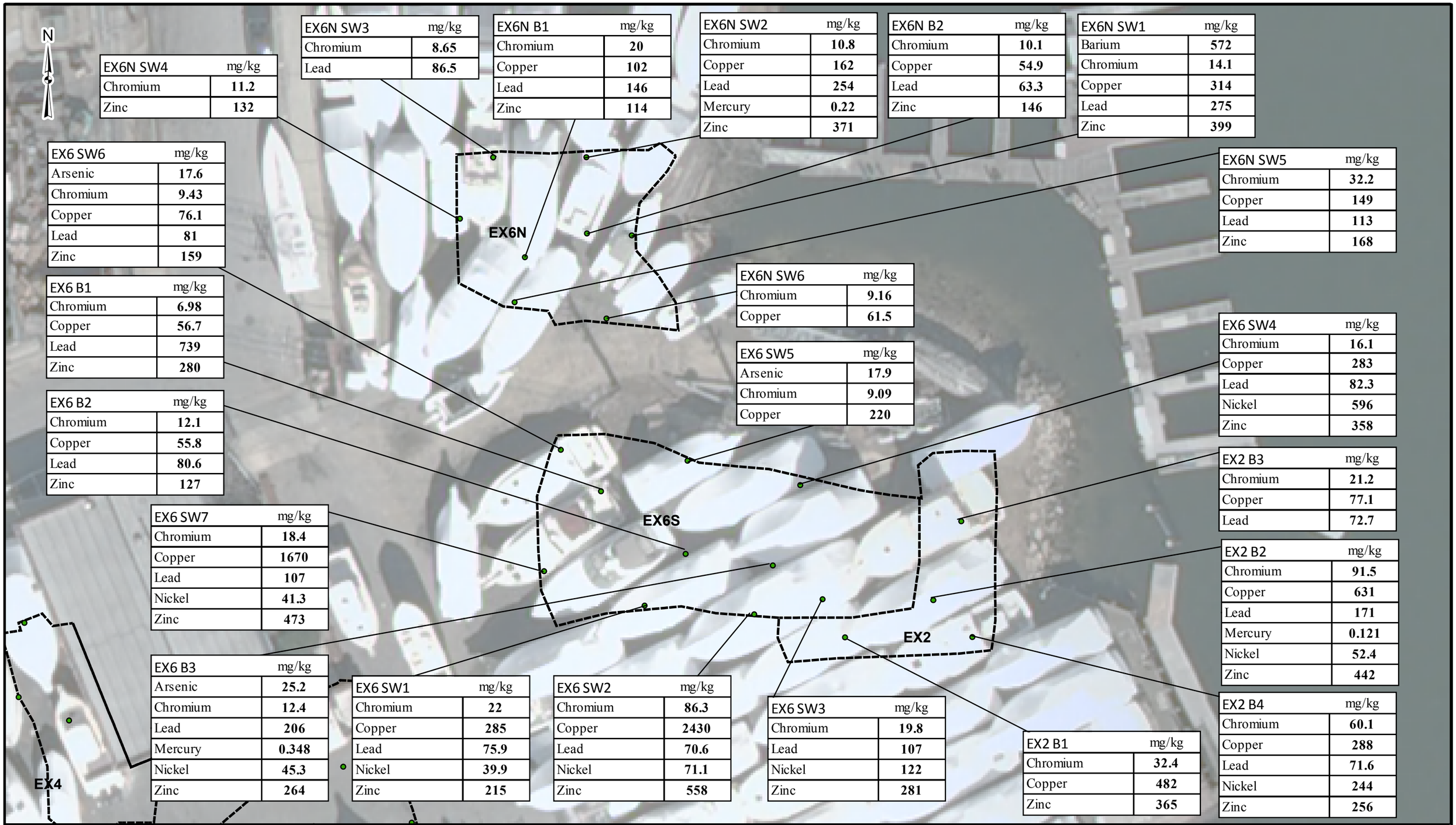
0 15 30 60 Feet

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig8B

Legend

- Documentation Sample Location
- Excavation Area Boundaries

Source: NYS GIS Clearing House



EX6N SW4	mg/kg
Chromium	11.2
Zinc	132

EX6N SW3	mg/kg
Chromium	8.65
Lead	86.5

EX6N B1	mg/kg
Chromium	20
Copper	102
Lead	146
Zinc	114

EX6N SW2	mg/kg
Chromium	10.8
Copper	162
Lead	254
Mercury	0.22
Zinc	371

EX6N B2	mg/kg
Chromium	10.1
Copper	54.9
Lead	63.3
Zinc	146

EX6N SW1	mg/kg
Barium	572
Chromium	14.1
Copper	314
Lead	275
Zinc	399

EX6 SW6	mg/kg
Arsenic	17.6
Chromium	9.43
Copper	76.1
Lead	81
Zinc	159

EX6N SW5	mg/kg
Chromium	32.2
Copper	149
Lead	113
Zinc	168

EX6 B1	mg/kg
Chromium	6.98
Copper	56.7
Lead	739
Zinc	280

EX6N SW6	mg/kg
Chromium	9.16
Copper	61.5

EX6 SW5	mg/kg
Arsenic	17.9
Chromium	9.09
Copper	220

EX6 SW4	mg/kg
Chromium	16.1
Copper	283
Lead	82.3
Nickel	596
Zinc	358

EX6 B2	mg/kg
Chromium	12.1
Copper	55.8
Lead	80.6
Zinc	127

EX2 B3	mg/kg
Chromium	21.2
Copper	77.1
Lead	72.7

EX6 SW7	mg/kg
Chromium	18.4
Copper	1670
Lead	107
Nickel	41.3
Zinc	473

EX2 B2	mg/kg
Chromium	91.5
Copper	631
Lead	171
Mercury	0.121
Nickel	52.4
Zinc	442

EX6 B3	mg/kg
Arsenic	25.2
Chromium	12.4
Lead	206
Mercury	0.348
Nickel	45.3
Zinc	264

EX6 SW1	mg/kg
Chromium	22
Copper	285
Lead	75.9
Nickel	39.9
Zinc	215

EX6 SW2	mg/kg
Chromium	86.3
Copper	2430
Lead	70.6
Nickel	71.1
Zinc	558

EX6 SW3	mg/kg
Chromium	19.8
Lead	107
Nickel	122
Zinc	281

EX2 B4	mg/kg
Chromium	60.1
Copper	288
Lead	71.6
Nickel	244
Zinc	256

EX2 B1	mg/kg
Chromium	32.4
Copper	482
Zinc	365

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 8C
Documentation Sample Locations with Exceedences of Unrestricted Levels in EX-2 & -6

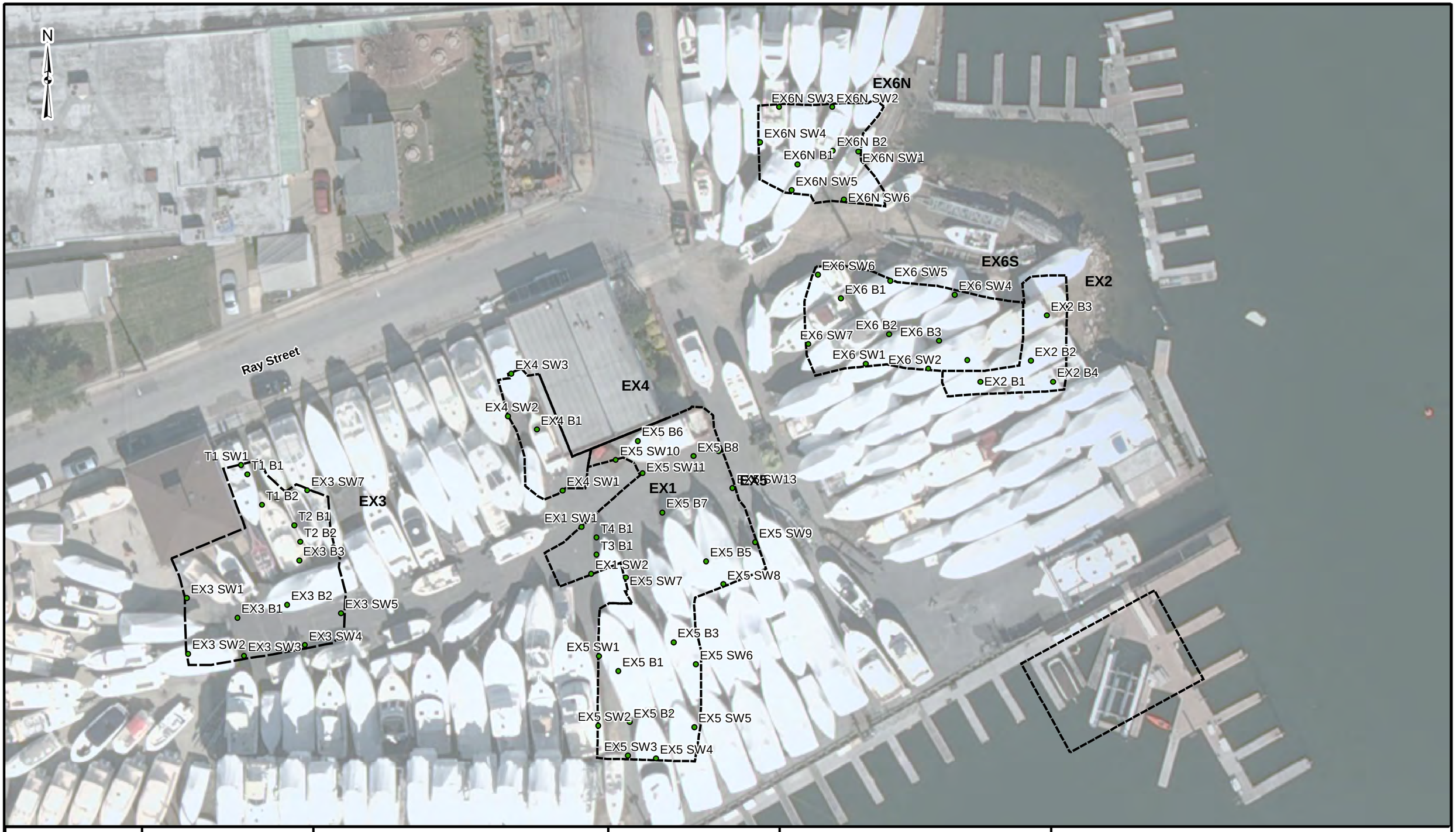
0 10 20 40 Feet

Source: NYS GIS Clearing House

Legend

- Documentation Sample Location
- Excavation Area Boundaries

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig8C



FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 9
Documentation Soil & Sedment Sample Locations

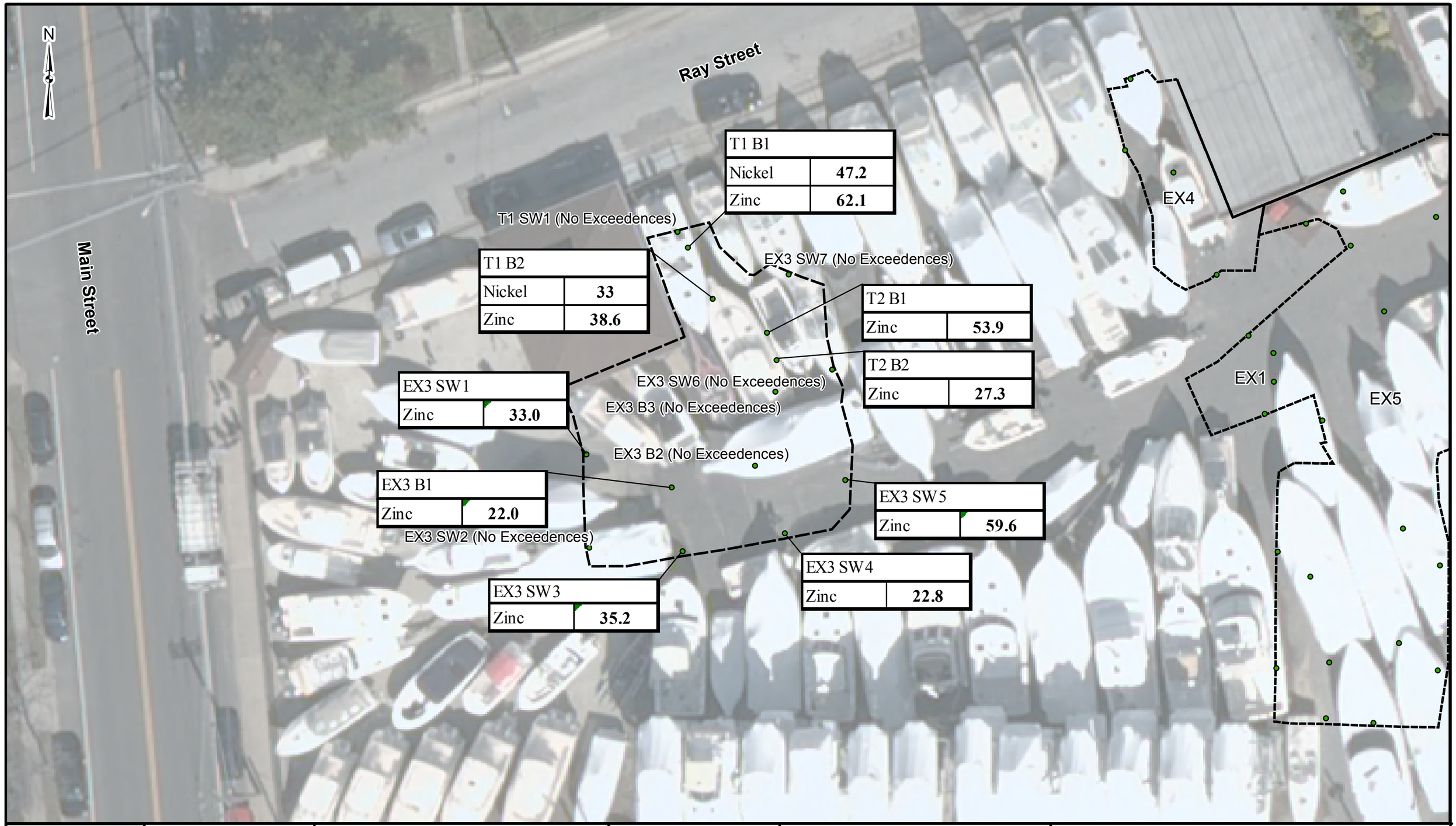
0 15 30 60 Feet

Source: NYS GIS Clearing House

Legend

- Documentation Sample Locations
- Excavation Area Boundaries

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig9



FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 9A
Documentation Sample Locations with Exceedances of Site-Specific SCO's EX3

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig9A

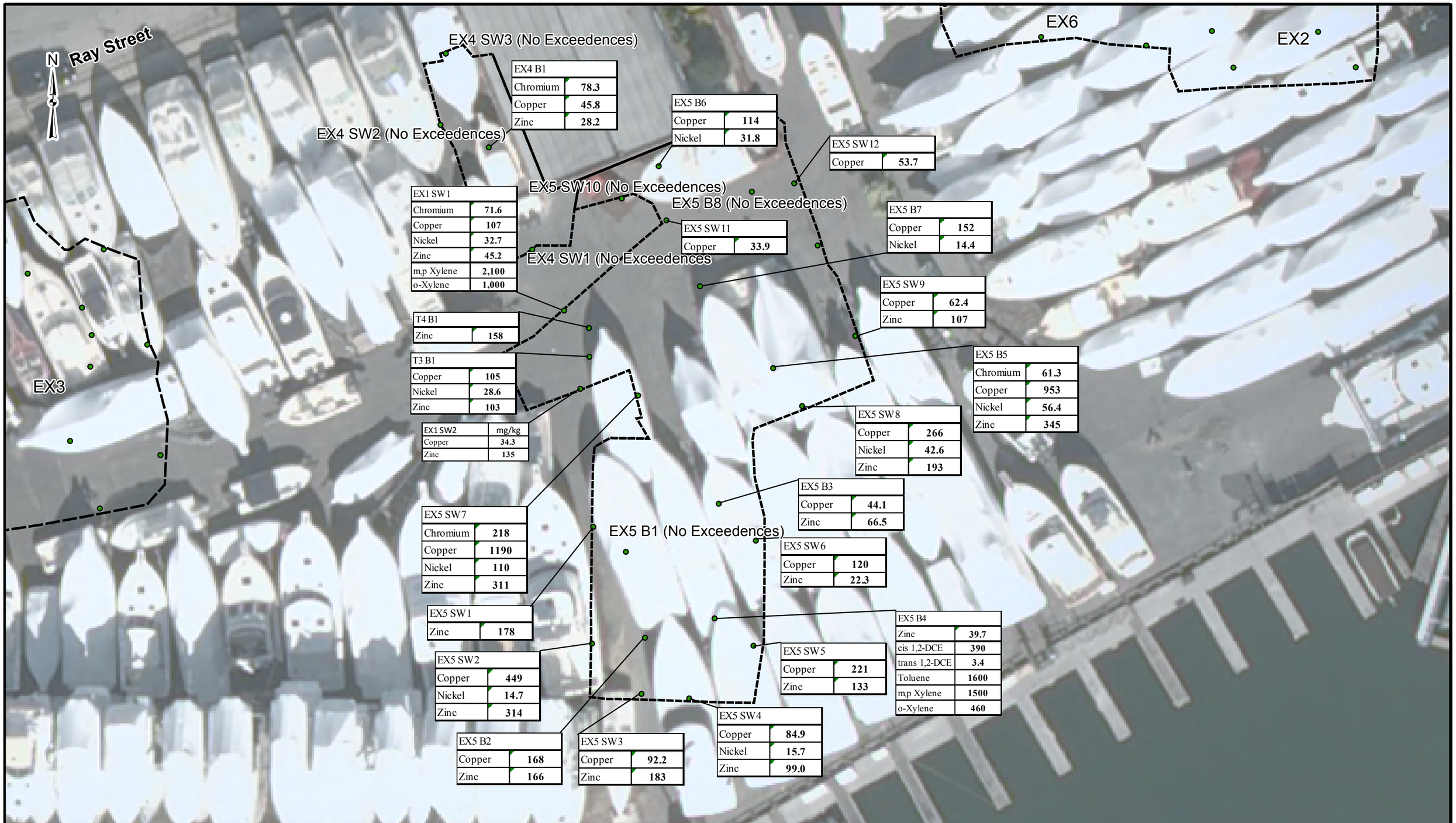
0 12.5 25 50 Feet

Source: NYS GIS Clearing House

Legend

- Documentation Sample Locations
- Excavation Area Boundaries

NOTE: VOC results in ug/kg, Metals results in mg/kg



FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 9B
Documentation Sample Locations
with Exceedances of
Site-Specific SCO's
EX1, EX4 and EX5

0 10 20 40 Feet

Source: NYS GIS Clearing House

Legend

- Documentation Sample Locations
- Excavation Area Boundaries

NOTE: VOC results in ug/kg, Metals results in mg/kg

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig9B

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 9C
Documentation Sample Locations
with Exceedances of
Site-Specific SCO's
EX2 and EX6

0 10 20 40 Feet

Source: NYS GIS Clearing House

Legend

- Documentation Sample Location
- Excavation Area Boundaries

NOTE: VOC results in ug/kg, Metals results in mg/kg

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig9C

N

EX6S

EX2

EX4

EX5

EX1

EX7

EX7P1	
Arsenic	**13.3**
Copper	**177**
Lead	**46.8**
Mercury	**0.373**

EX7P2	
Arsenic	**17.2**
Copper	**299**
Lead	**76.1**
Mercury	**0.492**
Zinc	**318**

EX7P5	
Arsenic	**8.48**
Copper	**91.5**
Mercury	**0.202**

EX7P4	
Copper	**42.2**
Mercury	**0.152**

EX7P3	
Arsenic	**10.9**
Cadmium	**4.04**
Chromium	**97.4**
Copper	**134**
Lead	**228**
Mercury	**1.86**
Nickel	**23.3**
Silver	**4.05**
Zinc	**206**

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 9D
Documentation Sample Locations with Exceedences of SCOs in EX7

0 15 30 60 Feet

Source: NYS GIS Clearing House

Legend

- Documentation Sample Locations
- Excavation Area Boundaries

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig9D

N

New Slotted Storm Drains

Ray Street

Main Street

MW-11S MW-11D

MW-11S

MW-8S/D

MW-9S/D

MW-10D

MW-10S/M

FREEPORT METAL ETCHING
SITE MONITORING PLAN
FREEPORT, NEW YORK

FIGURE 10
Location of Cover System Types

0 20 40 80 Feet

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\Fig10

Legend

- New Monitoring Wells
- Asphalt Cover
- Porous Pavement Cover
- Stone Cover

Source: NYS GIS Clearing House

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 11
Area of Soil Vapor Concern

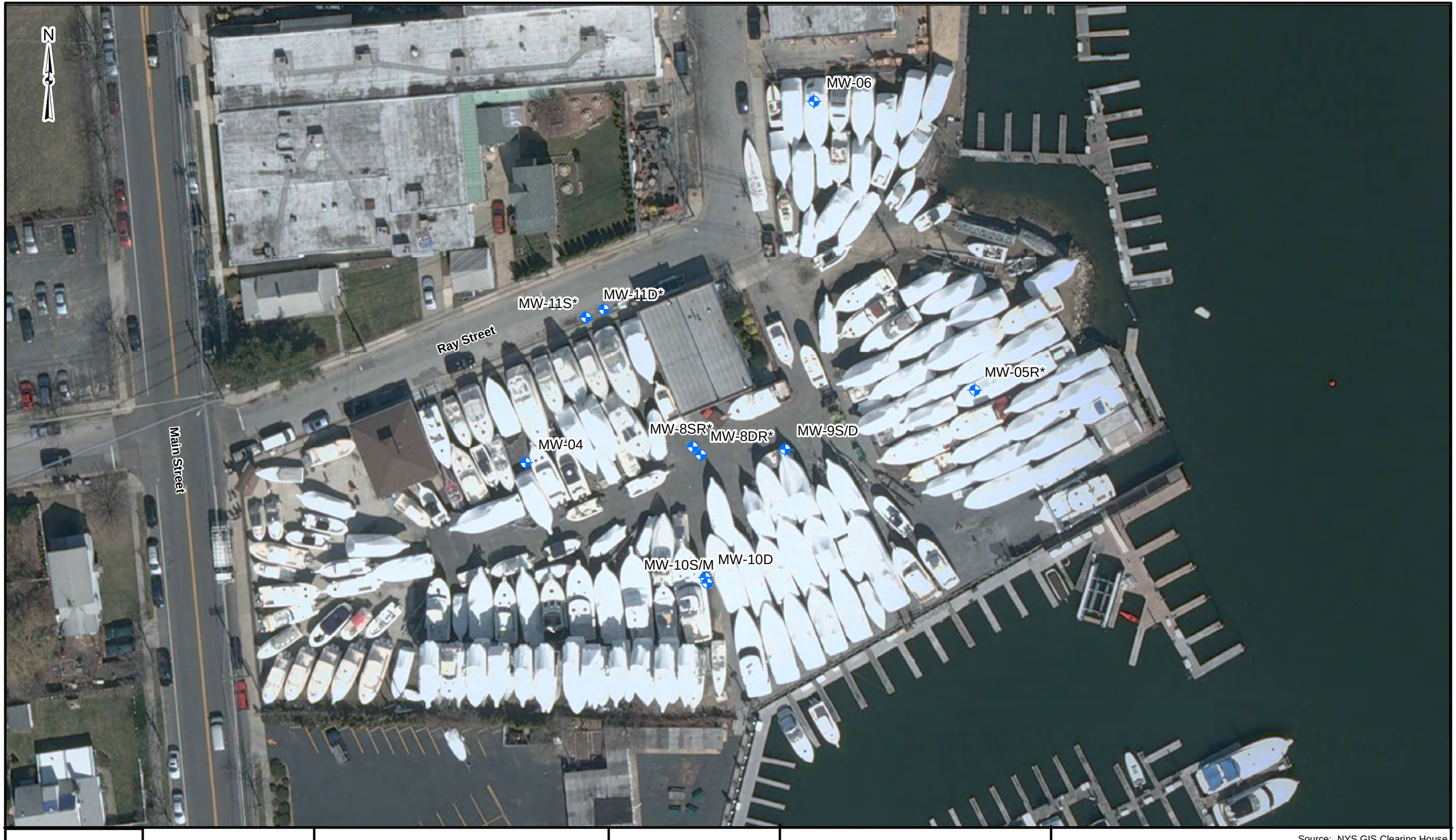
0 25 50 100 Feet

Source: NYS GIS Clearing House

Legend

Area of Soil Vapor Intrusion Concern

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG11



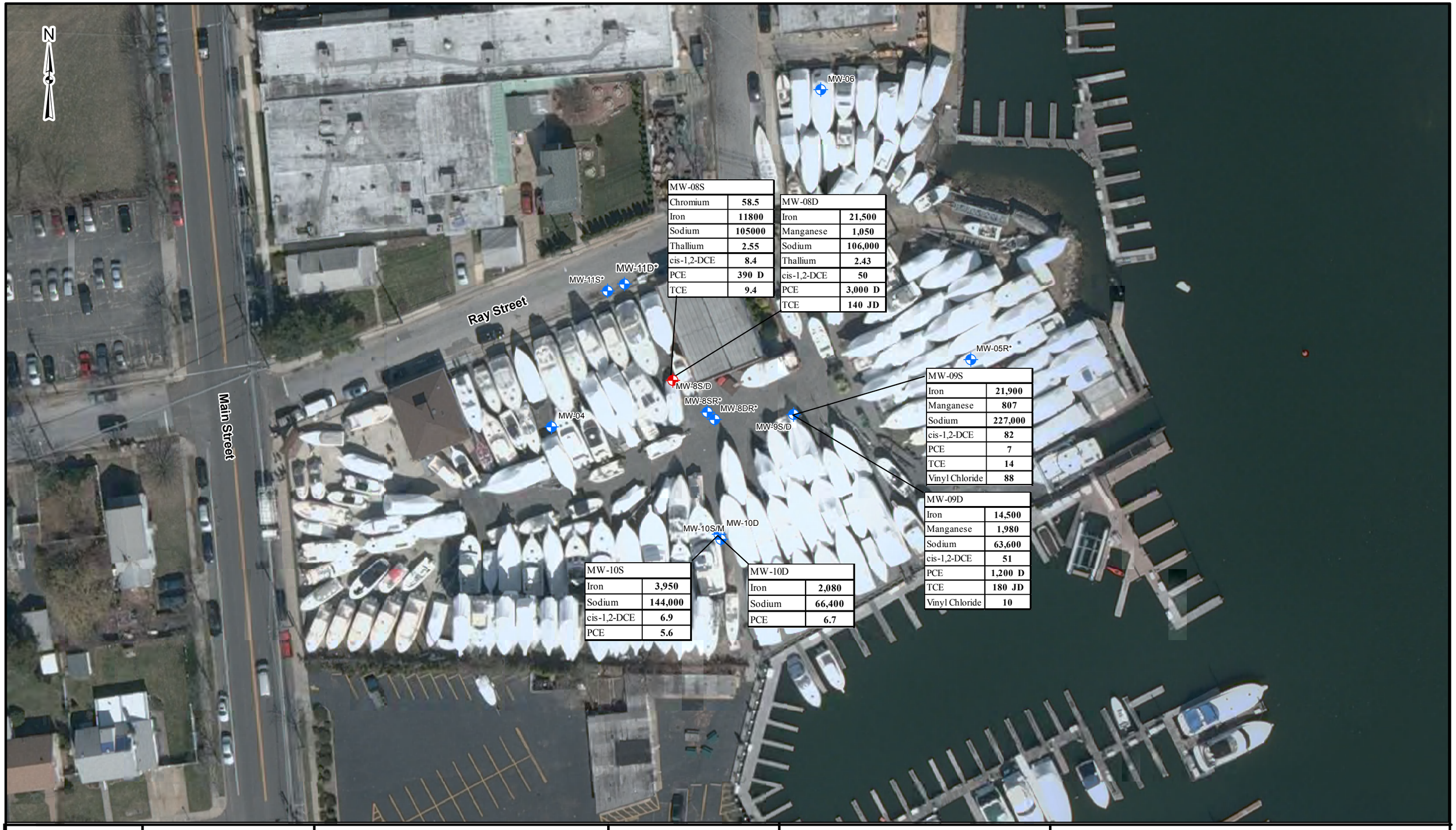
		FREEPORT METAL ETCHING SITE MANAGEMENT PLAN FREEPORT, NEW YORK		FIGURE 12 Groundwater Monitoring Well Network	0 25 50 100 Feet			
		PROJECT MGR: RSC	DESIGNED BY: RSC	CREATED BY: MEM	CHECKED BY: RSC	PROJECT NO: 14474.37	DATE: APRIL 2014	SCALE: AS SHOWN	FILE NO: G:\MegalEtching\ SMP\Fig12

Legend

Existing Monitoring Wells

*Wells not surveyed; locations approximate

Source: NYS GIS Clearing House



FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 13
Baseline Post-Remediation
Groundwater Quality

0 25 50 100 Feet

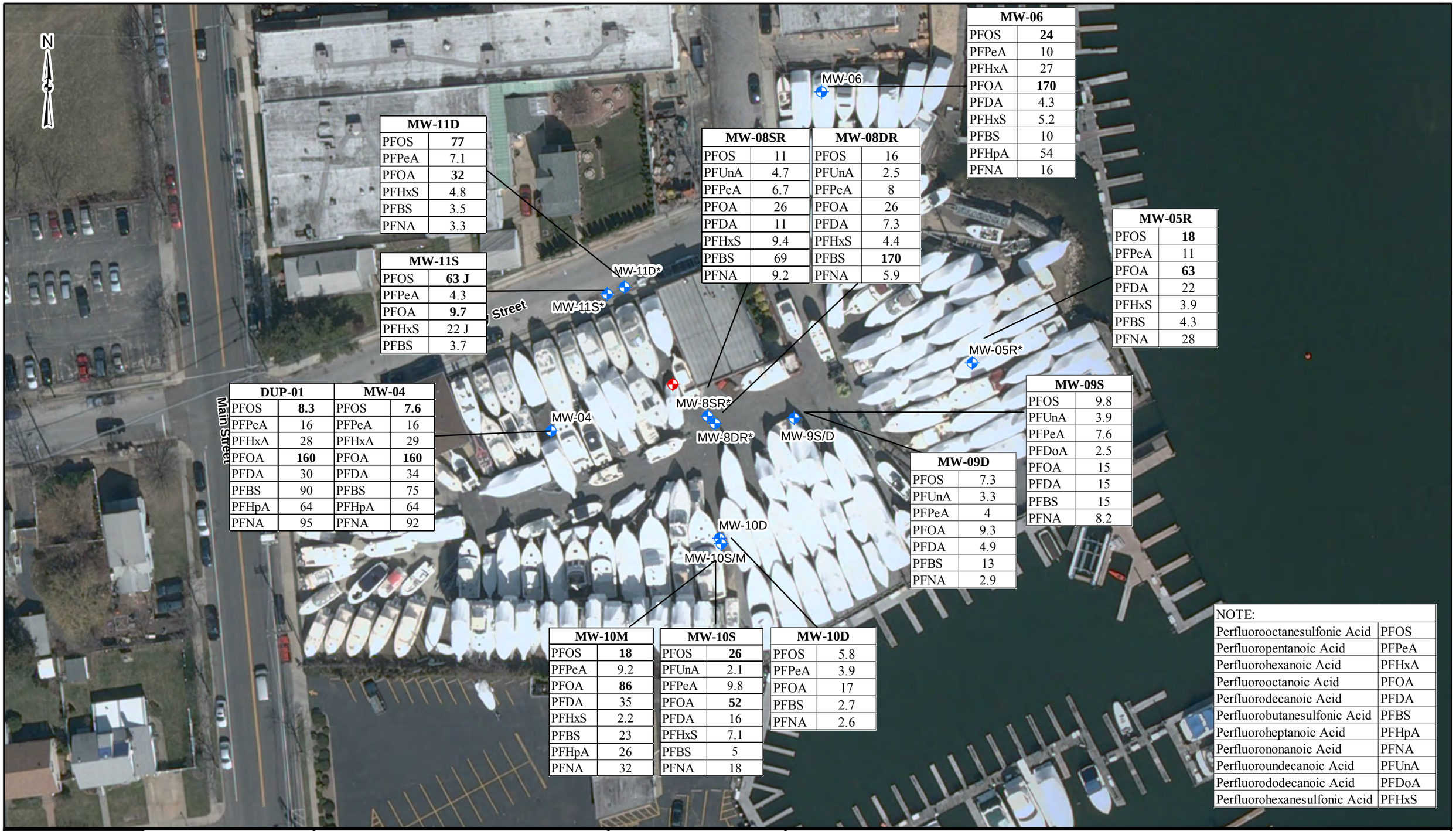
Source: NYS GIS Clearing House

Legend

- Existing Monitoring Wells
- Monitoring wells covered by concrete slab

NOTE: Results are in ug/L
*Wells not surveyed; locations approximate

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\MegalEtching\SMP\Fig13



MW-11D	
PFOS	**77**
PFPeA	7.1
PFOA	**32**
PFHxS	4.8
PFBS	3.5
PFNA	3.3

MW-11S	
PFOS	**63 J**
PFPeA	4.3
PFOA	**9.7**
PFHxS	22 J
PFBS	3.7

MW-08SR	
PFOS	11
PFUnA	4.7
PFPeA	6.7
PFOA	26
PFDA	11
PFHxS	9.4
PFBS	69
PFNA	9.2

MW-08DR	
PFOS	16
PFUnA	2.5
PFPeA	8
PFOA	26
PFDA	7.3
PFHxS	4.4
PFBS	**170**
PFNA	5.9

MW-06	
PFOS	**24**
PFPeA	10
PFHxA	27
PFOA	**170**
PFDA	4.3
PFHxS	5.2
PFBS	10
PFHpA	54
PFNA	16

MW-05R	
PFOS	**18**
PFPeA	11
PFOA	**63**
PFDA	22
PFHxS	3.9
PFBS	4.3
PFNA	28

DUP-01		MW-04	
PFOS	**8.3**	PFOS	**7.6**
PFPeA	16	PFPeA	16
PFHxA	28	PFHxA	29
PFOA	**160**	PFOA	**160**
PFDA	30	PFDA	34
PFBS	90	PFBS	75
PFHpA	64	PFHpA	64
PFNA	95	PFNA	92

MW-09S	
PFOS	9.8
PFUnA	3.9
PFPeA	7.6
PFDoA	2.5
PFOA	15
PFDA	15
PFBS	15
PFNA	8.2

MW-09D	
PFOS	7.3
PFUnA	3.3
PFPeA	4
PFOA	9.3
PFDA	4.9
PFBS	13
PFNA	2.9

MW-10M	
PFOS	**18**
PFPeA	9.2
PFOA	**86**
PFDA	35
PFHxS	2.2
PFBS	23
PFHpA	26
PFNA	32

MW-10S	
PFOS	**26**
PFUnA	2.1
PFPeA	9.8
PFOA	**52**
PFDA	16
PFHxS	7.1
PFBS	5
PFNA	18

MW-10D	
PFOS	5.8
PFPeA	3.9
PFOA	17
PFBS	2.7
PFNA	2.6

NOTE:	
Perfluorooctanesulfonic Acid	PFOS
Perfluoropentanoic Acid	PFPeA
Perfluorohexanoic Acid	PFHxA
Perfluorooctanoic Acid	PFOA
Perfluorodecanoic Acid	PFDA
Perfluorobutanesulfonic Acid	PFBS
Perfluoroheptanoic Acid	PFHpA
Perfluorononanoic Acid	PFNA
Perfluoroundecanoic Acid	PFUnA
Perfluorododecanoic Acid	PFDoA
Perfluorohexanesulfonic Acid	PFHxS

FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 14
Baseline PFC Analytical
Results - April 2017

0 25 50 100 Feet

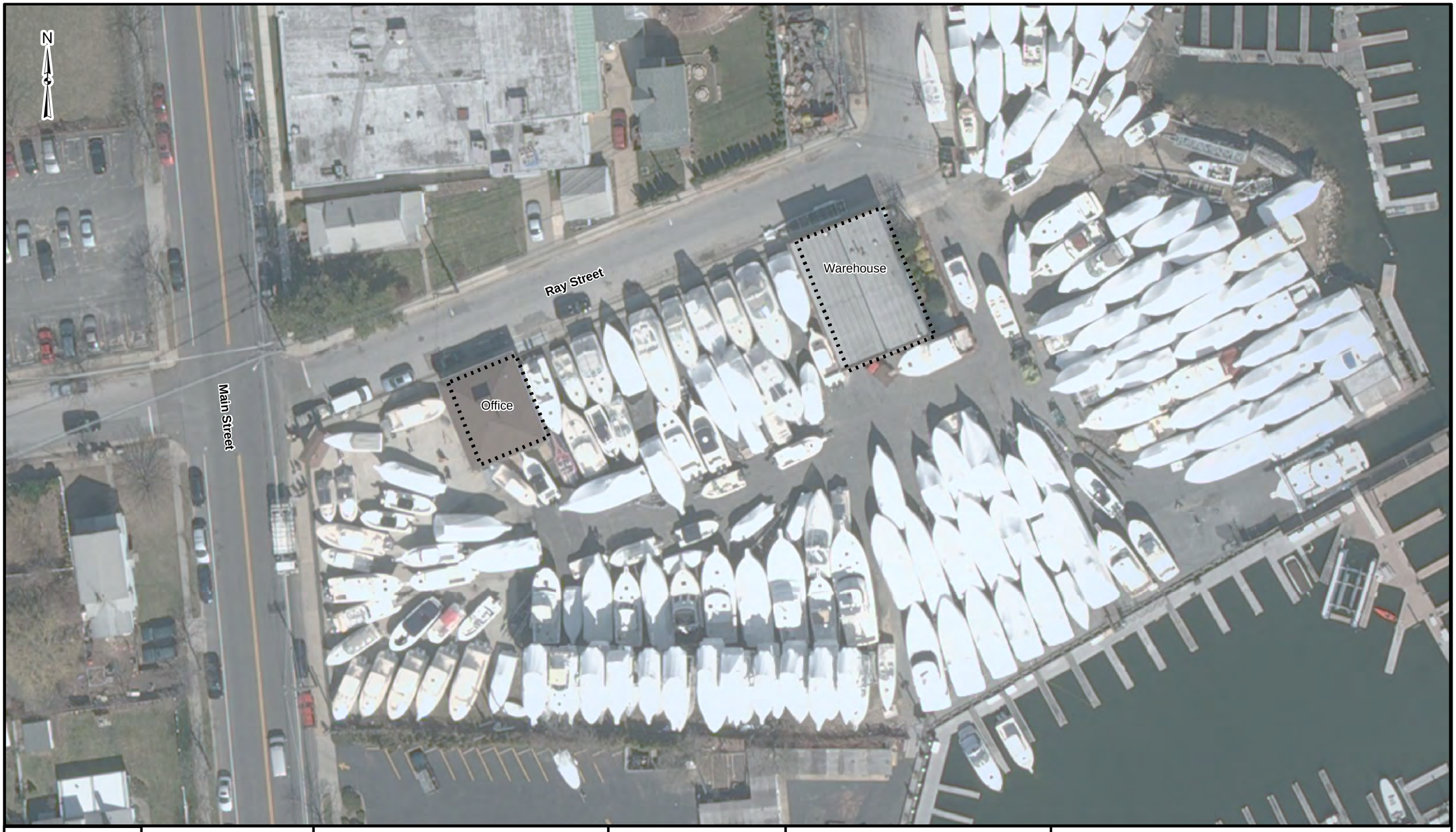
Source: NYS GIS Clearing House

Legend

- Existing Monitoring Wells
- Monitoring wells covered by concrete slab

NOTE: Results are in ug/L
*Wells not surveyed; locations approximate

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2017	AS SHOWN	G:\MegalEtching\SMP\Fig13



FREEPORT METAL ETCHING
SITE MANAGEMENT PLAN
FREEPORT, NEW YORK

FIGURE 15
Location of Remedial
Treatment Systems

0 20 40 80 Feet

Source: NYS GIS Clearing House

Legend

▪▪▪▪ Location of Sub Slab Depressurization System

PROJECT MGR:	DESIGNED BY:	CREATED BY:	CHECKED BY:	PROJECT NO:	DATE:	SCALE:	FILE NO:
RSC	RSC	MEM	RSC	14474.37	APRIL 2014	AS SHOWN	G:\Projects\SMP\FIG12

TABLE 1 REMEDIAL INVESTIGATION SOIL CONTAMINATION SUMMARY

Chemical	Maximum Detected Concentration	TAGM RSCO Level	Direct Contact Criteria	Protection of Groundwater Criteria
VOCs (µg/kg)				
Trans-1,2-dichloroethene	300	300	2,000,000	300
Benzene	1,400	60	24,000	60
Chlorobenzene	3,700	2,700	2,000,000	1700
Ethylbenzene	14,000	5,500	8,000,000	5500
Methyl-tert-butyl ether	1,500	120	-	120
Naphthalene	25,000	13,000	300,000	13000
Tetrachloroethene	4,300	1,400	800,000	1400
Toluene	78,000	1,500	20,000,000	1500
Trichloroethene	10,000	700	64,000	700
Xylene	15,000	1,200	200,000,000	1200
Vinyl Chloride	1,800	200	-	120

NOTE: TAGM = Technical and Administrative Guidance Memorandum
RSCO = Recommended Soil Cleanup Objective
VOC = Volatile Organic Compound
µg/kg = Micrograms per kilogram
Direct Contact Criteria Values obtained from TAGM #4046 EPA Health Based Column.
Protection of Groundwater Criteria obtained from the TAGM #4046 Protection of Groundwater.

Constituent	Maximum Detected Concentration (mg/kg)	Eastern US Background[1] (mg/kg)	New York Region[2] (mg/kg)	NYSDEC RSCO (mg/kg)	Frequency of Detection Above RSCOs
METALS					
Arsenic	29	<0.1 - 73	3 - 12	7.5 or SB	11/273
Barium	970	10 - 1500	15 - 600	300 or SB	1/273
Beryllium	1	<1 - 7	0 - 1.75	0.16 or SB	12/273
Cadmium	78	N/A	0.1 - 1	10	2/273
Calcium	72000	100 - 280000	130 - 35000	SB	5/273
Chromium	2200	1 - 1000	1.5 - 40	50	40/273
Chromium-Hexavalent	218			50	-
Cobalt	91	0.3 - 70	2.5 - 60	30 or SB	3/273
Copper	5700	<1 - 700	<1 - 50	25 or SB	91/273
Iron	43000	100 - >100000	2000 - 550000	2,000 or SB	239/273
Lead	3900	<10 - 300	200 - 500	SB	6/273
Magnesium	22000	50 - 50000	100 - 5000	SB	0/273
Nickel	1300	<5 - 700	0.5 - 25	13 or SB	52/273
Selenium	6.7	<0.1 - 3.9	<0.1 - 3.9	2 or SB	11/273
Zinc	3600	<5 - 2900	9 - 50	20 or SB	126/273

1. Shacklette, HT and JG Boerngen, 1984. Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States, USGS Professional Paper 1270

2. Background Concentrations of 20 Elements in Soils with Special Regard for New York State, E. Carol McGovern,NYSDEC Wildlife Resources Center. These values are the same as the background concentrations listed in TAGM 4046.

NOTE: NYSDEC = New York State Department of Environmental Conservation
mg/kg = Milligram per kilogram
SB = Site Background
Shaded cells represent chemicals detected above both Eastern US Background and New York Region Background.

TABLE 2 REMEDIAL INVESTIGATION GROUNDWATER CONTAMINATION SUMMARY

Constituents	Screening Levels [1]	MW-01 C1292-03 10/8/2004	MW-02D C1282-03 10/7/2004	MW-02S C1282-02 10/7/2004	MW-03D C1282-05 10/7/2004	MW-03S C1282-04 10/7/2004	MW-04 C1292-04 10/8/2004	MW-05 C1292-01 10/8/2004	MW-06 C1292-02 10/8/2004	MW-07D C1282-07 10/7/2004	MW-07S C1282-06 10/7/2004
VOLATILE ORGANIC COMPOUNDS (µg/L)											
Benzene	1900					6 J					
Benzene, 1-methylethyl-	na							2 J	1 J		
Bromoform	na				2 J						
Chlorobenzene	50					1 J					
cis-1,2-Dichloroethylene	na		7 J	38		32	1 J			4 J	370
Cyclohexane	na					1 J		2 J			4 J
Ethene, 1,2-dichloro-, (E)-	na			1 J							3 J
Methylcyclohexane	na					2 J					8 J
Methyltert-butylether	na	4 J	4 J	16	2 J	130	140	54	33		10
Tetrachloroethylene	na	13	1100	36			3 J			1600	3 J
Toluene	920		3 J								2 J
Trichloroethylene	400 a	3 J	16	17			5 J			25	5 J
Vinyl chloride	na			3 J		29					400
SEMIVOLATILE ORGANIC COMPOUNDS (µg/L)											
2-Methylnaphthalene	42										1 J
Acenaphthene	66								3 J		2 J
Bis(2-ethylhexyl)phthalate (BEHP	na			1 J							1 J
Carbazole	na										1 J
Dibenzofuran	na										1 J
Fluorene	25								3 J		1 J
Naphthalene	160					2 J					6 J
N-Nitrosodiphenylamine	na										15
Phenanthrene	15										2 J
METALS (µg/L)											
Aluminum	na	26.4	959	1170	158	210	94.6	96.8	150	227	64.5
Antimony	na	5.1	3.8	13.9		3.1	2.7	7.2	2.5	4.1	11.3
Arsenic	630	2.4				3.2	2.5		3.8		
Barium	na	51 J			34.2	76.7	37.1 J	1050 J		23.2	310
Cadmium	77		3	15.9		1.4		3.6	0.33	1.3	6.2
Calcium	na	36200	56500	59700	24400	76000	90900	128000	196000	18200	229000
Chloride	na					190 J		400 J			
Chromium	na	0.73	23.8	9.6	4	4.6	14.7	0.9		3.5	2
Chromium (Hexavalent)	540							0.069 J			
Cobalt	na	1.6	3.1		0.31	0.53	0.33		0.33	1.7	0.89
Copper	34		28.3								
Iron	na	462 J	14700	79800	892	6410	171 J	17400 J	1200 J	6370	29200
Lead	80							6.2			
Magnesium	na	38300	10200	9670	15600	38400	10000	37800	30400	4740	58200
Manganese	na	1100	1220	859	380	224	21.3	529	183	680	761
Nickel	82	3	65.4	21.6	2.8	3.8	16.5	4.6	0.53	3.6	2.8
Potassium	na	15400	6810	7020	6450	26000	10800	31300	12000	2740	31000
Selenium	na			7.7							
Silver	na			20.9							
Sodium	na	339000	82300	42000	142000	197000	63500	243000	35600	42400	198000
Vanadium	na			1.3		2.8		2.6			0.6
Zinc	660	3.1	48.2	29	2.8	3.4 J	10.9	7.2		9.8	
PESTICIDES (µg/L)											
Endrin ketone	na										0.079 J

1. Screening Levels shown were obtained from New York State Department of Environmental Conservation Water Quality Regulations: Surface Water and Groundwater Classifications and Standards (New York State Codes, Rules and Regulations; Title 6, Chapter X Parts 700-706, Amendments through August 4, 1999) - Fish Propagation (saline waters) values used unless otherwise noted.

NOTE: µg/L = Micrograms per liter

J = Estimated value. The value was designated as estimated as a result of the data validation criteria. Also used to indicate when an organic compound is present, but the concentration is less than the Contract Required Quantitation Limit (CRQL). The value is usable as an estimated result.

na = Not Available

a = Human Consumption of Fish (saline) value used

No qualifier indicates the analyte was positively identified at the associated numerical value which is the concentration of the analyte in the sampl

All screening levels are multiplied by 10 to adjust for ground water to surface water dilution (see text

Only detected values are shown on this table

TABLE 3 REMEDIAL INVESTIGATION SOIL VAPOR DATA SUMMARY

Soil Gas Survey Sample Point Identification	Sample Serial Number	Installation Date/Time	Initial Reading	Sustained Reading
Gore Sorbers				
GS-01	452988	7/15/2004 / 8:16:00 AM	0.0 ppm	0.0 ppm
GS-02	452989	7/16/2004 / 9:00:00 AM	9.5 ppm	9.5 ppm
GS-03	452990	7/16/2004 / 9:15:00 AM	0.6 ppm	0.6 ppm
GS-04	452991	7/16/2004 / 10:20:00 AM	0.0 ppm	0.0 ppm
GS-05	452992	7/16/2004 / 10:30:00 AM	0.0 ppm	0.0 ppm
GS-06	452993	7/16/2004 / 11:00:00 AM	0.0 ppm	0.0 ppm
GS-07	452994	7/16/2004 / 11:30:00 AM	0.9 ppm	0.9 ppm
GS-08	452995	7/16/2004 / 11:45:00 AM	0.0 ppm	0.0 ppm
GS-09	452996	7/16/2004 / 12:50:00 PM	30 ppm	30 ppm
GS-10	452997	7/16/2004 / 1:29:00 PM	1.5 ppm	1.5 ppm

NOTE: ppm = parts per million.

TABLE 4 REMEDIAL INVESTIGATION SEDIMENT CONTAMINATION SUMMARY

	ER-L mg/kg (Metals); ug/kg (PCBs, VOCs, SVOCs)	ER-M mg/kg (Metals); ug/kg (PCBs, VOCs, SVOCs)	SED-01 C1024-01 8/24/2004 Primary	SED-01 C1024-09 8/24/2004 Duplicate	SED-02 C1024-02 8/24/2004 Primary	SED-03 C1024-03 8/24/2004 Primary	SED-04 C1024-04 8/24/2004 Primary	SED-05 C1024-05 8/24/2004 Primary	SED-07 C1024-07 8/24/2004 Primary	Background Locations SED-06 C1024-06 8/24/2004 Primary	Background Locations SED-08 C1024-08 8/24/2004 Primary
VOCs (ug/kg)											
Acetone	NA	NA	24	17	18	13 U	36	13 U	7	560	17
Carbon disulfide	NA	NA	14 U	12 U	13 U	13 U	7	13 U	12 U	87	13 U
Methylene chloride	NA	NA	14 U	12 U	10	13 U	19 U	13 U	12 U	19	10
Methyl-tert-butyl-ether	NA	NA	14 U	12 U	13 U	13 U	19 U	3	13 U	42 U	12 U
Sum of Constituents			**24**	**17**	**28**	**0**	**43**	**3**	**7**	**751**	**27**
SVOCs (ug/kg)											
2-Methylnaphthalene	70	670	480 U	400 U	410 U	430 U	610 U	430 U	390 U	1400 U	430 U
4-Methylphenol	NA	NA	480 U	400 U	86	430 U	610 U	430 U	390 U	1400 U	430 U
Acenaphthene	16	500	110	80	410 U	430 U	610 U	260	390 U	1400 U	430 U
Acetophenone	NA	NA	480 U	42	410 U	66	610 U	430 U	390 U	1400 U	430 U
Anthracene	85.3	1100	280	260	97	430 U	610 U	660	390 U	1400 U	430 U
Benzaldehyde	NA	NA	130	69	410 U	430 U	610 U	430 U	390 U	1400 U	430 U
Benzo(a)anthracene	261	1600	1100	930	340	61	410	3000	390 U	350	430 U
Benzo(a)pyrene	430	1600	1200	940	380	64	250	3000	390 U	410	430 U
Benzo(b)fluoranthene	NA	NA	2200	1600	620	95	490	4000	43	750	76
Benzo(ghi)perylene	NA	NA	290	260	110	430 U	610 U	690	390 U	250	430 U
Benzo(k)fluoranthene	NA	NA	740	570	250	46	160	2000	390 U	280	430 U
Bis(2-ethylhexyl)phthalate	NA	NA	6000	1700	690	100	1000	270	160	1400	240
Butyl benzyl phthalate	NA	NA	810	400	120	430 U	610 U	430 U	390 U	1400 U	430 U
Carbazole	NA	NA	200	140	50	430 U	610 U	390	390 U	1400 U	430 U
Chrysene	384	2800	1400	1500	430	79	350	3400	390 U	550	58
Dibenzo(a,h)anthracene	63.4	260	180	150	69	430 U	610 U	460	390 U	1400 U	430 U
Dibenzofuran	NA	NA	65	51	410 U	430 U	610 U	130	390 U	1400 U	430 U
Dimethyl phthalate	NA	NA	140	93	410 U	430 U	610 U	430 U	390 U	1400 U	430 U
Di-n-butyl phthalate	NA	NA	310	250	410 U	430 U	610 U	430 U	390 U	1400 U	430 U
Di-n-octyl phthalate	NA	NA	91	53	410 U	430 U	610 U	430 U	390 U	1400 U	430 U
Fluoranthene	600	5100	2500	1900	650	110	510	5100	390 U	470	61
Fluorene	19	540	130	140	410 U	430 U	610 U	270	390 U	1400 U	430 U
Indeno(1,2,3-cd)pyrene	NA	NA	740	570	240	430 U	610 U	1700	390 U	330	430 U
Naphthalene	160	2100	480 U	400 U	410 U	430 U	610 U	50	390 U	1400 U	430 U
Pentachlorophenol	NA	NA	1200 U	73	1000 U	1100 U	1500 U	1100 U	970 U	3500 U	1100 U
Phenanthrene	240	1500	1600	1400	410	58	610 U	3200	390 U	160	430 U
Pyrene	665	2600	3100	2300	910	130	3000	5200	42	930	75
Sum of Constituents			**23316**	**15471**	**5452**	**809**	**6170**	**33780**	**245**	**5880**	**510**
Pest/PCBs (ug/kg)											
4,4'-DDD	NA	NA	4.1	10	4.1 U	3.7	6.1 U	4.3 U	3.9 U	14 U	4.3 U
4,4'-DDE	2.2	27	2.3	19	4.1 U	4.2	4.3	4.3 U	3.9 U	14 U	4.3 U
4,4'-DDT	1.58	46.1	4.8 U	8.2	4.1 U	4.3 U	6.1 U	4.3 U	3.9 U	14 U	4.3 U
Aldrin	NA	NA	2.5 U	2 U	2.1 U	2.2 U	3.1 U	2.2 U	2 U	7.1 U	2.2 U
alpha-BHC	NA	NA	2.5 U	2 U	2.1 U	2.2 U	3.1 U	2.2 U	2 U	7.1 U	2.2 U
alpha-Chlordane	0.5	6	2.5 U	2 U	2.7	1.9	3.1 U	1.2	2 U	7.1 U	2.2 U
Dieldrin	0.02	8	4.8 U	4 U	4.1 U	4.3 U	6.1 U	4.3 U	3.9 U	14 U	4.3 U
Endosulfan I	NA	NA	2.5 U	2 U	2.1 U	2.2 U	3.1 U	2.2 U	2 U	7.1 U	2.2 U
Endosulfan sulfate	NA	NA	4.8 U	4 U	4.1 U	4.3 U	6.1 U	4.3 U	3.9 U	14 U	4.3 U
Endrin aldehyde	NA	NA	4.8 U	17	4.1 U	4.3 U	6.9	4.3 U	3.9 U	14 U	4.3 U
Endrin ketone	0.02	45	4.8 U	4 U	4.1 U	4.3 U	8.9	4.3 U	3.9 U	14 U	4.3 U
gamma-Chlordane	0.5	6	1.7	12	2.5	2.3	3.1 U	2.2 U	2 U	7.1 U	2.2 U
Heptachlor epoxide	NA	NA	2.5 U	2 U	2.1 U	2.2 U	3.1 U	2.2 U	2 U	7.1 U	2.2 U
Methoxychlor	NA	NA	25 U	14	21 U	22 U	12	22 U	20 U	71 U	22 U
Aroclor 1254	22.7	180	96	2300	70	86	170	43 U	39 U	140 U	43 U
Metals (mg/kg)											
Aluminum	NA	NA	3560	5120	2950	1310	8200	1670	1050	17800	1740
Arsenic	8.2	70	6.3	5.6	5.2	2.7	15	5.1	0.77	26	1.6
Barium	NA	NA	23.5	18.6	8	5	52.8	7.6	3.6	67.5	6.4
Beryllium	NA	NA	0.39	0.35	0.34	0.12	0.79	0.15	0.077	1.5	0.15
Cadmium	1.2	9.6	0.42	0.64	0.18	1.1 UJ	1	0.93 UJ	0.96	1	0.096
Calcium	NA	NA	16700	9050	11000	2090	2230	329	1680	12900	12700
Chromium	81	370	34.7	84.9	16	3.3	127	14.4	3.4	89.2	6.5
Cobalt	NA	NA	2.6	3	1.8	0.43	5.6	1	0.3	6.7	0.7
Copper	34	270	285	261	52.3	30.1	290	57.8	39	338	17.5
Iron [1]	2%	4%	11000	10500	6040	4840	21400	7100	1910	39300	3210
Lead	46.7	218	63.8	105	98.6	17.1	134	19	6	154	15.2
Magnesium	NA	NA	11400	8590	1430	2200	3880	553	529	11500	994
Manganese [1]	460	1100	64.3	83.6	36.5	32.5	116	38.9	13.1	268	25.6
Mercury	0.15	0.71	2.5	0.083	0.065	0.12 UJ	0.39	0.11 UJ	0.094 UJ	0.61	0.089
Nickel	20.9	51.6	15.4	40.4	8.8	3.2	28.4	2.3	1.4	26.8	2.6
Potassium	NA	NA	627	585	450	230	1850	358	284	5730	479
Silver	1	3.7	0.67	0.69	0.33	0.22	1.8	0.39		3.4	0.13
Sodium	NA	NA	4990	3940	2680	1700	6200	473	1580	33300	3260
Thallium	NA	NA	1.8	1.1	0.63	2.1 UJ	2.1	1.9 UJ	1.9 UJ	4.8	0.76
Vanadium	NA	NA	31.5	20.6	10.6	9.4	40.7	7.5	3.4	81.7	5.9
Zinc	150	410	338	315	93.2	59.7	425	46.5	16.5	417	26.5

Above Effects Range Low (ER-L) and above SED-06 & SED-08
Above Effects Range Medium (ER-M) and above SED-06 & SED-08
NA Not applicable
U : Chemical was not detected at indicated chemical limit.
UJ: Chemical was undetected but estimated to be at indicated level.
1. Persaud, D., Jaagumagi, R., and A. Hayton, 1992. Guidelines for the Protection and Managament of Aquatic Sediment Quality in Ontario. Ontario Ministry of the Environment, Queen's Printer for Ontar

TABLE 5A SITE-SPECIFIC SOIL AND GROUNDWATER CLEANUP OBJECTIVES

Constituent	Standards, Criteria, and Guidance	Units
VOLATILE ORGANIC COMPOUNDS - SOIL		
Tetrachloroethylene (PCE)	1.4	mg/Kg
Trichloroethylene (TCE)	0.7	mg/Kg
1,2-Dichloroethylene (DCE)	0.3	mg/Kg
Vinyl Chloride	0.2	mg/Kg
Benzene	0.06	mg/Kg
Toluene	1.5	mg/Kg
Ethylbenzene	5.5	mg/Kg
Xylene	1.2	mg/Kg
Naphthalene	13	mg/Kg
Chlorobenzene	17	mg/Kg
INORGANICS (METALS) - SOIL		
Chromium	50	mg/Kg
Copper	25	mg/Kg
Nickel	13	mg/Kg
Zinc	20	mg/Kg
VOLATILE ORGANIC COMPOUNDS - GROUNDWATER		
Tetrachloroethylene (PCE)	5	µg/L
Trichloroethylene (TCE)	5	µg/L
1,2-Dichloroethylene (DCE)	5	µg/L
Vinyl Chloride	2	µg/L
Methyl Tert Butyl Ether (MTBE)	10	µg/L
INORGANICS (METALS) - GROUNDWATER		
Chromium	50	µg/L
Copper	200	µg/L
Nickel	100	µg/L
Zinc	2000	µg/L
NOTE: Soil Cleanup Objectives developed for 2007 Record of Decision		

TABLE 5B SITE-SPECIFIC SEDIMENT CLEANUP OBJECTIVES

Constituent	Effects Range-Low	Effects Range-High	Units
INORGANICS (METALS)			
Arsenic	8.2	70	mg/Kg
Cadmium	1.2	9.6	mg/Kg
Chromium	81	370	mg/Kg
Copper	34	270	mg/Kg
Iron[(a)]	2%	4%	mg/Kg
Lead	46.7	218	mg/Kg
Manganese[(a)]	460	1100	mg/Kg
Mercury	0.15	0.71	mg/Kg
Nickel	20.9	51.6	mg/Kg
Silver	1	3.7	mg/Kg
Zinc	150	410	mg/Kg

a) Persaud, D., Jaagumagi, R., and A. Hayton, 1992. Guidelines for the Protection and Managament of Aquatic Sediment Quality in Ontario. Ontario Ministry of the Environment, Queen's Printer for Ontario.

TABLE 6A SUMMARY OF REMAINING SOIL CONTAMINATION ABOVE UNRESTRICTED LEVELS FOR VOCs

Parameter List EPA Method 8260B	Sample ID	EX1SW1		EX1SW2		T3B1		T4B1		EX2B1		EX2B2		EX2B3		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3524-03		C3524-04		C3524-01		C3524-02		C3109-07		C3109-08		C3109-09		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/25/2011		8/25/2011		8/25/2011		8/25/2011		7/21/2011		7/21/2011		7/21/2011		
1,2,4-Trimethylbenzene	(µg/kg)	**20,000**	D	3.2	D		U		U		U		U		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	250
m,p-Xylene	(µg/kg)	**2,100**	D		D		U		U		U		U		U	260[(a)]
o-Xylene	(µg/kg)	**1,000**	D		D		U		U		U		U		U	260[(a)]
Toluene	(µg/kg)	13					U		U		U		U		U	700

Parameter List EPA Method 8260B	Sample ID	EX2B4		EX3B1		EX3B2		EX3B3		EX3SW1		EX3SW2		EX3SW3		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3109-10		C3068-06		C3068-07		C3109-02		C3068-01		C3068-02		C3068-03		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/21/2011		7/19/2011		7/19/2011		7/21/2011		7/19/2011		7/19/2011		7/19/2011		
1,2,4-Trimethylbenzene	(µg/kg)		U		U		U		U		U		U		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	250
m,p-Xylene	(µg/kg)		U		U		U		U		U		U		U	260[(a)]
o-Xylene	(µg/kg)		U		U		U		U		U		U		U	260[(a)]
Toluene	(µg/kg)		U		U		U		U		U		U		U	700

Parameter List EPA Method 8260B	Sample ID	EX3SW4		EX3SW5		EX3SW6		EX3SW7		T1B1		T1B2		T1SW1		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3068-04		C3068-05		C3109-01		C3153-06		C3153-01		C3153-02		C3153-05		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/19/2011		7/19/2011		7/21/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		
1,2,4-Trimethylbenzene	(µg/kg)		U		U		U		U		U		U		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	250
m,p-Xylene	(µg/kg)		U		U		U		U		U		U		U	260[(a)]
o-Xylene	(µg/kg)		U		U		U		U		U		U		U	260[(a)]
Toluene	(µg/kg)		U		U		U		U		U		U		U	700

Parameter List EPA Method 8260B	Sample ID	T2B1		T2B2		EX4B1		EX4SW1		EX4SW2		EX4SW3		EX5B1		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3153-03		C3153-04		C3473-06		C3473-01		C3473-02		C3473-03		C3265-04		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/27/2011		7/27/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011		8/4/2011		
1,2,4-Trimethylbenzene	(µg/kg)	7.5		31			U	1.1	J		U		U		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U	1.7	J		U		U		U		U	250
m,p-Xylene	(µg/kg)		U		U		U	7.2	J		U		U		U	260[(a)]
o-Xylene	(µg/kg)		U	1.4	J		U	1.0	J		U		U		U	260[(a)]
Toluene	(µg/kg)		U		U		U	1.1	J		U		U		U	700

Parameter List EPA Method 8260B	Sample ID	EX5B2		EX5B3		EX5B4		EX5B5		EX5B6		EX5B7		EX5B8		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3265-05		C3355-04		C3355-05		C3355-09		C3473-08		C3622-04		C3622-05		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/4/2011		8/11/2011		8/11/2011		8/22/2011		8/22/2011		9/7/2011		9/7/2011		
1,2,4-Trimethylbenzene	(µg/kg)	2,700	D		U	1,300	D		U	1.9	J	2.4	J		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U	1.4	J	**390**	JD		U	22		1.9	J		U	250
m,p-Xylene	(µg/kg)	**780**	JD		U	**1,500**	D		U		U		U		U	260[(a)]
o-Xylene	(µg/kg)		U		U	**460**	JD		U		U		U		U	260[(a)]
Toluene	(µg/kg)	2	J		U	**1,600**	D		U	2.3	J	1.6	J		U	700

(a) Standards, Criteria, and Guidance is for total xylenes

NOTE: EPA = U.S. Enivronmental Protection Agency.
ID = Identification

µg/kg = micrograms per kilogram = parts per billion (ppb).

D = Indicates the reported value was obtained by analysis at a secondary dilution factor.

U = Non-detect, detection below the method detection limit.

J = Indicates the reported value was less than the Contract Required Detection Limit , but greater than or equal to the Instrument Detection Limit.

Data provided by Chemtech Consulting Group. Only analytes included in Table 1 of the ROD are included

Concentration values in **BOLD** indicate that analyte was detected above the site specific standards, criteria, and guidance.

Parameter List EPA Method 8260B	Sample ID Lab ID Sample Type Sample Date	EX5SW1 C3265-01 Soil 8/4/2011		EX5SW2 C3265-02 Soil 8/4/2011		EX5SW3 C3265-03 Soil 8/4/2011		EX5SW4 C3355-01 Soil 8/11/2011		EX5SW5 C3355-02 Soil 8/11/2011		EX5SW6 C3355-03 Soil 8/11/2011		EX5SW7 C3355-06 Soil 8/22/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
1,2,4-Trimethylbenzene	(µg/kg)		U	8.3			U	4.3	J		U		U		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	250
m,p-Xylene	(µg/kg)		U	21			U		U		U		U		U	260[a]
o-Xylene	(µg/kg)		U		U		U		U		U		U		U	260[a]
Toluene	(µg/kg)		U		U		U		U		U		U		U	700

Parameter List EPA Method 8260B	Sample ID Lab ID Sample Type Sample Date	EX5SW8 C3355-07 Soil 8/16/2011		EX5SW9 C3355-08 Soil 8/16/2011		EX5SW10 C3473-07 Soil 9/7/2011		EX5SW11 C3622-03 Soil 9/7/2011		EX5SW12 C3622-01 Soil 9/7/2011		EX5SW13 C3622-02 Soil 9/7/2011		EX6B1 C3109-03 Soil 7/21/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
1,2,4-Trimethylbenzene	(µg/kg)		U		U		U		U		U	4.5	J		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U	33		3.4	J		U		U		U	250
m,p-Xylene	(µg/kg)		U		U	5.9	J		U		U		U		U	260[a]
o-Xylene	(µg/kg)		U		U	2.5	J		U		U		U		U	260[a]
Toluene	(µg/kg)		U		U	13		2.6	J		U		U		U	700

Parameter List EPA Method 8260B	Sample ID Lab ID Sample Type Sample Date	EX6B2 C3109-04 Soil 7/21/2011		EX6B3 C3109-05 Soil 7/21/2011		EX6SW1 C3100-01 Soil 7/20/2011		EX6SW2 C3100-02 Soil 7/20/2011		EX6SW3 C3100-03 Soil 7/20/2011		EX6SW4 C3100-04 Soil 7/20/2011		EX6SW5 C3100-05 Soil 7/20/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
1,2,4-Trimethylbenzene	(µg/kg)		U		U			33			U		U		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U				U		U		U		U	250
m,p-Xylene	(µg/kg)		U	3.1	J				U		U		U		U	260[a]
o-Xylene	(µg/kg)		U		U				U		U		U		U	260[a]
Toluene	(µg/kg)	3.2	J		U				U		U		U		U	700

Parameter List EPA Method 8260B	Sample ID Lab ID Sample Type Sample Date	EX6SW6 C3100-06 Soil 7/20/2011		EX6SW7 C3109-06 Soil 7/21/2011		EX6NB1 C3265-15 Soil 8/4/2011		EX6NB2 C3265-16 Soil 8/4/2011		EX6NSW1 C3265-06 Soil 8/4/2011		EX6NSW2 C3265-07 Soil 8/4/2011		EX6NSW3 C3265-08 Soil 8/4/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
1,2,4-Trimethylbenzene	(µg/kg)		U		U		U		U		U		U	39		3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	250
m,p-Xylene	(µg/kg)		U		U		U		U		U		U	20		260[a]
o-Xylene	(µg/kg)		U		U		U		U		U		U	2.1	J	260[a]
Toluene	(µg/kg)		U		U		U		U		U		U		U	700

Parameter List EPA Method 8260B	Sample ID Lab ID Sample Type Sample Date	EX6NSW4 C3265-09 Soil 8/4/2011		EX6NSW5 C3265-13 Soil 8/4/2011		EX6NSW6 C3265-14 Soil 8/4/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
1,2,4-Trimethylbenzene	(µg/kg)		U		U		U	3,600
cis-1,2-Dichloroethylene	(µg/kg)		U		U		U	250
m,p-Xylene	(µg/kg)		U		U		U	260[a]
o-Xylene	(µg/kg)		U		U		U	260[a]
Toluene	(µg/kg)		U		U		U	700

TABLE 6B SUMMARY OF REMAINING SOIL CONTAMINATION ABOVE UNRESTRICTED LEVELS FOR METALS

Parameter List EPA Method 6010B/7471A	Sample ID	EX1SW1		EX1SW2		T3B1		T4B1		EX2B1		EX2B2		EX2B3		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3524-03		C3524-04		C3524-01		C3524-02		C3109-07		C3109-08		C3109-09		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/25/2011		8/25/2011		8/25/2011		8/25/2011		7/21/2011		7/21/2011		7/21/2011		
Arsenic	(mg/kg)	4.490		5.410		3.110		1.840		3.080	*	3.300	*	6.840	*	13
Barium	(mg/kg)	14.8		23.5		50.7		7.740		32.6		107		38.8		350
Chromium (Total)	(mg/kg)	***71.6***		**15.8**		**29.8**		**12.0**		***32.4***		***91.5***		**21.2**		1[(a)], 30[(b)]
Copper	(mg/kg)	**107**		34.3		**105**		3.700		**482**		**631**		**77.1**		50
Lead	(mg/kg)	22.2		**68.3**		**70.7**		2.440		61.6		**171**		**72.7**		63
Mercury	(mg/kg)	0.056		0.105		**0.227**			U	0.058		**0.121**		0.077		0.18
Nickel	(mg/kg)	**32.7**		12.3		28.6		8.520		21.2		**52.4**		12.4		30
Silver	(mg/kg)	0.433	J	0.437		0.542			U	0.272	J	0.263	J	0.201	J	2
Zinc	(mg/kg)	45.2		**135**		103		**158**		**365**		**442**		96.5		109

Parameter List EPA Method 6010B/7471A	Sample ID	EX2B4		EX3B1		EX3B2		EX3B3		EX3SW1		EX3SW2		EX3SW3		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3109-10		C3068-06		C3068-07		C3109-02		C3068-01		C3068-02		C3068-03		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/21/2011		7/19/2011		7/19/2011		7/21/2011		7/19/2011		7/19/2011		7/19/2011		
Arsenic	(mg/kg)	6.93	*	1.270		1.510		2.16	*	2.150		6.950		4.090		13
Barium	(mg/kg)	32.4		12.0		6.900		8.270		28.3		13.9		24.3		350
Chromium (Total)	(mg/kg)	***60.1***		**4.170**		**5.110**		**5.850**		**5.330**		**4.630**		**6.970**		1[(a)], 30[(b)]
Copper	(mg/kg)	**288**		4.100		2.960		3.810		2.850		5.460		11.4		50
Lead	(mg/kg)	**71.6**		11.4		3.370		5.740		17.8		5.130		40.2		63
Mercury	(mg/kg)	0.084		0.094	*	0.013	*	0.013		0.036	*	0.012	*	0.031	*	0.18
Nickel	(mg/kg)	**244**		3.690		3.510		3.740		3.120		3.230		4.670		30
Silver	(mg/kg)		U	0.155	J	0.159	J		U		U	0.146	J	0.259	J	2
Zinc	(mg/kg)	**256**		22.0		11.8		14.8		33.0		16.5		35.2		109

Parameter List EPA Method 6010B/7471A	Sample ID	EX3SW4		EX3SW5		EX3SW6		EX3SW7		T1B1		T1B2		T1SW1		Part 375 Unrestricted Use Soil Cleanup Objectives
	Lab ID	C3068-04		C3068-05		C3109-01		C3153-06		C3153-01		C3153-02		C3153-05		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/19/2011		7/19/2011		7/21/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		
Arsenic	(mg/kg)	2.310		1.220		0.6	J*	1.130		1.610		2.810		3.510		13
Barium	(mg/kg)	16.6		13.7		8.180		7.410		16.4		18.6		20.2		350
Chromium (Total)	(mg/kg)	**5.240**		**3.980**		**2.500**		**3.340**		**6.750**		**5.350**		**11.4**		1[(a)], 30[(b)]
Copper	(mg/kg)	3.900		6.600		6.870		2.880		10.1		13.6		4.770		50
Lead	(mg/kg)	8.780		31.0		2.620		2.720		26.1		18.6		5.580		63
Mercury	(mg/kg)	0.018	*	0.064	*	0.004	J	0.005	J	0.049		0.072		0.013		0.18
Nickel	(mg/kg)	3.490		3.430		3.850		3.730		**47.2**		**33.0**		6.420		30
Silver	(mg/kg)	0.216	J	0.178	J		U		U		U		U		U	2
Zinc	(mg/kg)	22.8		59.6		11.7		10.7	*	62.1	*	38.6	*	17.2	*	109

(a) Value is for hexavalent Chromium but is considered to be met if the analysis for total Chromium is below the specific SCO**BOLD** concentrations exceed this specific SCO
(b) Value is for trivalent Chromium but is considered to be met if the analysis for total Chromium is below the specific SCO*ITALICIZED* concentrations exceed this specific SCO
NOTE: EPA = U.S. Enivronmental Protection Agency.
Identification
mg/kg = Millirgrams per kilogram
* = Indicates the duplicate analysis was not within the control limits.
U = Non-detect, detection below the method detection limit.
J = Indicates the reported value was less than the Contract Required Detection Limit , but greater than or equal to the Method Detection Limit.
N = Indicates the spiked sample recovery was not within the control limits.
Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.
Concentration values in**BOLD** indicate that analyte was detected above the site specific standards, criteria, and guidanc

Parameter List EPA Method 6010B/7471A	Sample ID Lab ID Sample Type Sample Date	T2B1 C3153-03 Soil 7/27/2011		T2B2 C3153-04 Soil 7/27/2011		EX4B1 C3473-06 Soil 8/22/2011		EX4SW1 C3473-01 Soil 8/22/2011		EX4SW2 C3473-02 Soil 8/22/2011		EX4SW3 C3473-03 Soil 8/22/2011		EX5B1 C3265-04 Soil 8/4/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
Arsenic	(mg/kg)	2.340		1.820		0.88	J	2.500		3.620		0.67	J	4.040		13
Barium	(mg/kg)	34.7		13.0		20.4		13.6		1.370	J	6.170		27.7		350
Chromium (Total)	(mg/kg)	**5.050**		**4.010**		***78.3***		**9.120**		**8.190**		**3.890**		**8.1**	*	1[a], 30[b]
Copper	(mg/kg)	14.1		5.950		45.8		22.5		3.100		3.770		**73.8**		50
Lead	(mg/kg)	**120**		20.9		4.860	*	34.4	*	0.53	J*	1.580	*	52.2		63
Mercury	(mg/kg)	0.042		0.090		0.015		0.078		0.018		0.010	J	0.061	*	0.18
Nickel	(mg/kg)	6.120		5.070		5.700		8.160			U	10.8		8.420		30
Silver	(mg/kg)		U		U	0.16	J		U		U		U		U	2
Zinc	(mg/kg)	53.9	*	27.3	*	28.2		63.8		4.380		14.9		62.5		109

Parameter List EPA Method 6010B/7471A	Sample ID Lab ID Sample Type Sample Date	EX5B2 C3265-05 Soil 8/4/2011		EX5B3 C3355-04 Soil 8/11/2011		EX5B4 C3355-05 Soil 8/11/2011		EX5B5 C3355-09 Soil 8/22/2011		EX5B6 C3473-08 Soil 8/22/2011		EX5B7 C3622-04 Soil 9/7/2011		EX5B8 C3622-05 Soil 9/7/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
Arsenic	(mg/kg)	2.620		2.220		2.440		1.560		2.560		3.440	N	3.090	N	13
Barium	(mg/kg)	25.6		35.2		20.1		11.4		34.8		30.9		36.8		350
Chromium (Total)	(mg/kg)	**18.4**	*	**10.1**		**6.300**		**4.330**		***61.3***		***30.3***		***34.2***		1(a), 30(b)
Copper	(mg/kg)	**168**		44.1		18.4		4.240		**953**		**114**		**152**		50
Lead	(mg/kg)	48.6		**458**		32.1		4.170		50.9	*	40.5		62.4		63
Mercury	(mg/kg)	0.096	*	0.036		0.032		0.048		0.055		0.034		0.069		0.18
Nickel	(mg/kg)	11.0		5.180		4.770		3.220		**56.4**		**31.8**		14.4		30
Silver	(mg/kg)		U		U	0.18	J		U	0.84			U		U	2
Zinc	(mg/kg)	**166**		66.5		39.7		10.6		**345**		88.6	N	**116**	N	109

Parameter List EPA Method 6010B/7471A	Sample ID Lab ID Sample Type Sample Date	EX5SW1 C3265-01 Soil 8/4/2011		EX5SW2 C3265-02 Soil 8/4/2011		EX5SW3 C3265-03 Soil 8/4/2011		EX5SW4 C3355-01 Soil 8/11/2011		EX5SW5 C3355-02 Soil 8/11/2011		EX5SW6 C3355-03 Soil 8/11/2011		EX5SW7 C3355-06 Soil 8/22/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
Arsenic	(mg/kg)	1.690		5.300		6.600		2.920		3.970		1.940		1.740		13
Barium	(mg/kg)	13.6		59.6		81.0		25.9		63.4		20.9		12.4		350
Chromium (Total)	(mg/kg)	**7.15**	*	**28.7**	*	**20.9**	*	**27.6**		**12.6**		**7.300**		**4.780**		1[a], 30[b]
Copper	(mg/kg)	8.230		**449**		**92.2**		**84.9**		**221**		**120**		11.2		50
Lead	(mg/kg)	31.7		**101**		**121**		**81.4**		48.5		33.6		22.8		63
Mercury	(mg/kg)	0.085	*	0.124	*	0.174	*	0.057		0.097		0.035		0.036		0.18
Nickel	(mg/kg)	3.170		14.7		10.4		15.7		8.480		4.180		3.220		30
Silver	(mg/kg)		U		U		U	0.75		0.35	J		U		U	2
Zinc	(mg/kg)	**178**		**314**		**183**		99.0		**133**		22.3		25.0		109

Parameter List EPA Method 6010B/7471A	Sample ID Lab ID Sample Type Sample Date	EX5SW8 C3355-07 Soil 8/16/2011		EX5SW9 C3355-08 Soil 8/16/2011		EX5SW10 C3473-07 Soil 9/7/2011		EX5SW11 C3622-03 Soil 9/7/2011		EX5SW12 C3622-01 Soil 9/7/2011		EX5SW13 C3622-02 Soil 9/7/2011		EX6B1 C3109-03 Soil 7/21/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
Arsenic	(mg/kg)	3.450		3.090		7.270		2.820	N	8.260	N	4.430	N	4.36	*	13
Barium	(mg/kg)	38.7		30.2		50.2		22.5		43.2		51.5		19.9		350
Chromium (Total)	(mg/kg)	**7.240**		**6.750**		***218***		**15.8**		**10.8**		**17.2**		**6.980**		1[a], 30[b]
Copper	(mg/kg)	**266**		62.4		**1190**		20.1		33.9		**53.7**		**56.7**		50
Lead	(mg/kg)	**80.3**		**65.8**		**227**	*	36.0		53.5		**117**		**739**		63
Mercury	(mg/kg)	0.079		0.068		**0.191**		0.024		0.070		0.081		0.109		0.18
Nickel	(mg/kg)	**42.6**		10.7		**110**		9.550		12.8		11.7		6.450		30
Silver	(mg/kg)		U		U	**8.750**			U		U		U		U	2
Zinc	(mg/kg)	**193**		107		**311**		67.1	N	51.3	N	95.7	N	**280**		109

Parameter List EPA Method 6010B/7471A	Sample ID Lab ID Sample Type Sample Date	EX6B2 C3109-04 Soil 7/21/2011		EX6B3 C3109-05 Soil 7/21/2011		EX6SW1 C3100-01 Soil 7/20/2011		EX6SW2 C3100-02 Soil 7/20/2011		EX6SW3 C3100-03 Soil 7/20/2011		EX6SW4 C3100-04 Soil 7/20/2011		EX6SW5 C3100-05 Soil 7/20/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
Arsenic	(mg/kg)	11.2	*	**25.2**	*	9.760		4.640		7.630		11.6		**17.9**		13
Barium	(mg/kg)	59.7		59.6		35.0		39.7		44.2		30.5		45.5		350
Chromium (Total)	(mg/kg)	**12.1**		**12.4**		**22.0**		***86.3***		**19.8**		**16.1**		**9.090**		1[(a)], 30[(b)]
Copper	(mg/kg)	**55.8**		40.9		**285**		**2430**		49.5		**283**		**220**		50
Lead	(mg/kg)	**80.6**		**206**		**75.9**		**70.6**		**107**		**82.3**		51.5		63
Mercury	(mg/kg)	0.117		**0.348**		0.142		0.087		0.079		0.091		0.051		0.18
Nickel	(mg/kg)	16.3		**45.3**		**39.9**		**71.1**		**122**		**596**		11.2		30
Silver	(mg/kg)		U		U		U	0.602			U		U		U	2
Zinc	(mg/kg)	**127**		**264**		**215**		**558**		**281**		**358**		84.3		109

Parameter List EPA Method 6010B/7471A	Sample ID Lab ID Sample Type Sample Date	EX6SW6 C3100-06 Soil 7/20/2011		EX6SW7 C3109-06 Soil 7/21/2011		EX6NB1 C3265-15 Soil 8/4/2011		EX6NB2 C3265-16 Soil 8/4/2011		EX6NSW1 C3265-06 Soil 8/4/2011		EX6NSW2 C3265-07 Soil 8/4/2011		EX6NSW3 C3265-08 Soil 8/4/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
Arsenic	(mg/kg)	**17.6**		7.03	*	4.610		4.220		4.060		4.300		3.210		13
Barium	(mg/kg)	24.3		65.7		94.2		26.8		**572**		126		28.5		350
Chromium (Total)	(mg/kg)	**9.430**		**18.4**		**20**	*	**10.1**	*	**14.1**	*	**10.8**	*	**8.65**	*	1(a), 30(b)
Copper	(mg/kg)	**76.1**		**1670**		**102**		**54.9**		**314**		**162**		23.6		50
Lead	(mg/kg)	**81.0**		**107**		**146**		**63.3**		**275**		**254**		**86.5**		63
Mercury	(mg/kg)	0.049		0.118			U*	0.075	*	0.052	*	**0.22**	*	0.092	*	0.18
Nickel	(mg/kg)	23.2		**41.3**		11.3		14.6		10.8		11.5		5.420		30
Silver	(mg/kg)		U		U		U		U		U	0.684			U	2
Zinc	(mg/kg)	**159**		**473**		**114**		**146**		**399**		**371**		69.0		109

Parameter List EPA Method 6010B/7471A	Sample ID Lab ID Sample Type Sample Date	EX6NSW4 C3265-09 Soil 8/4/2011		EX6NSW5 C3265-13 Soil 8/4/2011		EX6NSW6 C3265-14 Soil 8/4/2011		Part 375 Unrestricted Use Soil Cleanup Objectives
Arsenic	(mg/kg)	2.030		5.120		2.420		13
Barium	(mg/kg)	27.6		45.4		18.6		350
Chromium (Total)	(mg/kg)	**11.2**	*	***32.2***	*	**9.16**	*	1[(a)], 30[(b)]
Copper	(mg/kg)	13.8		**149**		**61.5**		50
Lead	(mg/kg)	58.2		**113**		46.6		63
Mercury	(mg/kg)	0.034	*	0.085	*	0.051	*	0.18
Nickel	(mg/kg)	7.790		19.3		8.060		30
Silver	(mg/kg)		U	0.161	J		U	2
Zinc	(mg/kg)	**132**		**168**		75.7		109

TABLE 7A SUMMARY OF REMAINING SOIL CONTAMINATION ABOVE SITE-SPECIFIC SOIL CLEANUP OBJECTIVES FOR VOCs

Parameter List EPA Method 8260B	Sample ID	EX1SW1		EX1SW2		T3B1		T4B1		EX2B1		EX2B2		EX2B3		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3524-03		C3524-04		C3524-01		C3524-02		C3109-07		C3109-08		C3109-09		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/25/2011		8/25/2011		8/25/2011		8/25/2011		7/21/2011		7/21/2011		7/21/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)	570	D		U		U		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)	2	J		U		U	4	J		U		U		U	120
Naphthalene	(µg/kg)	13,000	D		U		U		U		U		U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U		U		U		U		U		U	1,400
Toluene	(µg/kg)	13			U		U		U		U		U		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U		U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U		U		U	200
m,p- Xylene	(µg/kg)	**2,100**	D		U		U		U		U		U		U	1,200[b]
o- Xylene	(µg/kg)	**1,000**	D		U		U		U		U		U		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID	EX2B4		EX3B1		EX3B2		EX3B3		EX3SW1		EX3SW2		EX3SW3		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3109-10		C3068-06		C3068-07		C3109-02		C3068-01		C3068-02		C3068-03		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/21/2011		7/19/2011		7/19/2011		7/21/2011		7/19/2011		7/19/2011		7/19/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)		U		U		U		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)	3	J		U		U		U		U		U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U		U		U		U		U	6		1,400
Toluene	(µg/kg)		U		U		U		U		U		U		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U		U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U		U		U	200
m,p- Xylene	(µg/kg)		U		U		U		U		U		U		U	1,200[b]
o- Xylene	(µg/kg)		U		U		U		U		U		U		U	1,200[b]

(a) SCG is for the sum of cis 1,2-DCE and trans 1,2-DCE

(b) SCG is for total Xylenes

NOTE: EPA = U.S. Enivronmental Protection Agency.
ID = Identification
µg/kg = micrograms per kilogram = parts per billion (ppb).
U = Non-detect, detection below the method detection limit.
D = Indicates the reported value was obtained by analysis at a secondary dilution factor.
J = Indicates the reported value was less than the Contract Required Detection Limit , but greater than or equal to the Instrument Detection Limit.
Data provided by Chemtech Consulting Group. Only analytes included in Table 1 of the ROD are included
Concentration values in**BOLD** indicate that analyte was detected above the site specific standards, criteria, and guidanc

Parameter List EPA Method 8260B	Sample ID	EX3SW4		EX3SW5		EX3SW6		EX3SW7		T1B1		T1B2		T1SW1		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3068-04		C3068-05		C3109-01		C3153-06		C3153-01		C3153-02		C3153-05		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/19/2011		7/19/2011		7/21/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)		U		U		U		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)		U		U		U		U		U		U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U		U		U		U		U		U	1,400
Toluene	(µg/kg)		U		U		U		U		U		U		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U		U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U		U		U	200
m,p- Xylene	(µg/kg)		U		U		U		U		U		U		U	1,200[b]
o- Xylene	(µg/kg)		U		U		U		U		U		U		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID	T2B1		T2B2		EX4B1		EX4SW1		EX4SW2		EX4SW3		EX5B1		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3153-03		C3153-04		C3473-06		C3473-01		C3473-02		C3473-03		C3265-04		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/27/2011		7/27/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011		8/4/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U		U	1.7	J		U		U		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)		U		U		U		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)		U	81	J		U		U		U		U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U	96	D	3	J		U		U		U	1,400
Toluene	(µg/kg)		U		U		U	1.1	J		U		U		U	1,500
Trichloroethylene (TCE)	(µg/kg)	5.2	J	3.4	J	12			U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U		U		U	200
m,p- Xylene	(µg/kg)		U		U		U	7.2	J		U		U		U	1,200[b]
o- Xylene	(µg/kg)		U	1.4	J		U	1	J		U		U		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID	EX5B2		EX5B3		EX5B4		EX5B5		EX5B6		EX5B7		EX5SW1		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3265-05		C3355-04		C3355-05		C3473-08		C3622-04		C3622-05		C3265-01		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/4/2011		8/11/2011		8/11/2011		8/22/2011		9/7/2011		9/7/2011		8/4/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U	1.4	J	**390**	JD	22		1.9	J		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U	**3.4**	J		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)	430	JD		U	340	JD		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)	470	JD		U	31	U		U	1.9	J		U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U	1.6	J	26			U		U		U	1,400
Toluene	(µg/kg)	2	J		U	**1,600**	D	2.3	J	1.6	J		U		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U	36			U		U		U	700
Vinyl chloride	(µg/kg)		U		U	14	U		U		U		U		U	200
m,p- Xylene	(µg/kg)	780	JD		U	**1,500**	D		U		U		U		U	1,200[b]
o- Xylene	(µg/kg)		U		U	**460**	JD		U		U		U		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID	EX5SW2		EX5SW3		EX5SW4		EX5SW5		EX5SW6		EX5SW7		EX5SW8		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3265-02		C3265-03		C3355-01		C3355-02		C3355-03		C3473-07		C3355-07		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/4/2011		8/4/2011		8/11/2011		8/11/2011		8/11/2011		8/22/2011		8/16/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U	33			U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U	1.9	J		U	300[a]
Ethylbenzene	(µg/kg)	9.2			U		U		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)	2.9	J		U		U		U	6			U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U		U		U		U	2.1	J		U	1,400
Toluene	(µg/kg)		U		U		U		U		U	13			U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U		U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U	8.1			U	200
m,p- Xylene	(µg/kg)	21			U		U		U		U	5.9	J		U	1,200[b]
o- Xylene	(µg/kg)		U		U		U		U		U	2.5	J		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID	EX5SW9		EX5SW10		EX5SW11		EX5SW12		EX6B1		EX6B2		EX6B3		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3355-08		C3622-03		C3622-01		C3622-02		C3109-03		C3109-04		C3109-05		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/16/2011		9/7/2011		9/7/2011		9/7/2011		7/21/2011		7/21/2011		7/21/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U	3.4	J		U		U		U		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)		U		U		U		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)	3.6	J		U		U	2.4	J		U		U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U		U		U		U		U		U	1,400
Toluene	(µg/kg)		U	2.6	J		U		U		U	3.2	J		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U		U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U		U		U	200
m,p- Xylene	(µg/kg)		U		U		U		U		U		U	3.1	J	1,200[b]
o- Xylene	(µg/kg)		U		U		U		U		U		U		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID	EX6SW1		EX6SW2		EX6SW3		EX6SW4		EX6SW5		EX6SW6		EX6SW7		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3100-01		C3100-02		C3100-03		C3100-04		C3100-05		C3100-06		C3109-06		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/20/2011		7/20/2011		7/20/2011		7/20/2011		7/20/2011		7/20/2011		7/21/2011		
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)		U		U		U		U		U		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)		U	7.3			U		U		U		U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U		U		U		U		U		U	1,400
Toluene	(µg/kg)		U		U		U		U		U		U		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U		U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U		U		U	200
m,p- Xylene	(µg/kg)		U		U		U		U		U		U		U	1,200[b]
o- Xylene	(µg/kg)		U		U		U		U		U		U		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID Lab ID Sample Type Sample Date	EX6NB1 C3265-15 Soil 8/4/2011		EX6NB2 C3265-16 Soil 8/4/2011		EX6NSW1 C3265-06 Soil 8/4/2011		EX6NSW2 C3265-07 Soil 8/4/2011		EX6NSW3 C3265-08 Soil 8/4/2011		EX6NSW4 C3265-09 Soil 8/4/2011		EX6NSW5 C3265-13 Soil 8/4/2011		Site Specific Standards, Criteria, and Guidance
Benzene	(µg/kg)		U		U		U		U		U		U		U	60
Chlorobenzene	(µg/kg)		U		U		U		U		U		U		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U		U		U		U		U		U		U	300[a]
Ethylbenzene	(µg/kg)		U		U		U		U	1.8	J		U		U	5,500
Methyl tert-butyl ether	(µg/kg)		U		U		U		U		U		U		U	120
Naphthalene	(µg/kg)		U		U		U		U	35			U		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U		U		U		U		U		U		U	1,400
Toluene	(µg/kg)		U		U		U		U		U		U		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U		U		U		U		U		U		U	700
Vinyl chloride	(µg/kg)		U		U		U		U		U		U		U	200
m,p- Xylene	(µg/kg)		U		U		U		U	20			U		U	1,200[b]
o- Xylene	(µg/kg)		U		U		U		U	2.1	J		U		U	1,200[b]

Parameter List EPA Method 8260B	Sample ID Lab ID Sample Type Sample Date	EX6NSW6 C3265-14 Soil 8/4/2011		Site Specific Standards, Criteria, and Guidance
Benzene	(µg/kg)		U	60
Chlorobenzene	(µg/kg)		U	17,000
cis 1,2- Dichloroethylene	(µg/kg)		U	300[a]
trans 1,2- Dichloroethylene	(µg/kg)		U	300[a]
Ethylbenzene	(µg/kg)		U	5,500
Methyl tert-butyl ether	(µg/kg)		U	120
Naphthalene	(µg/kg)		U	13,000
Tetrachloroethylene (PCE)	(µg/kg)		U	1,400
Toluene	(µg/kg)		U	1,500
Trichloroethylene (TCE)	(µg/kg)		U	700
Vinyl chloride	(µg/kg)		U	200
m,p- Xylene	(µg/kg)		U	1,200[b]
o- Xylene	(µg/kg)		U	1,200[b]

TABLE 7B SUMMARY OF REMAINING SOIL CONTAMINATION ABOVE SITE-SPECIFIC SOIL CLEANUP OBJECTIVES FOR METALS

Parameter List EPA Method 6010/7470	Sample ID	EX1SW1		EX1SW2		T3B1		T4B1		EX2B1		EX2B2		EX2B3		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3524-03		C3524-04		C3524-01		C3524-02		C3109-07		C3109-08		C3109-09		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	8/25/2011		8/25/2011		8/25/2011		8/25/2011		7/21/2011		7/21/2011		7/21/2011		
Chromium (total)	(mg/kg)	**71.6**		15.8		29.8		12.0		32.4		**91.5**		21.2		50
Copper	(mg/kg)	**107**		**34.3**		**105**		3.700		**482**		**631**		**77.1**		25
Nickel	(mg/kg)	**32.7**		12.3		**28.6**		8.520		**21.2**		**52.4**		12.4		13
Zinc	(mg/kg)	**45.2**		**135**		**103**		**158**		**365**		**442**		**96.5**		20

Parameter List EPA Method 6010/7470	Sample ID	EX2B4		EX3B1		EX3B2		EX3B3		EX3SW1		EX3SW2		EX3SW3		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3109-10		C3068-06		C3068-07		C3109-02		C3068-01		C3068-02		C3068-03		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/21/2011		7/19/2011		7/19/2011		7/21/2011		7/19/2011		7/19/2011		7/19/2011		
Chromium (total)	(mg/kg)	**60.1**		4.170		5.110		5.850		5.330		4.630		6.970		50
Copper	(mg/kg)	**288**		4.100		2.960		3.810		2.850		5.460		11.4		25
Nickel	(mg/kg)	**244**		3.690		3.510		3.740		3.120		3.230		4.670		13
Zinc	(mg/kg)	**256**		**22.0**		11.8		14.8		**33.0**		16.5		**35.2**		20

Parameter List EPA Method 6010/7470	Sample ID	EX3SW4		EX3SW5		EX3SW6		EX3SW7		T1B1		T1B2		T1SW1		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3068-04		C3068-05		C3109-01		C3153-06		C3153-01		C3153-02		C3153-05		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/19/2011		7/19/2011		7/21/2011		7/27/2011		7/27/2011		7/27/2011		7/27/2011		
Chromium (total)	(mg/kg)	5.240		3.980		2.500		3.340		6.75		5.35		11.4		50
Copper	(mg/kg)	3.900		6.600		6.870		2.880		10.1		13.6		4.77		25
Nickel	(mg/kg)	3.490		3.430		3.850		3.730		**47.2**		**33**		6.42		13
Zinc	(mg/kg)	**22.8**		**59.6**		11.7			U	**62.1**		**38.6**		17.2		20

Parameter List EPA Method 6010/7470	Sample ID	T2B1		T2B2		EX4B1		EX4SW1		EX4SW2		EX4SW3		EX5B1		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3153-03		C3153-04		C3473-06		C3473-01		C3473-02		C3473-03		C3265-04		
	Sample Type	Soil		Soil		Soil		Soil		Soil		Soil		Soil		
	Sample Date	7/27/2011		7/27/2011		8/22/2011		8/22/2011		8/22/2011		8/22/2011		8/4/2011		
Chromium (total)	(mg/kg)	5.05		4.01		**78.3**		9.120		8.190		3.890			U	50
Copper	(mg/kg)	14.1		5.95		**45.8**		22.5		3.100		3.770		73.8		25
Nickel	(mg/kg)	6.12		5.07		5.700		8.160			U	10.8		8.420		13
Zinc	(mg/kg)	**53.9**		**27.3**		**28.2**		63.8		4.380		14.9		62.5		20

Parameter List EPA Method 6010/7470	Sample ID	EX5B2		Site Specific Standards, Criteria, and Guidance
	Lab ID	C3265-05		
	Sample Type	Soil		
	Sample Date	8/4/2011		
Chromium (total)	(mg/kg)		U	50
Copper	(mg/kg)	**168**		25
Nickel	(mg/kg)	11.0		13
Zinc	(mg/kg)	**166**		20

NOTE: EPA = U.S. Enivronmental Protection Agency.
Identification
mg/kg = Millirgrams per kilogram
U = Non-detect, detection below the method detection limit.
Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.
Concentration values in**BOLD** indicate that analyte was detected above the site specific standards, criteria, and guidanc

Parameter List EPA Method 6010/7470	Sample ID Lab ID Sample Type Sample Date	EX5B3 C3355-04 Soil 8/11/2011	EX5B4 C3355-05 Soil 8/11/2011	EX5B5 C3473-08 Soil 8/22/2011	EX5B6 C3622-04 Soil 9/7/2011	EX5B7 C3622-05 Soil 9/7/2011	EX5SW1 C3265-01 Soil 8/4/2011	EX5SW2 C3265-02 Soil 8/4/2011	Site Specific Standards, Criteria, and Guidance
Chromium (total)	(mg/kg)	10.1	6.300	**61.3**	30.3	34.2	U	U	50
Copper	(mg/kg)	**44.1**	18.4	**953**	**114**	**152**	8.230	**449**	25
Nickel	(mg/kg)	5.180	4.770	**56.4**	**31.8**	**14.4**	3.170	**14.7**	13
Zinc	(mg/kg)	**66.5**	**39.7**	**345**	U	U	**178**	**314**	20

Parameter List EPA Method 6010/7470	Sample ID Lab ID Sample Type Sample Date	EX5SW3 C3265-03 Soil 8/4/2011	EX5SW4 C3355-01 Soil 8/11/2011	EX5SW5 C3355-02 Soil 8/11/2011	EX5SW6 C3355-03 Soil 8/11/2011	EX5SW7 C3473-07 Soil 8/22/2011	EX5SW8 C3355-07 Soil 8/16/2011	EX5SW9 C3355-08 Soil 8/16/2011	Site Specific Standards, Criteria, and Guidance
Chromium (total)	(mg/kg)	U	27.6	12.6	7.300	**218**	7.240	6.750	50
Copper	(mg/kg)	**92.2**	**84.9**	**221**	**120**	**1190**	**266**	**62.4**	25
Nickel	(mg/kg)	10.4	**15.7**	8.480	4.180	**110**	**42.6**	10.7	13
Zinc	(mg/kg)	**183**	**99.0**	**133**	**22.3**	**311**	**193**	**107**	20

Parameter List EPA Method 6010/7470	Sample ID Lab ID Sample Type Sample Date	EX5SW10 C3622-03 Soil 9/7/2011	EX5SW11 C3622-01 Soil 9/7/2011	EX5SW12 C3622-02 Soil 9/7/2011	EX6B1 C3109-03 Soil 7/21/2011	EX6B2 C3109-04 Soil 7/21/2011	EX6B3 C3109-05 Soil 7/21/2011	EX6SW1 C3100-01 Soil 7/20/2011	Site Specific Standards, Criteria, and Guidance
Chromium (total)	(mg/kg)	15.8	10.8	17.2	6.980	12.1	12.4	22.0	50
Copper	(mg/kg)	20.1	**33.9**	**53.7**	**56.7**	**55.8**	**40.9**	**285**	25
Nickel	(mg/kg)	9.550	12.8	11.7	6.450	**16.3**	**45.3**	**39.9**	13
Zinc	(mg/kg)	U	U	U	**280**	**127**	**264**	**215**	20

Parameter List EPA Method 6010/7470	Sample ID Lab ID Sample Type Sample Date	EX6SW2 C3100-02 Soil 7/20/2011	EX6SW3 C3100-03 Soil 7/20/2011	EX6SW4 C3100-04 Soil 7/20/2011	EX6SW5 C3100-05 Soil 7/20/2011	EX6SW6 C3100-06 Soil 7/20/2011	EX6SW7 C3109-06 Soil 7/21/2011	EX6NB1 C3265-15 Soil 8/4/2011	Site Specific Standards, Criteria, and Guidance
Chromium (total)	(mg/kg)	**86.3**	19.8	16.1	9.090	9.430	18.4	U	50
Copper	(mg/kg)	**2430**	**49.5**	**283**	**220**	**76.1**	**1670**	**102**	25
Nickel	(mg/kg)	**71.1**	**122**	**596**	11.2	**23.2**	**41.3**	11.3	13
Zinc	(mg/kg)	**558**	**281**	**358**	**84.3**	**159**	**473**	**114**	20

Parameter List EPA Method 6010/7470	Sample ID Lab ID Sample Type Sample Date	EX6NB2 C3265-16 Soil 8/4/2011	EX6NSW1 C3265-06 Soil 8/4/2011	EX6NSW2 C3265-07 Soil 8/4/2011	EX6NSW3 C3265-08 Soil 8/4/2011	EX6NSW4 C3265-09 Soil 8/4/2011	EX6NSW5 C3265-13 Soil 8/4/2011	EX6NSW6 C3265-14 Soil 8/4/2011	Site Specific Standards, Criteria, and Guidance
Chromium (total)	(mg/kg)	U	U	U	U	U	U	U	50
Copper	(mg/kg)	**54.9**	**314**	**162**	23.6	13.8	**149**	**61.5**	25
Nickel	(mg/kg)	**14.6**	10.8	11.5	5.420	7.790	**19.3**	8.060	13
Zinc	(mg/kg)	**146**	**399**	**371**	**69.0**	**132**	**168**	**75.7**	20

TABLE 8 SUMMARY OF REMAINING SEDIMENT CONTAMINATION ABOVE SITE-SPECIFIC CLEANUP OBJECTIVES FOR METALS

Parameter List EPA Method 6010/7470	Sample ID	EX7P1		EX7P2		EX7P3		EX7P4		EX7P5		Effects Range-Low (mg/kg)	Effects Range-Median (mg/kg)
	Lab ID	D1315-01		D1315-02		D1315-03		D1315-04		D1315-05			
	Sample Type	Sediment		Sediment		Sediment		Sediment		Sediment			
	Sample Date	1/27/2012		1/27/2012		1/27/2012		1/27/2012		1/27/2012			
Arsenic	(mg/kg)	**13.3**		**17.2**		**10.9**		3.81		**8.48**		8.2	70
Cadmium	(mg/kg)	0.512		0.981		**4.04**		0.123	J	0.309	J	1.2	9.6
Chromium	(mg/kg)	40.7		55.2		**97.4**		17.4		42.6		81	370
Copper	(mg/kg)	**177**		***299***		**134**		**42.2**		**91.5**		34	270
Iron[(a)]	(mg/kg)	14000		21100		21900		5630		11900		2%	4%
Lead	(mg/kg)	**46.8**		**76.1**		***228***		24.5		40.9		46.7	218
Mercury	(mg/kg)	**0.373**		**0.492**		***1.86***	D	**0.152**		**0.202**		0.15	0.71
Nickel	(mg/kg)	15.8		16.7		**23.3**		5.28		15.3		20.9	51.6
Silver	(mg/kg)		U		U	***4.05***			U		U	1	3.7
Zinc	(mg/kg)	141		**318**		**206**		44.8		100		150	410

NOTE: EPA = U.S. Enivronmental Protection Agency.
mg/kg = Millirgrams per kilogram
J = Indicates the reported value was less than the Contract Required Detection Limit , but greater than or equal to the Method Detection Limit.
D = Indicates the reported value is from a dilution.
U = Non-detect, detection below the method detection limit.
Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.
Concentration values in **BOLD** indicate that analyte was detected above the Effects Range-Low. Concentration values in *ITALICS* indicate that analyte was detected above the Effects Range-Median.

TABLE 9A SUMMARY OF GROUNDWATER CONTAMINATION ABOVE SITE-SPECIFIC CLEANUP OBJECTIVES FOR VOCs

Parameter List EPA Method 8260B	Sample ID	MW-08S		MW-08D		MW-09S		MW-09D		MW-10S		MW-10D		Duplicate		Trip Blank		NYSDEC Ambient Water Quality Standard Class GA
	Lab ID	C5040-01		C5040-02		C5040-03		C5040-04		C5040-05		C5040-06		C5040-07		C5040-21		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		QA/QC		
	Sample Date	12/14/2011		12/14/2011		12/14/2011		12/14/2011		12/14/2011		12/14/2011		12/14/2011		NA		
Acetone	(µg/L)	(<25)	U	(<25)	U	44		(<25)	U	4	J	(<25)	U	47		(<25)	U	50 (g)
cis-1,2-Dichloroethene	(µg/L)	**8.4**		**50**		**82**		**51**		**6.9**		(<5.0)	U	**67**		(<5)	U	5 (s)
Methyl tert-butyl ether	(µg/L)	3	J	(<5.0)	U	2	J	(<5.0)	U	(<5.0)	U	(<5.0)	U	(<5.0)	U	(<5)	U	10 (g)
Tetrachloroethene (PCE)	(µg/L)	**390**	**D**	**3,000**	**D**	**7**		**1,200**	**D**	**5.6**		**6.7**		**7**		(<5)	U	5 (s)
trans-1,2-Dichloroethene	(µg/L)	(<5.0)	U	1	J	(<5.0)	U	1.9	J	(<5.0)	U	(<5.0)	U	(<5.0)	U	(<5)	U	5 (s)
Trichloroethene (TCE)	(µg/L)	**9.4**		**140**	**JD**	**14**		**180**	**JD**	(<5.0)	U	(<5.0)	U	**7**		(<5)	U	5 (s)
Vinyl chloride	(µg/L)	(<5.0)	U	(<5.0)	U	**88**		**10**		(<5.0)	U	(<5.0)	U	**75**		(<5)	U	2 (s)

NOTE: EPA = U.S. Enivronmental Protection Agency.
ID = Identification
QA/QC = Quality assurance/quality control
NA = Not applicable
NYSDEC = New York State Department of Environmental Conservation.
µg/L = micrograms per Liter = parts per billion (ppb).
U = Non-detect, detection below the method detection limit.
J = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Instrument Detection Limit.
D = Indicates the reported value was obtained by analysis at a secondary dilution factor.
Duplicate sample was collected at MW-09S.
Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.
Concentration values in **BOLD** indicate that analyte was detected above the NYSDEC Ambient Water Quality Standard (g) guidance value, (s) standard value.
April 2014 Revision - New monitoring wells MW-11S and MW-11D will be sampled in Spring 2014; data will be provided in a letter report and/or Periodic Review Report.

TABLE 9B SUMMARY OF GROUNDWATER CONTAMINATION ABOVE SITE-SPECIFIC CLEANUP OBJECTIVES FOR METALS

Parameter List EPA Method 6010/7470	Sample ID	MW-08S		MW-08D		MW-09S		MW-09D		MW-10S		MW-10D		Duplicate		NYSDEC Ambient Water Quality Standard Class GA (µg/L)
	Lab ID	C5040-01		C5040-02		C5040-03		C5040-04		C5040-05		C5040-06		C5040-07		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	12/14/2011		12/14/2011		12/14/2011		12/14/2011		12/14/2011		12/14/2011		12/14/2011		
Aluminum	(µg/L)	485		65.5		1,010		1,570		903		550		995		---
Arsenic	(µg/L)	(<10)	U	(<10)	U	(<10)	U	(<10)	U	5.76	J	(<10)	U	(<10)	U	25 (s)
Barium	(µg/L)	81.6		35.5	J	119		46.2	J	71.1		13.2	J	116		1,000 (s)
Boron	(µg/L)	188		169		554		73.6		779		74.4		573		1,000 (s)
Cadmium	(µg/L)	0.709	J	1.41	J	1.37	J	0.853	J	(<3)	U	(<3)	U	1.46	J	5 (s)
Calcium	(µg/L)	32,700		100,000		60,300		36,000		33,200		13,500		58,300		---
Chromium (total)	(µg/L)	**58.5**		5.69		11.9		12.5		12.5		6.57		**68.8**		50 (s)
Copper	(µg/L)	15.5		7.91	J	6.8	J	4.64	J	12.3		(<10)	U	(<10)	U	200 (s)
Iron	(µg/L)	**11,800**		**21,500**		**21,900**		**14,500**		**3,950**		**2,080**		**22,000**		300 (s)
Lead	(µg/L)	3	J	(<6)	U	(<6)	U	3.68	J	4.13	J	(<6)	U	3.01	J	25 (s)
Magnesium	(µg/L)	3,480		10,200		19,600		7,740		3,430		6,010		19,200		35,000 (g)
Manganese	(µg/L)	239		**1,050**		**807**		**1,980**		106		227		**778**		300 (s)
Nickel	(µg/L)	20.4		10.4	J	(<20)	U	7.17	J	6.11	J	(<20)	U	30.9		100 (s)
Potassium	(µg/L)	4,150.0		7,370		14,000		3,880		6,950		3,340		14,200		---
Silver	(µg/L)	(<5)	U	(<5)	U	(<5)	U	(<5)	U	(<5)	U	1.61	J	1.51	J	50 (s)
Sodium	(µg/L)	**105,000**		**106,000**		**227,000**		**63,600**		**144,000**		**66,400**		**225,000**		20,000 (s)
Thallium	(µg/L)	**2.55**	**J**	**2.43**	**J**	(<20)	U	(<20)	U	(<20)	U	(<20)	U	**2.73**	**J**	0.5 (g)
Vanadium	(µg/L)	(<20)	U	(<20)	U	(<20)	U	(<20)	U	8.46	J	(<20)	U	(<20)	U	---
Zinc	(µg/L)	22.8		21		24.1		13.9	J	15.7	J	18.3	J	17.3	J	2,000 (g)

NOTE: EPA = U.S. Enivronmental Protection Agency.
ID = Identification
NYSDEC = New York State Department of Environmental Conservation.
µg/L = micrograms per Liter = parts per billion (ppb).
--- = No applicable standard
U = Non-detect, detection below the method detection limit.
J = Indicates the reported value was less than the Contract Required Detection Limit, but greater than or equal to the Instrument Detection Limit.
Duplicate was collected at MW-09S.
Data provided by Chemtech Consulting Group. Only analytes that were detected in at least one sample are shown.
Concentration values in **BOLD** indicate that analyte was detected above the NYSDEC Ambient Water Quality Standard (g) guidance value, (s) standard value.
April 2014 Revision - New monitoring wells MW-11S and MW-11D will be sampled in Spring 2014; data will be provided in a letter report and/or Periodic Review Report.

TABLE 10 SUMMARY OF DETECTED PERFLUORINATED CHEMICALS (PFCs) IN GROUNDWATER - APRIL 2017

	Location ID	MW-04		MW-05R		MW-06		MW-08DR		MW-08SR		MW-09D		Guidance Values
	Lab ID	17E00076-01		17E0006-11		17E0006-06		17E0006-13		17E0006-12		17E0006-08		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	4/27/2017		4/28/2017		4/26/2017		4/28/2017		4/28/2017		4/27/2017		
Parameter List 8270D / E537	Tidal Phase	Low		Low		Low		Low		Low		Low		
1,4-Dioxane	ppb	(<0.033)	U	(<0.033)	U	(<0.033)	U	(<0.033)	U	(<0.033)	U	(<0.033)	U	0.35 [1]
Perfluorooctanesulfonic acid (PFOS)	ng/l	**7.6**		**18**		**24**		16		11		7.3		70 [2]
Perfluoroundecanoic Acid (PFUnA)	ng/l	(< 2)	U	(< 2)	U	(< 2)	U	2.5		4.7		3.3		---
Perfluoropentanoic Acid (PFPeA)	ng/l	16		11		10		8		6.7		4		---
Perfluorohexanoic acid (PFHxA)	ng/l	29		(< 20)	U	27		(< 20)	U	(< 20)	U	(< 20)	U	---
Perfluorododecanoic acid (PFDoA)	ng/l	(< 2)	U	(< 2)	U	(< 2)	U	(< 2)	U	(< 2)	U	(< 2)	U	---
Perfluorooctanoic acid (PFOA)	ng/l	**160**		**63**		**170**		26		26		9.3		70 [2]
Perfluorodecanoic acid (PFDA)	ng/l	34		22		4.3		7.3		11		4.9		---
Perfluorohexanesulfonic acid (PFHxS)	ng/l	(< 2)	U	3.9		5.2		4.4		9.4		(< 2)	U	---
Perfluorobutanesulfonic acid (PFBS)	ng/l	75		4.3		10		**170**		69		13		---
Perfluoroheptanoic acid (PFHpA)	ng/l	64		(< 20)	U	54		(< 20)	U	(< 20)	U	(< 20)	U	---
Perfluorononanoic acid (PFNA)	ng/l	92		28		16		5.9		9.2		2.9		---

	Location ID	MW-09S		MW-10D		MW-10M		MW-10S		MW-11D		MW-11S		Guidance Values
	Lab ID	17E0006-07		17E0006-05		17E0006-04		17E0006-03		17E0006-09		17E0006-10		
	Sample Type	Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		
	Sample Date	4/27/2017		4/27/2017		4/27/2017		4/26/2017		4/28/2017		4/28/2017		
Parameter List 8270D / E537	Tidal Phase	Low		Low		Low		Low		Low		Low		
1,4-Dioxane	ppb	(<0.033)	U	(<0.032)	U	(<0.033)	U	**0.45**		(<0.033)	U	(<0.033)	U	0.35 [1]
Perfluorooctanesulfonic acid (PFOS)	ng/l	9.8		5.8		**18**		**26**		**77**		**63**	J	70 [2]
Perfluoroundecanoic Acid (PFUnA)	ng/l	3.9		(< 2)	U	(< 2)	U	2.1		(< 2)	U	(< 2)	U	---
Perfluoropentanoic Acid (PFPeA)	ng/l	7.6		3.9		9.2		9.8		7.1		4.3		---
Perfluorohexanoic acid (PFHxA)	ng/l	(< 20)	U	(< 20)	U	(< 20)	U	(< 20)	U	(< 20)	U	(< 20)	U	---
Perfluorododecanoic acid (PFDoA)	ng/l	2.5		(< 2)	U	(< 2)	U	(< 2)	U	(< 2)	U	(< 2)	U	---
Perfluorooctanoic acid (PFOA)	ng/l	15		17		**86**		**52**		**32**		**9.7**		70 [2]
Perfluorodecanoic acid (PFDA)	ng/l	15		(< 2)	U	35		16		(< 2)	U	(< 2)	U	---
Perfluorohexanesulfonic acid (PFHxS)	ng/l	(< 2)	U	(< 2)	U	2.2		7.1		4.8		22	J	---
Perfluorobutanesulfonic acid (PFBS)	ng/l	15		2.7		23		5		3.5		3.7		---
Perfluoroheptanoic acid (PFHpA)	ng/l	(< 20)	U	(< 20)	U	26		(< 20)	U	(< 20)	U	(< 20)	U	---
Perfluorononanoic acid (PFNA)	ng/l	8.2		2.6		32		18		3.3		(< 2)	U	---

	Location ID	DUP-01		Guidance Values
	Lab ID	17E0006-02		
	Sample Type	Groundwater		
	Sample Date	4/27/2017		
Parameter List 8270D / E537	Tidal Phase	Low		
1,4-Dioxane	ppb	(<0.033)	U	0.35 [1]
Perfluorooctanesulfonic acid (PFOS)	ng/l	**8.3**		70 [2]
Perfluoroundecanoic Acid (PFUnA)	ng/l	(< 2)	U	---
Perfluoropentanoic Acid (PFPeA)	ng/l	16		---
Perfluorohexanoic acid (PFHxA)	ng/l	28		---
Perfluorododecanoic acid (PFDoA)	ng/l	(< 2)	U	---
Perfluorooctanoic acid (PFOA)	ng/l	**160**		70 [2]
Perfluorodecanoic acid (PFDA)	ng/l	30		---
Perfluorohexanesulfonic acid (PFHxS)	ng/l	(< 20)	U	---
Perfluorobutanesulfonic acid (PFBS)	ng/l	90		---
Perfluoroheptanoic acid (PFHpA)	ng/l	64		---
Perfluorononanoic acid (PFNA)	ng/l	95		---

Note:

[1] Environmental Protection Agency (EPA)'s Integrated Risk Information System (IRIS) 2013 for drinking water representing a 1 x 10-6 cancer risk level

[2] EPA health advisory level for drinking water - combined concentrations of PFOA and PFAS

Values shown in bold exceed the guidance value indicated.

Data provided by Con-Test Analytical.

-- = Not analyzed.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

ppb = parts per billion

ng/l = nanograms per liter = parts per trillion (ppt)

APPENDIX A

ENVIRONMENTAL NOTICES

Metal Etching
Owner: Apache Realty Corporation
Site No. 130110
435 South Main Street
Nassau County, NY
Tax Map ID: Section 62, Block 45, Lots 155 and 157

ENVIRONMENTAL NOTICE

THIS ENVIRONMENTAL NOTICE is made the 5th day of March 2014, by the New York State Department of Environmental Conservation (Department), having an office for the transaction of business at 625 Broadway, Albany, New York 12233.

WHEREAS, a parcel of real property located at the address of 435 Main Street and 24 Ray Street in the Incorporated Village of Freeport, Town of Hempstead, County of Nassau and State of New York, known and designated on the tax map of the County Clerk of Nassau as tax map parcel numbers: Section 62. Block 45 Lot 155, being the same as that property conveyed to Grantor by deed dated March 15, 1983 and recorded in the Nassau County Clerk's Office in Liber 9463 at Page 571 and Section 62. Block 45 Lot 157, being the same as that property conveyed to Grantor by deed dated August 2, 1983 and recorded October 4, 1983 in Liber 9505 at Page 357, comprising approximately 0.81 +/- acres, being more particularly described in the Property Description attached hereto and made a part hereof in Appendix "A,", and hereinafter referred to as "the Property" is the subject of a remedial program performed by the Department; and

WHEREAS, the Department approved a cleanup to address contamination disposed at the Property and such cleanup was conditioned upon certain limitations.

NOW, THEREFORE, the Department provides notice that:

FIRST, the part of lands subject to this Environmental Notice is as shown on a survey map dated April 12, 2013 prepared by MJ Engineering and Land Surveying, P.C., attached to this Notice as Appendix "B" and made a part hereof.

SECOND, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results or may result in a significantly increased threat of harm or damage at any site as a result of exposure to soils. A violation of this provision is a violation of 6 NYCRR 375-1.1 1(b)(2).

THIRD, no person shall disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, including but not limited to those engineering controls described in the SMP and listed below, unless in each instance they first obtain a written waiver of such prohibition from the Department or Relevant Agency.

FOURTH, the remedy was designed to be protective for Commercial or Industrial uses. Therefore, any use for purposes other than Commercial or Industrial uses without the express written waiver of such prohibition by the Relevant Agency may result in a significantly

increased threat of harm or damage at any site.

FIFTH, the no person shall use the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency. Use of the groundwater without appropriate treatment may result in a significantly increased threat of harm or damage at any site.

SIXTH, it is a violation of 6 NYCRR 375-1.11(b) to use the Property in a manner inconsistent with this environmental notice.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

By: _____
Robert W. Schick, P.E., Director
Division of Environmental Remediation

STATE OF NEW YORK) ss:
COUNTY OF ALBANY)

On the 5th day of March, in the year 20__, before me, Robert W. Schick, the undersigned, personally appeared, and is personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public – State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 20__

Metal Etching
Owner: Apache Realty Corporation
Site No. 130110
435 South Main Street
Nassau County, NY
Tax Map ID: Section 62, Block 45, Lots 155 and 157

Appendix A

METES AND BOUNDS DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY SIDE OF SOUTH MAIN STREET AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE SOUTH AND LANDS NOW OR FORMERLY FREEPORT CREEK ASSOCIATES TO THE NORTH, BEING 113.10' SOUTHERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF SOUTH MAIN STREET AND THE SOUTHERLY SIDE OF RAY STREET;

RUNNING THENCE ALONG SAID DIVISION LINE THE FOLLOWING TWO (2) COURSES:

1) S 86°19'00" E, 331.25' TO A POINT;
2) N 12°15'00" W, 199.17' TO A POINT ON THE SOUTH SIDE OF RAY STREET;

THENCE ALONG RAY STREET IN PART AND LANDS NOWOR FORMERLY BWMHIGH & DRY INC. THE FOLLOWING TWO (2) COURSES:

1) N 77°45'00" E, 33.26' TO A POINT;
2) S 60°06'00" E, 146.22' TO A POINT AT THE WESTERLY EDGE OF FREEPORT CREEK;

THENCE RUNNING ALONG FREEPORT CREEK THE FOLLOWING THIRTEEN (13) COURSES:

1) S 27°30'08" E, 3.52' TO A POINT;
2) S 46°43'34" E, 19.95' TO A POINT;
3) S 54°48'18" E, 13.53' TO A POINT;
4) S 13°15'20" E, 12.03' TO A POINT;
5) S 06°14'04" W, 20.87' TO A POINT;
6) S 31°12'03" W, 13.01' TO A POINT;
7) S 35°49'59" W, 17.03' TO A POINT;
8) S 47°18'43" W, 23.33' TO A POINT;
9) S 62°36'32" W, 23.33' TO A POINT;
10) S 71°43'13" W, 27.02' TO A POINT;
11) S 70°16'31" W, 40.11' TO A POINT;
12) S 86°19'00" E, 9.70' TO A POINT;
13) S 61°16'43"W, 95.3' TO A POINT ON THE DMSION UNE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE NORTH AND LANDS NOW OR FORMERLY OF FREEPORT MOTOR INN & BOAT RENTAL TO THE SOUTH; THENCE ALONG SAID DIMENSION LINE N 77°43'08" W, 289.63' TO A POINT AT THE EASTERLY SIDE OF SOUTH MAIN STREET;

THENCE NORTHERLY ALONG THE EAST SIDE OF SOUTH MAIN STREET N 04°35'45" E, 15.95' TO THE POINT AND PLACE OF BEGINNING CONTAINING 0.81 ACRES OF LAND, MORE OR LESS.

BEING AND INTENDING TO DESCRIBE THE SAME PARCEL CONVEYED TO APACHE REALTY CORP.,FROM FREEPORT CREEK PROPERTIES, INC. BY DEED DATED AUGUST 2, 1983 AND RECORDED IN LIBER 9505 AT PAGE 357 AT THE NASSAU COUNTY CLERK'S OFFICE AND ALSO THAT PARCEL CONVEYED TO APACHE REALTY CORP., FROM FREDERICK J. VALENTINE BY DEED DATED MARCH 15, 1983 AND RECORDED IN LIBER 9463 AT PAGE 571 AT THE NASSAU COUNTY CLERK'S OFFICE.

APPENDIX B

SURVEY

GENERAL NOTES:

1) MAP PREPARED FROM A FIELD SURVEY CONDUCTED BY M.J. ENGINEERING AND LAND SURVEYING P.C., DATED JUNE 2008 AND UPDATED OCTOBER 2012.
2) PARCELS SURVEYED IS FURTHER REFERENCED TO THE TOWN OF FREEPORT SECTION 62, BLOCK 45, LOTS 155 AND 157.
3) UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE IN NATURE ONLY, AND SUBJECT TO VERIFICATION BY EXCAVATION.
4) SUBJECT TO ANY AND ALL RIGHTS, EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
5) VERTICAL DATUM BASED UPON NAVD 88 TRANSFERRED TO THE SITE BY CONVENTIONAL METHODS.
6) BUILDING HEIGHTS SHOWN ARE MEASURED FROM GRADE.
7) SITE IS LOCATED 480'± SOUTH OF THE INTERSECTION OF ATLANTIC AVE AT THE INTERSECTION OF MAIN ST. AND RAY ST EAST.
8) NORTH REFERENCE SHOWN HEREON PER DEED REFERENCE ONE.
9) THIS SURVEY HAS BEEN REVISED WITH THE BENEFIT OF TITLE REPORT PREPARED BY FRONTIER ABSTRACT AND RESEARCH SERVICES AS AGENT FOR CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NO. 5032264, DATED OCTOBER 2, 2012.

DEED REFERENCES:

1) CONVEYANCE FROM FREEPORT CREEK PROPERTIES, INC. TO APACHE REALTY CORP. DATED AUGUST 2, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9505 OF DEEDS, PAGE 357 AS FILED ON OCTOBER 4, 1983.

2) CONVEYANCE FROM FREDERICK J. VALENTINE TO APACHE REALTY CORP. DATED MARCH 15, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9463 OF DEEDS, PAGE 571 AS FILED MARCH 22, 1983.

MAP REFERENCES:

1) MAP ENTITLED "DESCRIPTIVE PROPERTY", PREPARED BY VITO A. VALENTI, DATED APRIL 1, 1999.
2) MAP ENTITLED "MAP OF PROPERTY SITUATED AT FREEPORT TOWN OF HEMPSTEAD NASSAU COUNTY-N.Y.", PREPARED BY BALDWIN & CORNELIUS, P.C. DATED AUGUST 2, 1985 LAST REVISED NOVEMBER 21, 1988.
3) MAP ENTITLED " MAP OF SUNSHINE PARK AT FREEPORT, NEW YORK" DATED JUNE 4, 1921 FILED IN NASSAU COUNTY CLERK'S OFFICE AS MAP NUMBER 179.

DESCRIPTION OF ENVIRONMENTAL EASEMENT

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE EASTERLY SIDE OF SOUTH MAIN STREET AT ITS INTERSECTION WITH THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE SOUTH AND LANDS NOW OR FORMERLY FREEPORT CREEK ASSOCIATES TO THE NORTH, BEING 113.10' SOUTHERLY FROM THE CORNER FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF SOUTH MAIN STREET AND THE SOUTHERLY SIDE OF RAY STREET;

RUNNING THENCE ALONG SAID DIVISION LINE THE FOLLOWING TWO (2) COURSES:

1) S 86°19'00" E, 331.25' TO A POINT;
2) N 12°15'00" W, 199.17' TO A POINT ON THE SOUTH SIDE OF RAY STREET;

THENCE ALONG RAY STREET IN PART AND LANDS NOW OR FORMERLY BWM HIGH & DRY INC. THE FOLLOWING TWO (2) COURSES:

1) N 77°45'00" E, 33.26' TO A POINT;
2) S 60°06'00" E, 146.22' TO A POINT AT THE WESTERLY EDGE OF FREEPORT CREEK;

THENCE RUNNING ALONG FREEPORT CREEK THE FOLLOWING THIRTEEN (13) COURSES:

1) S 27°30'08" E, 3.52' TO A POINT;
2) S 46°43'34" E, 19.95' TO A POINT;
3) S 54°48'18" E, 13.53' TO A POINT;
4) S 13°15'20" E, 12.03' TO A POINT;
5) S 06°14'04" W, 20.87' TO A POINT;
6) S 31°12'03" W, 13.01' TO A POINT;
7) S 35°49'59" W, 17.03' TO A POINT;
8) S 47°18'43" W, 23.33' TO A POINT;
9) S 62°36'32" W, 23.33' TO A POINT;
10) S 71°43'13" W, 27.02' TO A POINT;
11) S 70°16'31" W, 40.11' TO A POINT;
12) S 86°19'00" E, 9.70' TO A POINT;
13) S 61°16'43"W, 95.3' TO A POINT ON THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE NORTH AND LANDS NOW OR FORMERLY OF FREEPORT MOTOR INN & BOAT RENTAL TO THE SOUTH; THENCE ALONG SAID DIVISION LINE N 77°43'08" W, 289.63' TO A POINT AT THE EASTERLY SIDE OF SOUTH MAIN STREET;

THENCE NORTHERLY ALONG THE EAST SIDE OF SOUTH MAIN STREET N 04°35'45" E, 15.95' TO THE POINT AND PLACE OF BEGINNING CONTAINING 0.81 ACRES OF LAND, MORE OR LESS.

BEING AND INTENDING TO DESCRIBE THE SAME PARCEL CONVEYED TO APACHE REALTY CORP., FROM FREEPORT CREEK PROPERTIES, INC. BY DEED DATED AUGUST 2, 1983 AND RECORDED IN LIBER 9505 AT PAGE 357 AT THE NASSAU COUNTY CLERK'S OFFICE AND ALSO THAT PARCEL CONVEYED TO APACHE REALTY CORP., FROM FREDERICK J. VALENTINE BY DEED DATED MARCH 15, 1983 AND RECORDED IN LIBER 9463 AT PAGE 571 AT THE NASSAU COUNTY CLERK'S OFFICE.

ENGINEERING / INSTITUTIONAL CONTROLS

- All Engineering Controls - must be operated and maintained as specified in the Site Management Plan(SMP)
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Soil Cover - Any breach of the natural site cover, including for the purposes of construction or utilities work, must be replaced or repaired according to the SMP. Site soil excavated or removed from the property must be managed, characterized, and properly disposed of in accordance with the NYSDEC regulations and directives. Guidelines for management of subsurface soils/fill and long-term maintenance of the natural site cover is provided in the SMP.
- Groundwater monitoring and other environmental or public health monitoring must be performed as defined in the SMP.
- The use of Groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site; and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.
- Land Use - The use and development of the site is limited to Commercial and Industrial uses only as defined in 6 NYCRR Part 375-1.8(g)(2) (iii) & (iv).

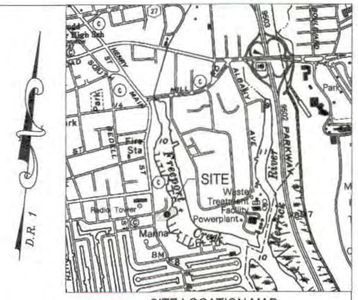
THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). a copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

TOTAL ENVIRONMENTAL EASEMENT AREA = 0.81 ACRES ± (INCLUDES SEC. 62, BLK. 45, LOT 157 AREA = 0.54 ACRES ± AND SEC. 62, BLK,. 45, LOT 155 AREA = 0.27 ACRES ±)

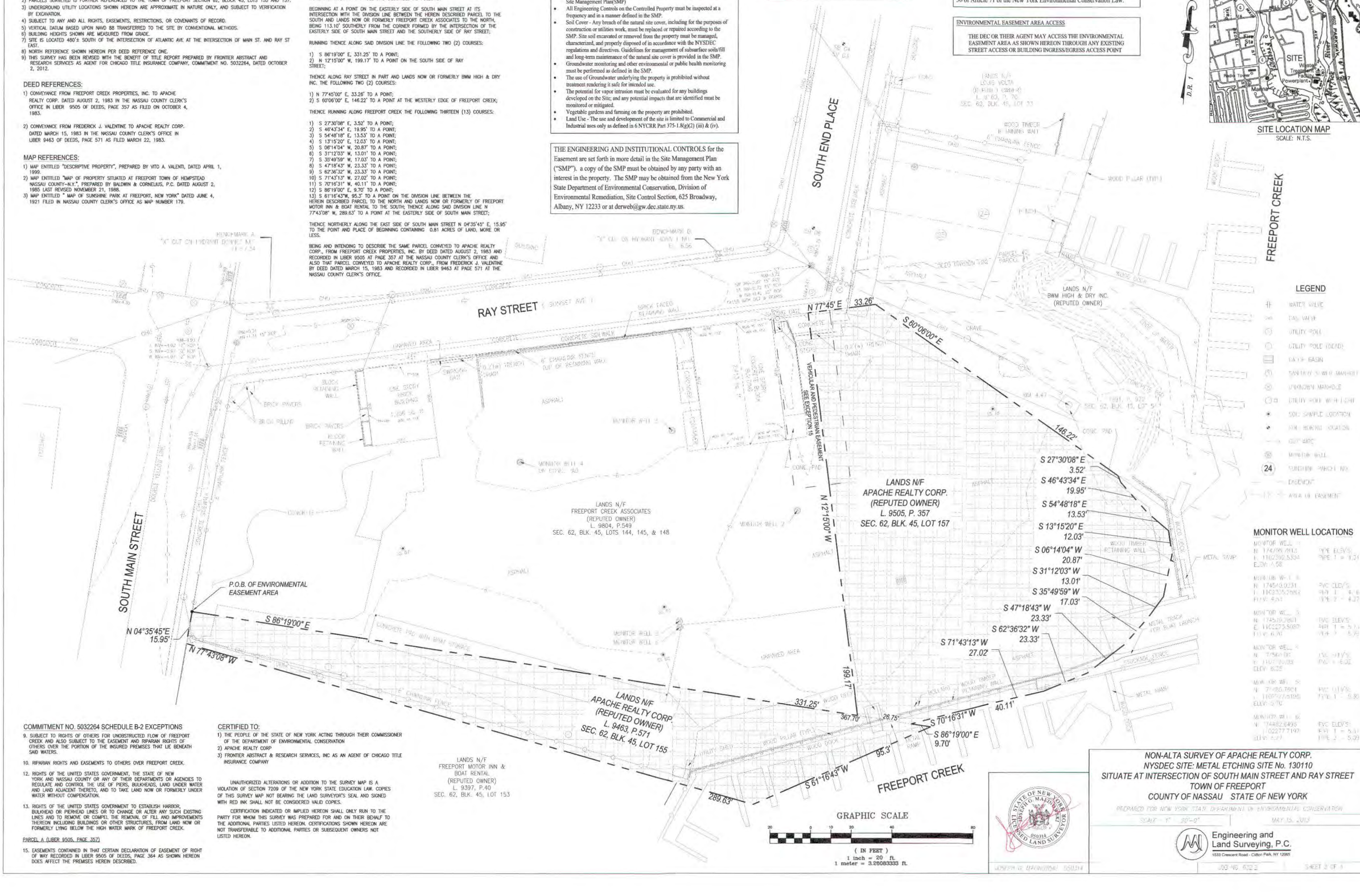
This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT



SITE LOCATION MAP
SCALE: N.T.S.



LEGEND

- WATER VALVE
- GAS VALVE
- UTILITY POLE
- UTILITY POLE (DEAD)
- CATCH BASIN
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- UTILITY POLE WITH LIGHT
- SOIL SAMPLE LOCATION
- BORING LOCATION
- GUY WIRE
- MONITOR WELL
- 24 TAX MAP PARCEL NO.
- EASEMENT
- AREA OF EASEMENT

MONITOR WELL LOCATIONS

MONITOR WELL 1
N 174699.0613 PIPE ELEV'S:
E 1162392.5394 PIPE 1 = 9.21
ELEV: 4.58

MONITOR WELL 3
N 174540.0231 PVC ELEV'S:
E 1162335.2586 PVC 1 = 4.16
ELEV: 4.21 PIPE 2 = 4.27

MONITOR WELL 5
N 174539.7801 PVC ELEV'S:
E 1162273.5087 PVC 1 = 5.73
ELEV: 6.70 PIPE 2 = 5.83

MONITOR WELL 6
N 174560.06 PVC ELEV'S:
E 1162336.03 PVC 1 = 6.02
ELEV: 6.25

MONITOR WELL 5
N 174580.7801 PVC ELEV'S:
E 1162273.5087 PVC 1 = 5.80
ELEV: 5.76

MONITOR WELL 6
N 174482.6495 PVC ELEV'S:
E 1162277.7192 PVC 1 = 5.41
ELEV: 5.23 PIPE 2 = 5.09

COMMITMENT NO. 5032264 SCHEDULE B-2 EXCEPTIONS

9. SUBJECT TO RIGHTS OF OTHERS FOR UNOBSTRUCTED FLOW OF FREEPORT CREEK AND ALSO SUBJECT TO THE EASEMENT AND RIPARIAN RIGHTS OF OTHERS OVER THE PORTION OF THE INSURED PREMISES THAT LIE BENEATH SAID WATERS.

10. RIPARIAN RIGHTS AND EASEMENTS TO OTHERS OVER FREEPORT CREEK.

12. RIGHTS OF THE UNITED STATES GOVERNMENT, THE STATE OF NEW YORK AND NASSAU COUNTY OR ANY OF THEIR DEPARTMENTS OR AGENCIES TO REGULATE AND CONTROL THE USE OF PIERS, BULKHEADS, LAND UNDER WATER AND LAND ADJACENT THERETO, AND TO TAKE LAND NOW OR FORMERLY UNDER WATER WITHOUT COMPENSATION.

13. RIGHTS OF THE UNITED STATES GOVERNMENT TO ESTABLISH HARBOR, BULKHEAD OR PIERHEAD LINES OR TO CHANGE OR ALTER ANY SUCH EXISTING LINES AND TO REMOVE OR COMPEL THE REMOVAL OF FILL AND IMPROVEMENTS THEREON INCLUDING BUILDINGS OR OTHER STRUCTURES, FROM LAND NOW OR FORMERLY LYING BELOW THE HIGH WATER MARK OF FREEPORT CREEK.

PARCEL A (LIBER 9505, PAGE 357)

15. EASEMENTS CONTAINED IN THAT CERTAIN DECLARATION OF EASEMENT OF RIGHT OF WAY RECORDED IN LIBER 9505 OF DEEDS, PAGE 364 AS SHOWN HEREON DOES AFFECT THE PREMISES HEREIN DESCRIBED.

CERTIFIED TO:

1) THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
2) APACHE REALTY CORP
3) FRONTIER ABSTRACT & RESEARCH SERVICES, INC AS AN AGENT OF CHICAGO TITLE INSURANCE COMPANY

UNAUTHORIZED ALTERATIONS OR ADDITION TO THE SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SEAL AND SIGNED WITH RED INK SHALL NOT BE CONSIDERED VALID COPIES.

CERTIFICATION INDICATED OR IMPLIED HEREON SHALL ONLY RUN TO THE PARTY FOR WHOM THIS SURVEY WAS PREPARED FOR AND ON THEIR BEHALF TO THE ADDITIONAL PARTIES LISTED HEREON. CERTIFICATIONS SHOWN HEREON ARE NOT TRANSFERABLE TO ADDITIONAL PARTIES OR SUBSEQUENT OWNERS NOT LISTED HEREON.

JOSEPH G. MARINACCI 050314

NON-ALTA SURVEY OF APACHE REALTY CORP.
NYSDEC SITE: METAL ETCHING SITE No. 130110
SITUATE AT INTERSECTION OF SOUTH MAIN STREET AND RAY STREET
TOWN OF FREEPORT
COUNTY OF NASSAU STATE OF NEW YORK

PREPARED FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCALE: 1" = 20'-0" | MAY 15, 2013

Engineering and Land Surveying, P.C.
1533 Crescent Road - Clifton Park, NY 12065

JOB NO. 5322 | SHEET 2 OF 3

DESCRIPTION OF ENVIRONMENTAL EASEMENT

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF SOUTH MAIN STREET AND THE SOUTHERLY SIDE OF RAY STREET;

RUNNING THENCE FROM SAID POINT OF BEGINNING EASTERLY, ALONG THE SOUTHERLY SIDE OF RAY STREET, N 77°45' E, 306.01' TO A POINT ON THE EAST SIDE OF SOUTH END PLACE;

THENCE NORTHERLY ALONG SAID EAST SIDE OF SOUTH END PLACE N 5°02'40" E, 74.86' TO A POINT;

THENCE S 84°57'20" E, 102'+/– TO A POINT AT THE WESTERLY EDGE OF FREEPORT CREEK;

THENCE RUNNING ALONG FREEPORT CREEK THE FOLLOWING EIGHTEEN (18) COURSES:

1) S 13°22'30" W, 29.69' TO A POINT;
2) S 59°50'30" E, 71.68' TO A POINT;
3) S 21°46'50" E, 71.68' TO A POINT;
4) S 41°03'10" W, 29.19' TO A POINT;
5) N 60°06' W, 35.49' TO A POINT;
6) S 27°30'08" E, 3.52' TO A POINT;
7) S 46°43'34" E, 19.95' TO A POINT;
8) S 54°48'18" E, 13.53' TO A POINT;
9) S 13°15'20" E, 12.03' TO A POINT;
10) S 06°14'04" W, 20.87' TO A POINT;
11) S 31°12'03" W, 13.01' TO A POINT;
12) S 35°49'59" W, 17.03' TO A POINT;
13) S 47°18'43" W, 23.33' TO A POINT;
14) S 62°36'32" W, 23.33' TO A POINT;
15) S 71°43'13" W, 27.02' TO A POINT;
16) S 70°16'31" W, 40.11' TO A POINT;
17) S 86°19'00" E, 9.70' TO A POINT;
18) S 61°16'43"W, 95.3' TO A POINT ON THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE NORTH AND LANDS NOW OR FORMERLY OF FREEPORT MOTOR INN & BOAT RENTAL TO THE SOUTH; THENCE ALONG SAID DIVISION LINE N 77°43'08" W, 289.63' TO A POINT AT THE EASTERLY SIDE OF SOUTH MAIN STREET;

THENCE NORTHERLY ALONG THE EAST SIDE OF SOUTH MAIN STREET, N 4°35'45"E, 129.05' TO THE POINT AND PLACE OF BEGINNING CONTAINING 2.25 ACRES OF LAND, MORE OR LESS.

GENERAL NOTES:

1) MAP PREPARED FROM A FIELD SURVEY CONDUCTED BY M.J. ENGINEERING AND LAND SURVEYING P.C., DATED JUNE 2008 AND UPDATED OCTOBER 2012.
2) PARCELS SURVEYED IS FURTHER REFERENCED TO THE TOWN OF FREEPORT SECTION 62, BLOCK 45, LOTS 54, 144, 145, 148, 155, AND 157.
3) UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE IN NATURE ONLY, AND SUBJECT TO VERIFICATION BY EXCAVATION.
4) SUBJECT TO ANY AND ALL RIGHTS, EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
5) VERTICAL DATUM BASED UPON NAVD 88 TRANSFERRED TO THE SITE BY CONVENTIONAL METHODS.
6) BUILDING HEIGHTS SHOWN ARE MEASURED FROM GRADE.
7) SITE IS LOCATED 480'± SOUTH OF THE INTERSECTION OF ATLANTIC AVE AT THE INTERSECTION OF SOUTH MAIN ST. AND RAY ST EAST.
8) NORTH REFERENCE SHOWN HEREON PER DEED REFERENCE ONE, TWO, AND FOUR.

CERTIFIED TO:

1) THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
2) FREEPORT CREEK ASSOCIATES
3) BWM HIGH & DRY, INC.
4) APACHE REALTY CORP.
5) FRONTIER ABSTRACT & RESEARCH SERVICES, INC. AS AN AGENT OF CHICAGO TITLE INSURANCE COMPANY
6) FRONTIER ABSTRACT & RESEARCH SERVICES, INC. AS AN AGENT OF STEWART TITLE INSURANCE COMPANY

UNAUTHORIZED ALTERATIONS OR ADDITION TO THE SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SEAL AND SIGNED WITH RED INK SHALL NOT BE CONSIDERED VALID COPIES.

CERTIFICATION INDICATED OR IMPLIED HEREON SHALL ONLY RUN TO THE PARTY FOR WHOM THIS SURVEY WAS PREPARED FOR AND ON THEIR BEHALF TO THE ADDITIONAL PARTIES LISTED HEREON. CERTIFICATIONS SHOWN HEREON ARE NOT TRANSFERABLE TO ADDITIONAL PARTIES OR SUBSEQUENT OWNERS NOT LISTED HEREON.

ENGINEERING / INSTITUTIONAL CONTROLS

- All Engineering Controls - must be operated and maintained as specified in the Site Management Plan(SMP)
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Soil Cover - Any breach of the natural site cover, including for the purposes of construction or utilities work, must be replaced or repaired according to the SMP. Site soil excavated or removed from the property must be managed, characterized, and properly disposed of in accordance with the NYSDEC regulations and directives. Guidelines for management of subsurface soils/fill and long-term maintenance of the natural site cover is provided in the SMP.
- Groundwater monitoring and other environmental or public health monitoring must be performed as defined in the SMP.
- The use of Groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site; and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.
- Land Use - The use and development of the site is limited to Commercial and Industrial uses only as defined in 6 NYCRR Part 375-1.8(g)(2) (iii) & (iv).

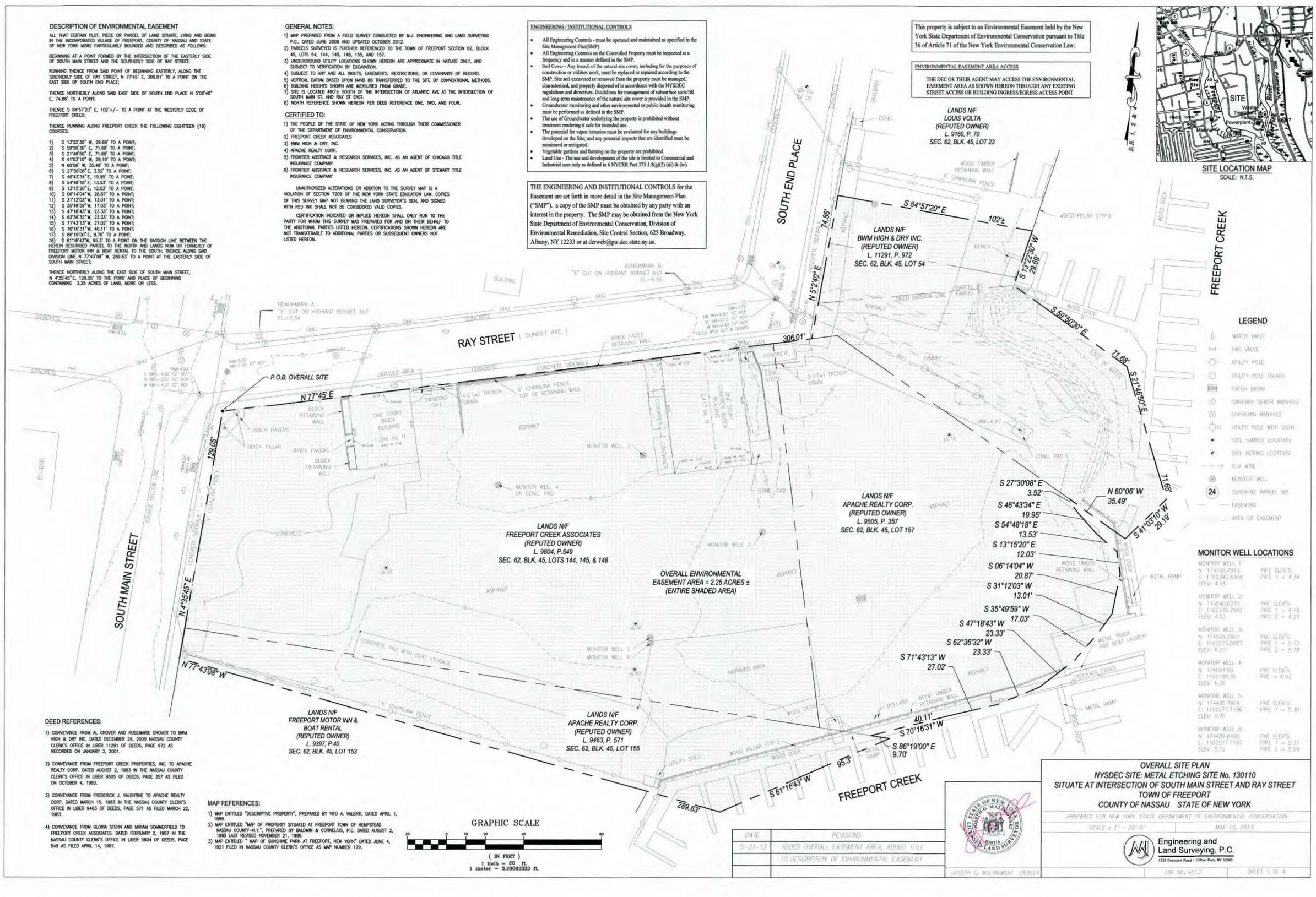
THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). a copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT

SITE LOCATION MAP
SCALE: N.T.S.



LEGEND

- WATER VALVE
- GAS VALVE
- UTILITY POLE
- UTILITY POLE (DEAD)
- CATCH BASIN
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- UTILITY POLE WITH LIGHT
- SOIL SAMPLE LOCATION
- SOIL BORING LOCATION
- GUY WIRE
- MONITOR WELL
- 24 SUNSHINE PARCEL NO.
- EASEMENT
- AREA OF EASEMENT

MONITOR WELL LOCATIONS

MONITOR WELL 1 N: 174708.7913 E: 1102392.8304 ELEV: 4.55		PIPE ELEV'S: PIPE 1 = 4.34
MONITOR WELL 2: N: 174540.0231 E: 1102335.2583 ELEV: 4.53		PVC ELEV'S: PIPE 1 = 4.18 PIPE 2 = 4.27
MONITOR WELL 3: N: 174579.2801 E: 1102273.8087 ELEV: 6.20		PVC ELEV'S: PIPE 1 = 5.53 PIPE 2 = 5.79
MONITOR WELL 4: N: 174564.193 E: 1102139.05 ELEV: 6.36		PVC ELEV'S: PVC = 6.02
MONITOR WELL 5: N: 174485.7604 E: 1102277.5196 ELEV: 5.70		PVC ELEV'S: PIPE 1 = 5.38
MONITOR WELL 6: N: 174482.6496 E: 1102277.7197 ELEV: 5.72		PVC ELEV'S: PIPE 1 = 5.37 PIPE 2 = 5.09

DEED REFERENCES:

1) CONVEYANCE FROM AL GROVER AND ROSEMARIE GROVER TO BWM HIGH & DRY INC. DATED DECEMBER 26, 2000 NASSAU COUNTY CLERK'S OFFICE IN LIBER 11291 OF DEEDS, PAGE 972 AS RECORDED ON JANUARY 3, 2001.
2) CONVEYANCE FROM FREEPORT CREEK PROPERTIES, INC. TO APACHE REALTY CORP. DATED AUGUST 2, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9505 OF DEEDS, PAGE 357 AS FILED ON OCTOBER 4, 1983.
3) CONVEYANCE FROM FREDERICK J. VALENTINE TO APACHE REALTY CORP. DATED MARCH 15, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9463 OF DEEDS, PAGE 571 AS FILED MARCH 22, 1983.
4) CONVEYANCE FROM GLORIA STERN AND MIRIAM SOMMERFIELD TO FREEPORT CREEK ASSOCIATES. DATED FEBRUARY 2, 1987 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9804 OF DEEDS, PAGE 549 AS FILED APRIL 14, 1987.

MAP REFERENCES:

1) MAP ENTITLED "DESCRIPTIVE PROPERTY", PREPARED BY VITO A. VALENTI, DATED APRIL 1, 1999.
2) MAP ENTITLED "MAP OF PROPERTY SITUATED AT FREEPORT TOWN OF HEMPSTEAD NASSAU COUNTY–N.Y.", PREPARED BY BALDWIN & CORNELIUS, P.C. DATED AUGUST 2, 1985 LAST REVISED NOVEMBER 21, 1988.
3) MAP ENTITLED " MAP OF SUNSHINE PARK AT FREEPORT, NEW YORK" DATED JUNE 4, 1921 FILED IN NASSAU COUNTY CLERK'S OFFICE AS MAP NUMBER 179.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
1 meter = 3.28083333 ft.

DATE	REVISIONS:
5-21-13	ADDED OVERALL EASEMENT AREA, ADDED TITLE TO DESCRIPTION OF ENVIRONMENTAL EASEMENT

STATE OF NEW YORK — JOSEPH G. MALINOWSKI — LICENSED LAND SURVEYOR — 050314

JOSEPH G. MALINOWSKI 050314

OVERALL SITE PLAN
NYSDEC SITE: METAL ETCHING SITE No. 130110
SITUATE AT INTERSECTION OF SOUTH MAIN STREET AND RAY STREET
TOWN OF FREEPORT
COUNTY OF NASSAU STATE OF NEW YORK

PREPARED FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCALE : 1" = 20'-0" | MAY 15, 2013

Engineering and Land Surveying, P.C.
1533 Crescent Road – Clifton Park, NY 12065

JOB NO. 632.2 | SHEET 1 OF 1

Metal Etching
Owner: BWM High & Dry, Inc.
Site No. 130110
435 South Main Street
Nassau County, NY
Tax Map ID: Section 62, Block 45, Lots 24 and 54

ENVIRONMENTAL NOTICE

THIS ENVIRONMENTAL NOTICE is made the 5th day of March 2014, by the New York State Department of Environmental Conservation (Department), having an office for the transaction of business at 625 Broadway, Albany, New York 12233.

WHEREAS, a parcel of real property located at the address of South End Place and 16 South End Place in the Incorporated Village of Freeport, Town of Hempstead, County of Nassau and State of New York, known and designated on the tax map of the County Clerk of Nassau as tax map parcel numbers: Section 62. Block 45 Lot(s) 24 and 54, being the same as that property conveyed to Grantor by deed dated December 26, 2000 and recorded in the Nassau County Clerk's Office in Liber 11291 at Page 972, comprising approximately 0.35 +/- acres, and hereinafter more fully described in property description and attached hereto as Appendix "A," attached to this notice and made a part hereof, and hereinafter referred to as "the Property" is the subject of a remedial program performed by the Department; and

WHEREAS, the Department approved a cleanup to address contamination disposed at the Property and such cleanup was conditioned upon certain limitations.

NOW, THEREFORE, the Department provides notice that:

FIRST, the part of lands subject to this Environmental Notice is as shown on a survey map dated April 12, 2013 prepared by M J Engineering and Land Surveying, P.C. attached to this Notice as Appendix "B" and made a part hereof.

SECOND, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results or may result in a significantly increased threat of harm or damage at any site as a result of exposure to soils. A violation of this provision is a violation of 6 NYCRR 375-1.1 1(b)(2).

THIRD, no person shall disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, including but not limited to those engineering controls described in the SMP and listed below, unless in each instance they first obtain a written waiver of such prohibition from the Department or Relevant Agency.

FOURTH, the remedy was designed to be protective for Commercial or Industrial uses. Therefore, any use for purposes other than Commercial or Industrial uses without the express written waiver of such prohibition by the Relevant Agency may result in a significantly increased threat of harm or damage at any site.

FIFTH, the no person shall use the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency. Use of the groundwater without appropriate treatment may result in a significantly increased threat of harm or damage at any site.

SIXTH, it is a violation of 6 NYCRR 375-1.11(b) to use the Property in a manner inconsistent with this environmental notice.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

By: _____
Robert W. Schick, P.E., Director
Division of Environmental Remediation

STATE OF NEW YORK) ss:
COUNTY OF ALBANY)

On the 5th day of March in the year 2014, before me, Robert W. Schick, the undersigned, personally appeared, and is personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public – State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2014

Metal Etching
Owner: BWM High & Dry, Inc.
Site No. 130110
435 South Main Street
Nassau County, NY
Tax Map ID: Section 62, Block 45, Lots 24 and 54

Appendix A

METES AND BOUNDS DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE CORNER FORMED BY THE INTERSECTION OF THE SOUTHERLY SIDE OF RAY STREET AND THE EASTERLY SIDE OF SOUTH END PLACE;

THENCE FROM SAID POINT OF BEGINNING RUNNING NORTHERLY ALONG THE EAST SIDE OF SOUTH END PLACE N 5°02'40" E, 74.86' TO A POINT ;

THENCE NORTH S 84°57" 20 E, 102' +/- TO A POINT AT THE WESTERLY EDGE OF FREEPORT CREEK;

THENCE RUNNING ALONG FREEPORT CREEK THE FOLLOWING FOUR (4) COURSES:

1) S 13°22'30" W, 29.69' TO A POINT;
2) S 59°50'30" E, 71.68' TO A POINT;
3) S 21°46'50" E, 71.68' TO A POINT;
4) S 41°03'10" W, 29.19' TO A POINT ON THE DIVISION LINE BETWEEN FREEPORT CREEK AND LANDS NOW OR FORMERLY OF APACHE REALTY CORP. TO THE SOUTH AND THE LANDS HEREIN DESCRIBED TO THE NORTH;

THENCE ALONG SAID DIVISION LINE THE FOLLOWING TWO (2) COURSES:

1) N 60°06' W, 181.71' TO A POINT;
2) S 77°45' W, 12.96' TO THE PLACE AND POINT OF BEGINNING CONTAINING 0.35 ACRES OF LAND MORE OR LESS.

BEING AND INTENDING TO DESCRIBE THE SAME PARCEL CONVEYED TO BWM HIGH & DRY INC., FROM AL GROVER AND ROSEMARIE GROVER, HUSBAND AND WIFE BY DEED DATED DECEMBER 26, 2000 AND RECORDED IN LIBER 11291 AT PAGE 972 AT THE NASSAU COUNTY CLERK'S OFFICE.

APPENDIX B

SURVEY

GENERAL NOTES:

1) MAP PREPARED FROM A FIELD SURVEY CONDUCTED BY M.J. ENGINEERING AND LAND SURVEYING P.C., DATED JUNE 2008 AND UPDATED OCTOBER 2012.
2) PARCELS SURVEYED IS FURTHER REFERENCED TO THE TOWN OF FREEPORT SECTION 62, BLOCK 45, LOT 54.
3) UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE IN NATURE ONLY, AND SUBJECT TO VERIFICATION BY EXCAVATION.
4) SUBJECT TO ANY AND ALL RIGHTS, EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
5) VERTICAL DATUM BASED UPON NAVD 88 TRANSFERRED TO THE SITE BY CONVENTIONAL METHODS.
6) BUILDING HEIGHTS SHOWN ARE MEASURED FROM GRADE.
7) SITE IS LOCATED 480'± SOUTH OF THE INTERSECTION OF ATLANTIC AVE AT THE INTERSECTION OF MAIN ST. AND RAY ST. EAST.
8) NORTH REFERENCE SHOWN HEREON PER DEED REFERENCE ONE.
9) THIS SURVEY HAS BEEN REVISED WITH THE BENEFIT OF TITLE REPORT PREPARED BY FRONTIER ABSTRACT AND RESEARCH SERVICES AS AGENT FOR CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NO. 5032429, DATED OCTOBER 4, 2012.

DEED REFERENCES:

1) CONVEYANCE FROM AL GROVER AND ROSEMARIE GROVER TO BWM HIGH & DRY INC. DATED DECEMBER 26, 2000 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 11291 OF DEEDS, PAGE 972 AS RECORDED ON JANUARY 3, 2001.

MAP REFERENCES:

1) MAP ENTITLED "DESCRIPTIVE PROPERTY", PREPARED BY VITO A. VALENTI, DATED APRIL 1, 1999.
2) MAP ENTITLED "MAP OF PROPERTY SITUATED AT FREEPORT TOWN OF HEMPSTEAD NASSAU COUNTY-N.Y.", PREPARED BY BALDWIN & CORNELIUS, P.C. DATED AUGUST 2, 1985 LAST REVISED NOVEMBER 21, 1988.
3) MAP ENTITLED " MAP OF SUNSHINE PARK AT FREEPORT, NEW YORK" DATED JUNE 4, 1921 FILED IN NASSAU COUNTY CLERK'S OFFICE AS MAP NUMBER 179.

DESCRIPTION OF ENVIRONMENTAL EASEMENT

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE CORNER FORMED BY THE INTERSECTION OF THE SOUTHERLY SIDE OF RAY STREET AND THE EASTERLY SIDE OF SOUTH END PLACE;

THENCE FROM SAID POINT OF BEGINNING RUNNING NORTHERLY ALONG THE EAST SIDE OF SOUTH END PLACE N 5°02'40" E, 74.86' TO A POINT ;

THENCE NORTH S 84°57'20" E, 102'+/- TO A POINT AT THE WESTERLY EDGE OF FREEPORT CREEK;

THENCE RUNNING ALONG FREEPORT CREEK THE FOLLOWING FOUR (4) COURSES:

1) S 13°22'30" W, 29.69' TO A POINT;
2) S 59°50'30" E, 71.68' TO A POINT;
3) S 21°46'50" E, 71.68' TO A POINT;
4) S 41°03'10" W, 29.19' TO A POINT ON THE DIVISION LINE BETWEEN FREEPORT CREEK AND LANDS NOW OR FORMERLY OF APACHE REALTY CORP. TO THE SOUTH AND THE LANDS HEREIN DESCRIBED TO THE NORTH;

THENCE ALONG SAID DIVISION LINE THE FOLLOWING TWO (2) COURSES:

1) N 60°06' W, 181.71' TO A POINT;
2) S 77°45' W, 12.96' TO THE PLACE AND POINT OF BEGINNING CONTAINING 0.35 ACRES OF LAND MORE OR LESS.

BEING AND INTENDING TO DESCRIBE THE SAME PARCEL CONVEYED TO BWM HIGH & DRY INC., FROM AL GROVER AND ROSEMARIE GROVER, HUSBAND AND WIFE BY DEED DATED DECEMBER 26, 2000 AND RECORDED IN LIBER 11291 AT PAGE 972 AT THE NASSAU COUNTY CLERK'S OFFICE.

ENGINEERING / INSTITUTIONAL CONTROLS

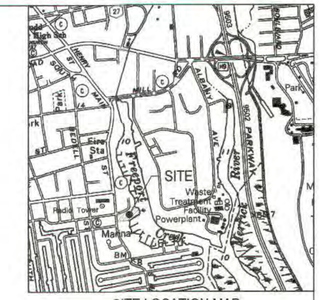
- All Engineering Controls - must be operated and maintained as specified in the Site Management Plan(SMP)
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Soil Cover - Any breach of the natural site cover, including for the purposes of construction or utilities work, must be replaced or repaired according to the SMP. Site soil excavated or removed from the property must be managed, characterized, and properly disposed of in accordance with the NYSDEC regulations and directives. Guidelines for management of subsurface soils/fill and long-term maintenance of the natural site cover is provided in the SMP.
- Groundwater monitoring and other environmental or public health monitoring must be performed as defined in the SMP.
- The use of Groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site; and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.
- Land Use - The use and development of the site is limited to Commercial and Industrial uses only as defined in 6 NYCRR Part 375-1.8(g)(2) (iii) & (iv).

THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). a copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

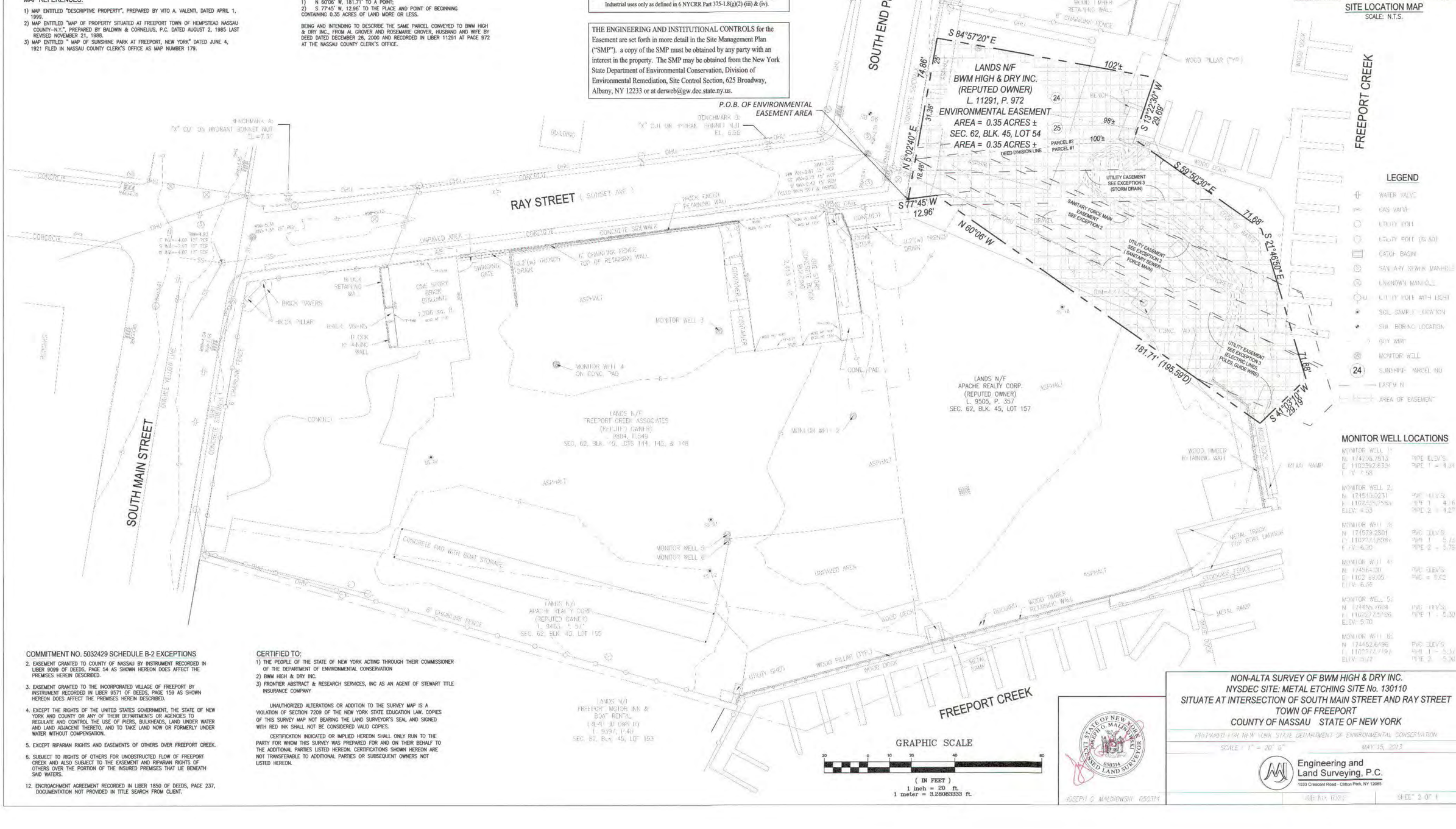
This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT



SITE LOCATION MAP
SCALE: N.T.S.



LEGEND

- WATER VALVE
- GAS VALVE
- UTILITY POLE
- UTILITY POLE (TS &D)
- CATCH BASIN
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- UTILITY POLE WITH LIGHT
- SOIL SAMPLE LOCATION
- SOIL BORING LOCATION
- GUY WIRE
- MONITOR WELL
- (24) SUNSHINE PARCEL NO
- EASTM N
- AREA OF EASEMENT

MONITOR WELL LOCATIONS

MONITOR WELL 1:
N: 174206.7813 PVC ELEV'S:
E: 1102392.8304 PIPE 1 = 4.31
ELEV: 7.58

MONITOR WELL 2:
N: 174150.0231 PVC ELEV'S:
E: 1102399.2569 PIPE 1 = 4.16
ELEV: 4.33 PIPE 2 = 4.27

MONITOR WELL 3:
N: 174579.2501 PVC ELEV'S:
E: 1102334.8094 PIPE 1 = 5.45
ELEV: 6.30 PIPE 2 = 5.76

MONITOR WELL 4:
N: 174564.081 PVC ELEV'S:
E: 1102 98.05 PVC = 5.02
ELEV: 6.56

MONITOR WELL 5:
N: 174456.7604 PVC ELEV'S:
E: 1102327.5498 PIPE 1 = 5.30
ELEV: 5.70

MONITOR WELL 6:
N: 174452.6496 PVC ELEV'S:
E: 1102312.1916 PIPE 1 = 5.31
ELEV: 5.42 PIPE 2 = 5.00

COMMITMENT NO. 5032429 SCHEDULE B-2 EXCEPTIONS

2. EASEMENT GRANTED TO COUNTY OF NASSAU BY INSTRUMENT RECORDED IN LIBER 9099 OF DEEDS, PAGE 54 AS SHOWN HEREON DOES AFFECT THE PREMISES HEREIN DESCRIBED.
3. EASEMENT GRANTED TO THE INCORPORATED VILLAGE OF FREEPORT BY INSTRUMENT RECORDED IN LIBER 9571 OF DEEDS, PAGE 159 AS SHOWN HEREON DOES AFFECT THE PREMISES HEREIN DESCRIBED.
4. EXCEPT THE RIGHTS OF THE UNITED STATES GOVERNMENT, THE STATE OF NEW YORK AND COUNTY OR ANY OF THEIR DEPARTMENTS OR AGENCIES TO REGULATE AND CONTROL THE USE OF PIERS, BULKHEADS, LAND UNDER WATER AND LAND ADJACENT THERETO, AND TO TAKE LAND NOW OR FORMERLY UNDER WATER WITHOUT COMPENSATION.
5. EXCEPT RIPARIAN RIGHTS AND EASEMENTS OF OTHERS OVER FREEPORT CREEK.
6. SUBJECT TO RIGHTS OF OTHERS FOR UNOBSTRUCTED FLOW OF FREEPORT CREEK AND ALSO SUBJECT TO THE EASEMENT AND RIPARIAN RIGHTS OF OTHERS OVER THE PORTION OF THE INSURED PREMISES THAT LIE BENEATH SAID WATERS.
12. ENCROACHMENT AGREEMENT RECORDED IN LIBER 1850 OF DEEDS, PAGE 237, DOCUMENTATION NOT PROVIDED IN TITLE SEARCH FROM CLIENT.

CERTIFIED TO:

1) THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
2) BWM HIGH & DRY INC.
3) FRONTIER ABSTRACT & RESEARCH SERVICES, INC AS AN AGENT OF STEWART TITLE INSURANCE COMPANY

UNAUTHORIZED ALTERATIONS OR ADDITION TO THE SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SEAL AND SIGNED WITH RED INK SHALL NOT BE CONSIDERED VALID COPIES.

CERTIFICATION INDICATED OR IMPLIED HEREON SHALL ONLY RUN TO THE PARTY FOR WHOM THIS SURVEY WAS PREPARED FOR AND ON THEIR BEHALF TO THE ADDITIONAL PARTIES LISTED HEREON. CERTIFICATIONS SHOWN HEREON ARE NOT TRANSFERABLE TO ADDITIONAL PARTIES OR SUBSEQUENT OWNERS NOT LISTED HEREON.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
1 meter = 3.28083333 ft.

STATE OF NEW YORK
JOSEPH G. MAJEWSKI
050314
LICENSED LAND SURVEYOR

JOSEPH G. MAJEWSKI 050314

NON-ALTA SURVEY OF BWM HIGH & DRY INC.
NYSDEC SITE: METAL ETCHING SITE No. 130110
SITUATE AT INTERSECTION OF SOUTH MAIN STREET AND RAY STREET
TOWN OF FREEPORT
COUNTY OF NASSAU STATE OF NEW YORK

PREPARED FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCALE: 1" = 20' 0" MAY 15, 2013

Engineering and Land Surveying, P.C.
1533 Crescent Road - Clifton Park, NY 12065

JOB NO. 6028 SHEET 2 OF 4

DESCRIPTION OF ENVIRONMENTAL EASEMENT

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF SOUTH MAIN STREET AND THE SOUTHERLY SIDE OF RAY STREET;

RUNNING THENCE FROM SAID POINT OF BEGINNING EASTERLY, ALONG THE SOUTHERLY SIDE OF RAY STREET, N 77°45' E, 306.01' TO A POINT ON THE EAST SIDE OF SOUTH END PLACE;

THENCE NORTHERLY ALONG SAID EAST SIDE OF SOUTH END PLACE N 5°02'40" E, 74.86' TO A POINT;

THENCE S 84°57'20" E, 102'+/– TO A POINT AT THE WESTERLY EDGE OF FREEPORT CREEK;

THENCE RUNNING ALONG FREEPORT CREEK THE FOLLOWING EIGHTEEN (18) COURSES:

1) S 13°22'30" W, 29.69' TO A POINT;
2) S 59°50'30" E, 71.68' TO A POINT;
3) S 21°46'50" E, 71.68' TO A POINT;
4) S 41°03'10" W, 29.19' TO A POINT;
5) N 60°06' W, 35.49' TO A POINT;
6) S 27°30'08" E, 3.52' TO A POINT;
7) S 46°43'34" E, 19.95' TO A POINT;
8) S 54°48'18" E, 13.53' TO A POINT;
9) S 13°15'20" E, 12.03' TO A POINT;
10) S 06°14'04" W, 20.87' TO A POINT;
11) S 31°12'03" W, 13.01' TO A POINT;
12) S 35°49'59" W, 17.03' TO A POINT;
13) S 47°18'43" W, 23.33' TO A POINT;
14) S 62°36'32" W, 23.33' TO A POINT;
15) S 71°43'13" W, 27.02' TO A POINT;
16) S 70°16'31" W, 40.11' TO A POINT;
17) S 86°19'00" E, 9.70' TO A POINT;
18) S 61°16'43"W, 95.3' TO A POINT ON THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE NORTH AND LANDS NOW OR FORMERLY OF FREEPORT MOTOR INN & BOAT RENTAL TO THE SOUTH; THENCE ALONG SAID DIVISION LINE N 77°43'08" W, 289.63' TO A POINT AT THE EASTERLY SIDE OF SOUTH MAIN STREET;

THENCE NORTHERLY ALONG THE EAST SIDE OF SOUTH MAIN STREET, N 4°35'45"E, 129.05' TO THE POINT AND PLACE OF BEGINNING CONTAINING 2.25 ACRES OF LAND, MORE OR LESS.

GENERAL NOTES:

1) MAP PREPARED FROM A FIELD SURVEY CONDUCTED BY M.J. ENGINEERING AND LAND SURVEYING P.C., DATED JUNE 2008 AND UPDATED OCTOBER 2012.
2) PARCELS SURVEYED IS FURTHER REFERENCED TO THE TOWN OF FREEPORT SECTION 62, BLOCK 45, LOTS 54, 144, 145, 148, 155, AND 157.
3) UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE IN NATURE ONLY, AND SUBJECT TO VERIFICATION BY EXCAVATION.
4) SUBJECT TO ANY AND ALL RIGHTS, EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
5) VERTICAL DATUM BASED UPON NAVD 88 TRANSFERRED TO THE SITE BY CONVENTIONAL METHODS.
6) BUILDING HEIGHTS SHOWN ARE MEASURED FROM GRADE.
7) SITE IS LOCATED 480'± SOUTH OF THE INTERSECTION OF ATLANTIC AVE AT THE INTERSECTION OF SOUTH MAIN ST. AND RAY ST EAST.
8) NORTH REFERENCE SHOWN HEREON PER DEED REFERENCE ONE, TWO, AND FOUR.

CERTIFIED TO:

1) THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
2) FREEPORT CREEK ASSOCIATES
3) BWM HIGH & DRY, INC.
4) APACHE REALTY CORP.
5) FRONTIER ABSTRACT & RESEARCH SERVICES, INC. AS AN AGENT OF CHICAGO TITLE INSURANCE COMPANY
6) FRONTIER ABSTRACT & RESEARCH SERVICES, INC. AS AN AGENT OF STEWART TITLE INSURANCE COMPANY

UNAUTHORIZED ALTERATIONS OR ADDITION TO THE SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SEAL AND SIGNED WITH RED INK SHALL NOT BE CONSIDERED VALID COPIES.

CERTIFICATION INDICATED OR IMPLIED HEREON SHALL ONLY RUN TO THE PARTY FOR WHOM THIS SURVEY WAS PREPARED FOR AND ON THEIR BEHALF TO THE ADDITIONAL PARTIES LISTED HEREON. CERTIFICATIONS SHOWN HEREON ARE NOT TRANSFERABLE TO ADDITIONAL PARTIES OR SUBSEQUENT OWNERS NOT LISTED HEREON.

ENGINEERING / INSTITUTIONAL CONTROLS

- All Engineering Controls - must be operated and maintained as specified in the Site Management Plan(SMP)
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Soil Cover - Any breach of the natural site cover, including for the purposes of construction or utilities work, must be replaced or repaired according to the SMP. Site soil excavated or removed from the property must be managed, characterized, and properly disposed of in accordance with the NYSDEC regulations and directives. Guidelines for management of subsurface soils/fill and long-term maintenance of the natural site cover is provided in the SMP.
- Groundwater monitoring and other environmental or public health monitoring must be performed as defined in the SMP.
- The use of Groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site; and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.
- Land Use - The use and development of the site is limited to Commercial and Industrial uses only as defined in 6 NYCRR Part 375-1.8(g)(2) (iii) & (iv).

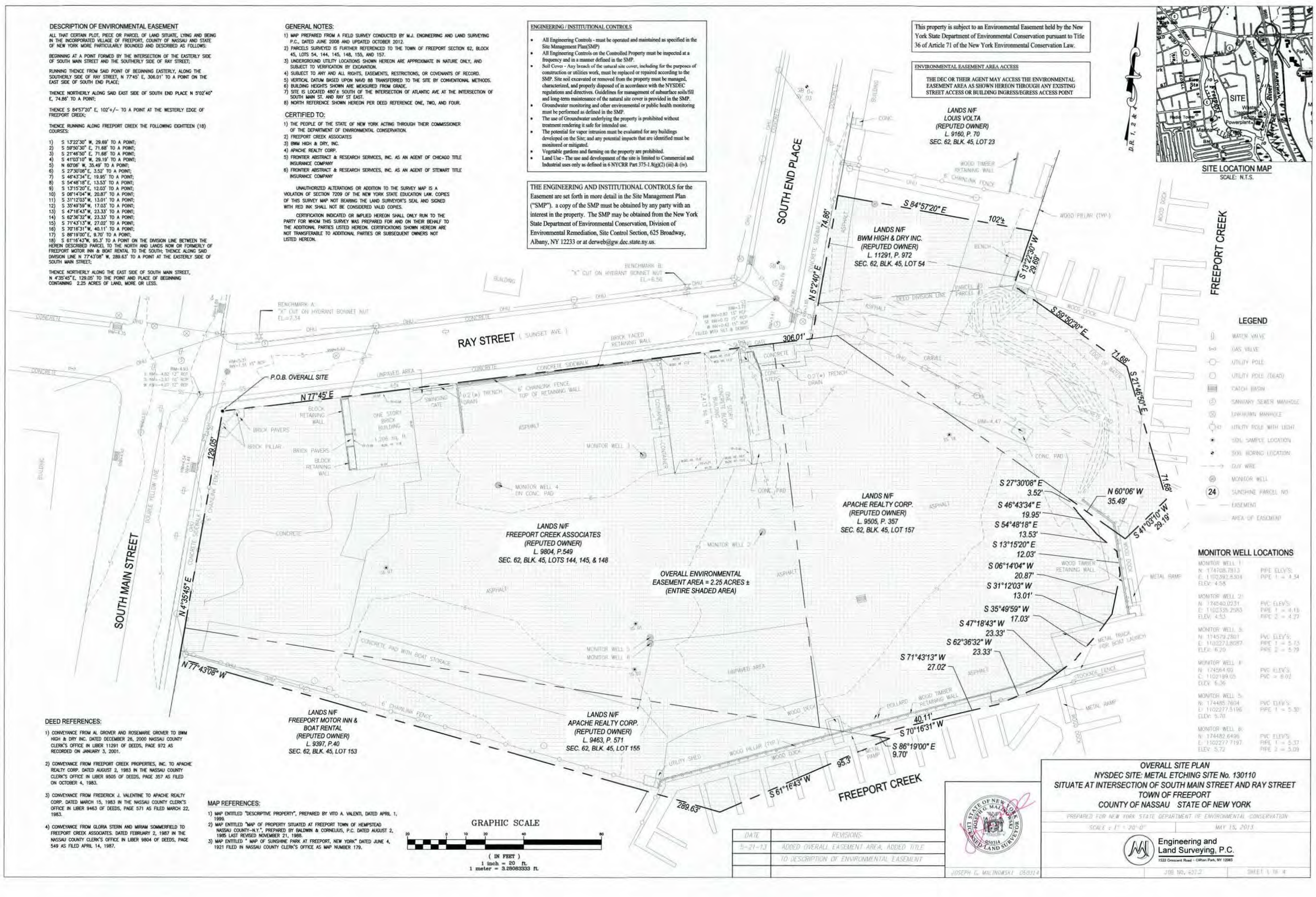
THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). a copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT

SITE LOCATION MAP
SCALE: N.T.S.



LEGEND

- WATER VALVE
- GAS VALVE
- UTILITY POLE
- UTILITY POLE (DEAD)
- CATCH BASIN
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- UTILITY POLE WITH LIGHT
- SOIL SAMPLE LOCATION
- SOIL BORING LOCATION
- GUY WIRE
- MONITOR WELL
- 24 SUNSHINE PARCEL NO.
- EASEMENT
- AREA OF EASEMENT

MONITOR WELL LOCATIONS

MONITOR WELL 1 N: 174708.7913 E: 1102392.8304 ELEV: 4.55		PIPE ELEV'S: PIPE 1 = 4.34
MONITOR WELL 2: N: 174540.0231 E: 1102335.2583 ELEV: 4.53		PVC ELEV'S: PIPE 1 = 4.18 PIPE 2 = 4.27
MONITOR WELL 3: N: 174579.2801 E: 1102273.8087 ELEV: 6.20		PVC ELEV'S: PIPE 1 = 5.53 PIPE 2 = 5.79
MONITOR WELL 4: N: 174564.193 E: 1102139.05 ELEV: 6.36		PVC ELEV'S: PVC = 6.02
MONITOR WELL 5: N: 174485.7604 E: 1102277.5196 ELEV: 5.70		PVC ELEV'S: PIPE 1 = 5.38
MONITOR WELL 6: N: 174482.6496 E: 1102277.7197 ELEV: 5.72		PVC ELEV'S: PIPE 1 = 5.37 PIPE 2 = 5.09

DEED REFERENCES:

1) CONVEYANCE FROM AL GROVER AND ROSEMARIE GROVER TO BWM HIGH & DRY INC. DATED DECEMBER 26, 2000 NASSAU COUNTY CLERK'S OFFICE IN LIBER 11291 OF DEEDS, PAGE 972 AS RECORDED ON JANUARY 3, 2001.
2) CONVEYANCE FROM FREEPORT CREEK PROPERTIES, INC. TO APACHE REALTY CORP. DATED AUGUST 2, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9505 OF DEEDS, PAGE 357 AS FILED ON OCTOBER 4, 1983.
3) CONVEYANCE FROM FREDERICK J. VALENTINE TO APACHE REALTY CORP. DATED MARCH 15, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9463 OF DEEDS, PAGE 571 AS FILED MARCH 22, 1983.
4) CONVEYANCE FROM GLORIA STERN AND MIRIAM SOMMERFIELD TO FREEPORT CREEK ASSOCIATES. DATED FEBRUARY 2, 1987 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9804 OF DEEDS, PAGE 549 AS FILED APRIL 14, 1987.

MAP REFERENCES:

1) MAP ENTITLED "DESCRIPTIVE PROPERTY", PREPARED BY VITO A. VALENTI, DATED APRIL 1, 1999.
2) MAP ENTITLED "MAP OF PROPERTY SITUATED AT FREEPORT TOWN OF HEMPSTEAD NASSAU COUNTY–N.Y.", PREPARED BY BALDWIN & CORNELIUS, P.C. DATED AUGUST 2, 1985 LAST REVISED NOVEMBER 21, 1988.
3) MAP ENTITLED " MAP OF SUNSHINE PARK AT FREEPORT, NEW YORK" DATED JUNE 4, 1921 FILED IN NASSAU COUNTY CLERK'S OFFICE AS MAP NUMBER 179.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
1 meter = 3.28083333 ft.

DATE	REVISIONS:
5-21-13	ADDED OVERALL EASEMENT AREA, ADDED TITLE TO DESCRIPTION OF ENVIRONMENTAL EASEMENT

STATE OF NEW YORK — JOSEPH G. MALINOWSKI — LICENSED LAND SURVEYOR — 050314

JOSEPH G. MALINOWSKI 050314

OVERALL SITE PLAN
NYSDEC SITE: METAL ETCHING SITE No. 130110
SITUATE AT INTERSECTION OF SOUTH MAIN STREET AND RAY STREET
TOWN OF FREEPORT
COUNTY OF NASSAU STATE OF NEW YORK

PREPARED FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCALE : 1" = 20'-0" | MAY 15, 2013

Engineering and Land Surveying, P.C.
1533 Crescent Road – Clifton Park, NY 12065

JOB NO. 632.2 | SHEET 1 OF 1

Metal Etching
Owner: Freeport Creek Associates
Site No. 130110
435 South Main Street
Nassau County, NY
Tax Map ID: Section 62, Block 45, Lots 144,145 and 158

ENVIRONMENTAL NOTICE

THIS ENVIRONMENTAL NOTICE is made the 7th day of March 2017 by the New York State Department of Environmental Conservation (Department), having an office for the transaction of business at 625 Broadway, Albany, New York 12233.

WHEREAS, a parcel of real property located at the address of 435 Main Street; 325 Main Street and Ray Street in the Town of Hempstead, County of Nassau and State of New York, known and designated on the tax map of the County Clerk of Nassau as tax map parcel numbers: Section 62. Block 45 Lot(s) 144, 145 and 158, being the same as that property conveyed to Grantor by deed dated February 2, 1987 and recorded in the Nassau County Clerk's Office in Liber 9804 at Page 549, comprising approximately 1.08 +/- acres, and hereinafter more fully described in the Property Description and attached hereto as Appendix "A," attached to this notice and made a part hereof, and hereinafter referred to as "the Property" is the subject of a remedial program performed by the Department; and

WHEREAS, the Department approved a cleanup to address contamination disposed at the Property and such cleanup was conditioned upon certain limitations.

NOW, THEREFORE, the Department provides notice that:

FIRST, the part of lands subject to this Environmental Notice is as shown on a survey map dated April 12, 2013 prepared by M J Engineering and Land Surveying, P.C., attached to this Notice as Appendix "B" and made a part hereof.

SECOND, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results or may result in a significantly increased threat of harm or damage at any site as a result of exposure to soils. A violation of this provision is a violation of 6 NYCRR 375-1.1 1(b)(2).

THIRD, no person shall disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, including but not limited to those engineering controls described in the SMP and listed below, unless in each instance they first obtain a written waiver of such prohibition from the Department or Relevant Agency.

FOURTH, the remedy was designed to be protective for Commercial or Industrial uses. Therefore, any use for purposes other than Commercial or Industrial uses without the express written waiver of such prohibition by the Relevant Agency may result in a significantly increased threat of harm or damage at any site.

FIFTH, the no person shall use the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency. Use of the groundwater without appropriate treatment may result in a significantly increased threat of harm or damage at any site.

SIXTH, it is a violation of 6 NYCRR 375-1.11(b) to use the Property in a manner inconsistent with this environmental notice.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

By: _____
Robert W. Schick, P.E., Director
Division of Environmental Remediation

STATE OF NEW YORK) ss:
COUNTY OF ALBANY)

On the 5th day of March, in the year 2014, before me, Robert W. Schick, the undersigned, personally appeared, and is personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public – State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2014

Metal Etching
Owner: Freeport Creek Associates
Site No. 130110
435 South Main Street
Nassau County, NY
Tax Map ID: Section 62, Block 45, Lots 144,145 and 158

Appendix A

METES AND BOUNDS DESCRIPTION

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF SOUTH MAIN STREET AND THE SOUTHERLY SIDE OF RAY STREET;

RUNNING THENCE FROM SAID POINT OF BEGINNING EASTERLY, ALONG THE SOUTHERLY SIDE OF RAY STREET, N 77°45' E, 285.71' TO A POINT AT THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE WEST AND LANDS NOW OR FORMERLY OF APACHE REALTY CORP TO THE EAST;

THENCE ALONG SAID DIVISION LINE S 12°15'00" E, 199.17' TO A POINT;

THENCE CONTINUING ALONG SAID DMSION LINE N 86°19'00" W, 331.25' TO A POINT ON THE EASTERLY BOUNDS OF SOUTH MAIN STREET;

THENCE NORTHERLY ALONG THE EAST SIDE OF SOUTH MAIN STREET, N 04°35'45" E, 113.10' TO THE POINT AND PLACE OF BEGINNING;

CONTAINING 1.08 ACRES OF LAND MORE OR LESS.

BEING AND INTENDING TO DESCRIBE THE SAME PARCEL CONVEYIED TO FREEPORT CREEK ASSOCIATES FROM GLORIA STERN AND MIRIAM SOMMERFIELD BY DEED DATED FEBRUARY 2, 1987 AND RECORDED IN LIBER 9804 AT PAGE 549 AT THE NASSAU COUNTY CLERK'S OFFICE.

APPENDIX B

SURVEY

GENERAL NOTES:

1) MAP PREPARED FROM A FIELD SURVEY CONDUCTED BY M.J. ENGINEERING AND LAND SURVEYING P.C., DATED JUNE 2008 AND UPDATED OCTOBER 2012.
2) PARCELS SURVEYED IS FURTHER REFERENCED TO THE TOWN OF FREEPORT SECTION 62, BLOCK 45, LOTS 144, 145, AND 148.
3) UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE IN NATURE ONLY, AND SUBJECT TO VERIFICATION BY EXCAVATION.
4) SUBJECT TO ANY AND ALL RIGHTS, EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
5) VERTICAL DATUM BASED UPON NAVD 88 TRANSFERRED TO THE SITE BY CONVENTIONAL METHODS.
6) BUILDING HEIGHTS SHOWN ARE MEASURED FROM GRADE.
7) SITE IS LOCATED 480'± SOUTH OF THE INTERSECTION OF ATLANTIC AVE AT THE INTERSECTION OF MAIN ST. AND RAY ST EAST.
8) NORTH REFERENCE SHOWN HEREON PER DEED REFERENCE ONE.
9) THIS SURVEY HAS BEEN REVISED WITH THE BENFIT OF TITLE REPORT PREPARED BY FRONTIER ABSTRACT AND RESEARCH SERVICES AS AGENT FOR CHICAGO TITLE INSURANCE COMPANY, COMMITMENT NO. 5031802 DATED SEPTEMBER 28, 2012.

DEED REFERENCES:

1) CONVEYANCE FROM GLORIA STERN AND MIRIAM SOMMERFIELD TO FREEPORT CREEK ASSOCIATES. DATED FEBRUARY 2, 1987 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9804 OF DEEDS, PAGE 549 AS FILED APRIL 14, 1987.

MAP REFERENCES:

1) MAP ENTITLED "DESCRIPTIVE PROPERTY", PREPARED BY VITO A. VALENTI, DATED APRIL 1, 1999.
2) MAP ENTITLED "MAP OF PROPERTY SITUATED AT FREEPORT TOWN OF HEMPSTEAD NASSAU COUNTY–N.Y.", PREPARED BY BALDWIN & CORNELIUS, P.C. DATED AUGUST 2, 1985 LAST REVISED NOVEMBER 21, 1988.
3) MAP ENTITLED " MAP OF SUNSHINE PARK AT FREEPORT, NEW YORK" DATED JUNE 4, 1921 FILED IN NASSAU COUNTY CLERK'S OFFICE AS MAP NUMBER 179.

DESCRIPTION OF ENVIRONMENTAL EASEMENT

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF SOUTH MAIN STREET AND THE SOUTHERLY SIDE OF RAY STREET;

RUNNING THENCE FROM SAID POINT OF BEGINNING EASTERLY, ALONG THE SOUTHERLY SIDE OF RAY STREET, N 77°45' E, 285.71' TO A POINT AT THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE WEST AND LANDS NOW OR FORMERLY OF APACHE REALTY CORP TO THE EAST;

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THENCE CONTINUING ALONG SAID DIVISION LINE N 86°19'00" W, 331.25' TO A POINT ON THE EASTERLY BOUNDS OF SOUTH MAIN STREET;

THENCE NORTHERLY ALONG THE EAST SIDE OF SOUTH MAIN STREET, N 04°35'45" E, 113.10' TO THE POINT AND PLACE OF BEGINNING;

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ENGINEERING / INSTITUTIONAL CONTROLS

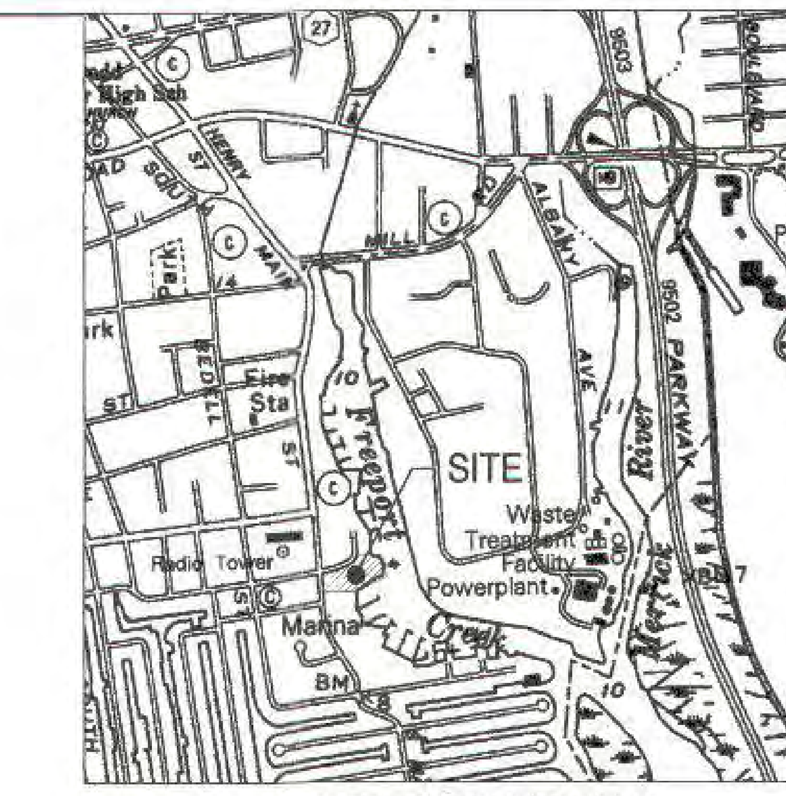
- All Engineering Controls - must be operated and maintained as specified in the Site Management Plan(SMP)
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Soil Cover - Any breach of the natural site cover, including for the purposes of construction or utilities work, must be replaced or repaired according to the SMP. Site soil excavated or removed from the property must be managed, characterized, and properly disposed of in accordance with the NYSDEC regulations and directives. Guidelines for management of subsurface soils/fill and long-term maintenance of the natural site cover is provided in the SMP.
- Groundwater monitoring and other environmental or public health monitoring must be performed as defined in the SMP.
- The use of Groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site; and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.
- Land Use - The use and development of the site is limited to Commercial and Industrial uses only as defined in 6 NYCRR Part 375-1.8(g)(2) (iii) & (iv).

THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). a copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

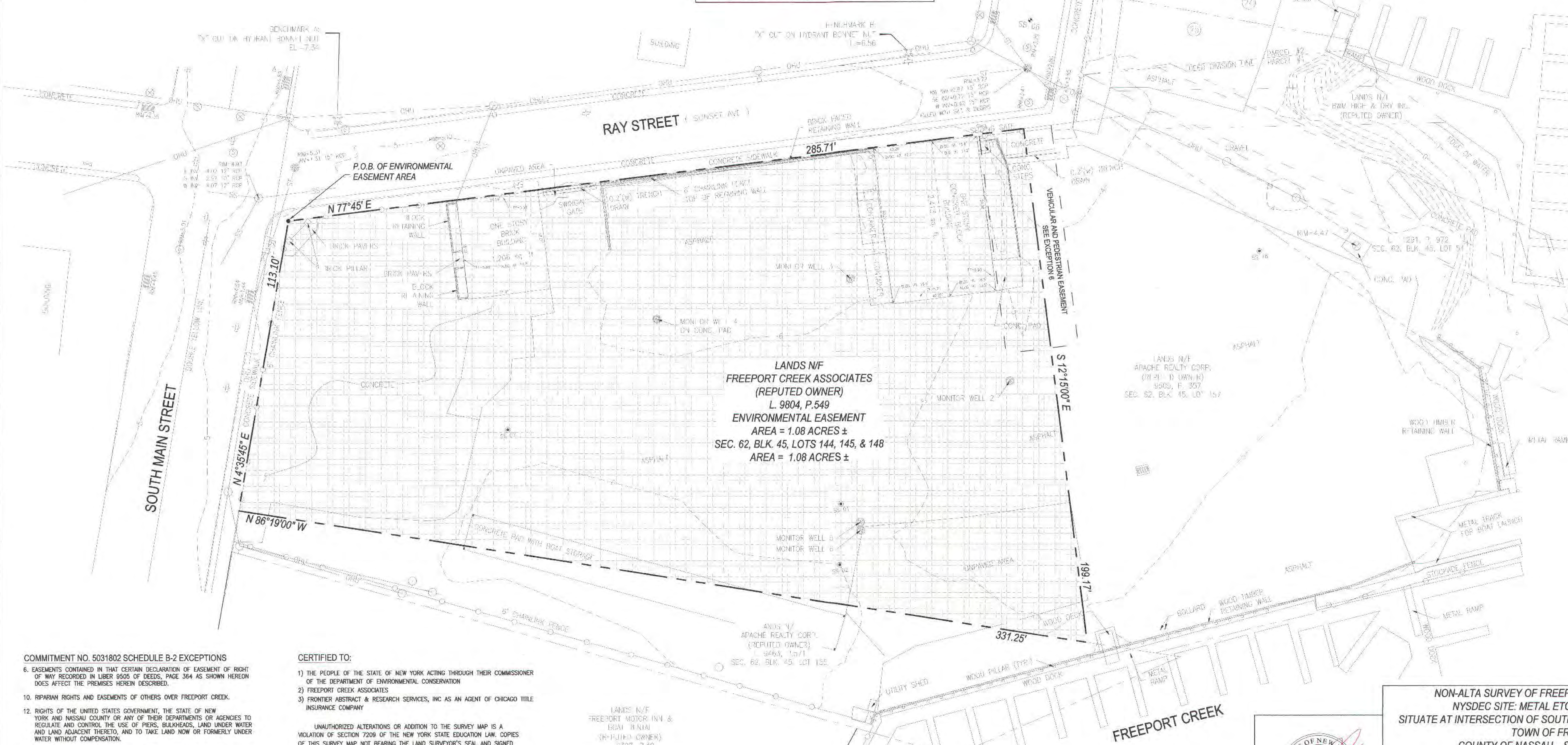
This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT



SITE LOCATION MAP
SCALE: N.T.S.



LEGEND

WATER VALVE
GAS VALVE
UTILITY POLE
UTILITY POLE (DEAD)
CATCH BASIN
SANITARY SEWER MANHOLE
UNKNOWN MANHOLE
UTILITY POLE WITH LIGHT
SOIL SAMPLE LOCATION
SOIL BORING LOCATION
GUY WIRE
MONITOR WELL
24 SUBDIVISION PARCEL NO.
EASEMENT
AREA OF EASEMENT

MONITOR WELL LOCATIONS

MONITOR WELL 1:
N: 174708.7816 PIPE ELEV'S:
E: 1102392.8304 PIPE 1 – 4.34
ELEV: 4.58

MONITOR WELL 2:
N: 174510.0231 PVC ELEV'S:
E: 1102335.2583 PIPE 1 – 4.15
ELEV: 4.53 PIPE 2 – 4.27

MONITOR WELL 3:
N: 174579.2631 PVC ELEV'S:
E: 1102273.8087 PIPE 1 = 5.74
ELEV: 6.20 PIPE 2 – 5.79

MONITOR WELL 4:
N: 174564.00 PVC ELEV'S:
E: 1102199.05 PVC = 6.02
ELEV: 6.36

MONITOR WELL 5:
N: 174485.7694 PVC ELEV'S:
E: 1102272.5186 PIPE 1 – 5.30
ELEV: 5.70

MONITOR WELL 6:
N: 174482.6496 PVC ELEV'S:
E: 1102277.7187 PIPE 1 – 5.37
ELEV: 5.72 PIPE 2 – 5.09

COMMITMENT NO. 5031802 SCHEDULE B-2 EXCEPTIONS

6. EASEMENTS CONTAINED IN THAT CERTAIN DECLARATION OF EASEMENT OF RIGHT OF WAY RECORDED IN LIBER 9505 OF DEEDS, PAGE 364 AS SHOWN HEREON DOES AFFECT THE PREMISES HEREIN DESCRIBED.

10. RIPARIAN RIGHTS AND EASEMENTS OF OTHERS OVER FREEPORT CREEK.

12. RIGHTS OF THE UNITED STATES GOVERNMENT, THE STATE OF NEW YORK AND NASSAU COUNTY OR ANY OF THEIR DEPARTMENTS OR AGENCIES TO REGULATE AND CONTROL THE USE OF PIERS, BULKHEADS, LAND UNDER WATER AND LAND ADJACENT THERETO, AND TO TAKE LAND NOW OR FORMERLY UNDER WATER WITHOUT COMPENSATION.

13. RIGHTS OF THE UNITED STATES GOVERNMENT TO ESTABLISH HARBOR, BULKHEAD OR PIERHEAD LINES OR TO CHANGE OR ALTER ANY SUCH EXISTING LINES AND TO REMOVE OR COMPEL THE REMOVAL OF FILL AND IMPROVEMENTS THEREON INCLUDING BUILDINGS OR OTHER STRUCTURES, FROM LAND NOW OR FORMERLY LYING BELOW THE HIGH WATER MARK OF FREEPORT CREEK.

14. SUBJECT TO RIGHTS OF OTHERS FOR UNOBSTRUCTED FLOW OF FREEPORT CREEK AND ALSO SUBJECT TO THE EASEMENT AND RIPARIAN RIGHTS OF OTHERS OVER THE PORTION OF THE INSURED PREMISES THAT LIE BENEATH SAID WATERS.

CERTIFIED TO:

1) THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
2) FREEPORT CREEK ASSOCIATES
3) FRONTIER ABSTRACT & RESEARCH SERVICES, INC AS AN AGENT OF CHICAGO TITLE INSURANCE COMPANY

UNAUTHORIZED ALTERATIONS OR ADDITION TO THE SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SEAL AND SIGNED WITH RED INK SHALL NOT BE CONSIDERED VALID COPIES.

CERTIFICATION INDICATED OR IMPLIED HEREON SHALL ONLY RUN TO THE PARTY FOR WHOM THIS SURVEY WAS PREPARED FOR AND ON THEIR BEHALF TO THE ADDITIONAL PARTIES LISTED HEREON. CERTIFICATIONS SHOWN HEREON ARE NOT TRANSFERABLE TO ADDITIONAL PARTIES OR SUBSEQUENT OWNERS NOT LISTED HEREON.

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.
1 meter = 3.28083333 ft.

JOSEPH G. MALINOWSKI 050314

NON-ALTA SURVEY OF FREEPORT CREEK ASSOCIATES
NYSDEC SITE: METAL ETCHING SITE No. 130110
SITUATE AT INTERSECTION OF SOUTH MAIN STREET AND RAY STREET
TOWN OF FREEPORT
COUNTY OF NASSAU STATE OF NEW YORK

PREPARED FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCALE : 1" = 20' 0" | MAY 15, 2013

Engineering and Land Surveying, P.C.
1533 Crescent Road - Clifton Park, NY 12065

JOB NO. | SHEET 4 OF 4

DESCRIPTION OF ENVIRONMENTAL EASEMENT

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND SITUATE, LYING AND BEING IN THE INCORPORATED VILLAGE OF FREEPORT, COUNTY OF NASSAU AND STATE OF NEW YORK MORE PARTICULARLY BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT FORMED BY THE INTERSECTION OF THE EASTERLY SIDE OF SOUTH MAIN STREET AND THE SOUTHERLY SIDE OF RAY STREET;

RUNNING THENCE FROM SAID POINT OF BEGINNING EASTERLY, ALONG THE SOUTHERLY SIDE OF RAY STREET, N 77°45' E, 306.01' TO A POINT ON THE EAST SIDE OF SOUTH END PLACE;

THENCE NORTHERLY ALONG SAID EAST SIDE OF SOUTH END PLACE N 5°02'40" E, 74.86' TO A POINT;

THENCE S 84°57'20" E, 102'+/– TO A POINT AT THE WESTERLY EDGE OF FREEPORT CREEK;

THENCE RUNNING ALONG FREEPORT CREEK THE FOLLOWING EIGHTEEN (18) COURSES:

1) S 13°22'30" W, 29.69' TO A POINT;
2) S 59°50'30" E, 71.68' TO A POINT;
3) S 21°46'50" E, 71.68' TO A POINT;
4) S 41°03'10" W, 29.19' TO A POINT;
5) N 60°06' W, 35.49' TO A POINT;
6) S 27°30'08" E, 3.52' TO A POINT;
7) S 46°43'34" E, 19.95' TO A POINT;
8) S 54°48'18" E, 13.53' TO A POINT;
9) S 13°15'20" E, 12.03' TO A POINT;
10) S 06°14'04" W, 20.87' TO A POINT;
11) S 31°12'03" W, 13.01' TO A POINT;
12) S 35°49'59" W, 17.03' TO A POINT;
13) S 47°18'43" W, 23.33' TO A POINT;
14) S 62°36'32" W, 23.33' TO A POINT;
15) S 71°43'13" W, 27.02' TO A POINT;
16) S 70°16'31" W, 40.11' TO A POINT;
17) S 86°19'00" E, 9.70' TO A POINT;
18) S 61°16'43"W, 95.3' TO A POINT ON THE DIVISION LINE BETWEEN THE HEREIN DESCRIBED PARCEL TO THE NORTH AND LANDS NOW OR FORMERLY OF FREEPORT MOTOR INN & BOAT RENTAL TO THE SOUTH; THENCE ALONG SAID DIVISION LINE N 77°43'08" W, 289.63' TO A POINT AT THE EASTERLY SIDE OF SOUTH MAIN STREET;

THENCE NORTHERLY ALONG THE EAST SIDE OF SOUTH MAIN STREET, N 4°35'45"E, 129.05' TO THE POINT AND PLACE OF BEGINNING CONTAINING 2.25 ACRES OF LAND, MORE OR LESS.

GENERAL NOTES:

1) MAP PREPARED FROM A FIELD SURVEY CONDUCTED BY M.J. ENGINEERING AND LAND SURVEYING P.C., DATED JUNE 2008 AND UPDATED OCTOBER 2012.
2) PARCELS SURVEYED IS FURTHER REFERENCED TO THE TOWN OF FREEPORT SECTION 62, BLOCK 45, LOTS 54, 144, 145, 148, 155, AND 157.
3) UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE APPROXIMATE IN NATURE ONLY, AND SUBJECT TO VERIFICATION BY EXCAVATION.
4) SUBJECT TO ANY AND ALL RIGHTS, EASEMENTS, RESTRICTIONS, OR COVENANTS OF RECORD.
5) VERTICAL DATUM BASED UPON NAVD 88 TRANSFERRED TO THE SITE BY CONVENTIONAL METHODS.
6) BUILDING HEIGHTS SHOWN ARE MEASURED FROM GRADE.
7) SITE IS LOCATED 480'± SOUTH OF THE INTERSECTION OF ATLANTIC AVE AT THE INTERSECTION OF SOUTH MAIN ST. AND RAY ST EAST.
8) NORTH REFERENCE SHOWN HEREON PER DEED REFERENCE ONE, TWO, AND FOUR.

CERTIFIED TO:

1) THE PEOPLE OF THE STATE OF NEW YORK ACTING THROUGH THEIR COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION.
2) FREEPORT CREEK ASSOCIATES
3) BWM HIGH & DRY, INC.
4) APACHE REALTY CORP.
5) FRONTIER ABSTRACT & RESEARCH SERVICES, INC. AS AN AGENT OF CHICAGO TITLE INSURANCE COMPANY
6) FRONTIER ABSTRACT & RESEARCH SERVICES, INC. AS AN AGENT OF STEWART TITLE INSURANCE COMPANY

UNAUTHORIZED ALTERATIONS OR ADDITION TO THE SURVEY MAP IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW. COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S SEAL AND SIGNED WITH RED INK SHALL NOT BE CONSIDERED VALID COPIES.

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ENGINEERING / INSTITUTIONAL CONTROLS

- All Engineering Controls - must be operated and maintained as specified in the Site Management Plan(SMP)
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP.
- Soil Cover - Any breach of the natural site cover, including for the purposes of construction or utilities work, must be replaced or repaired according to the SMP. Site soil excavated or removed from the property must be managed, characterized, and properly disposed of in accordance with the NYSDEC regulations and directives. Guidelines for management of subsurface soils/fill and long-term maintenance of the natural site cover is provided in the SMP.
- Groundwater monitoring and other environmental or public health monitoring must be performed as defined in the SMP.
- The use of Groundwater underlying the property is prohibited without treatment rendering it safe for intended use.
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site; and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the property are prohibited.
- Land Use - The use and development of the site is limited to Commercial and Industrial uses only as defined in 6 NYCRR Part 375-1.8(g)(2) (iii) & (iv).

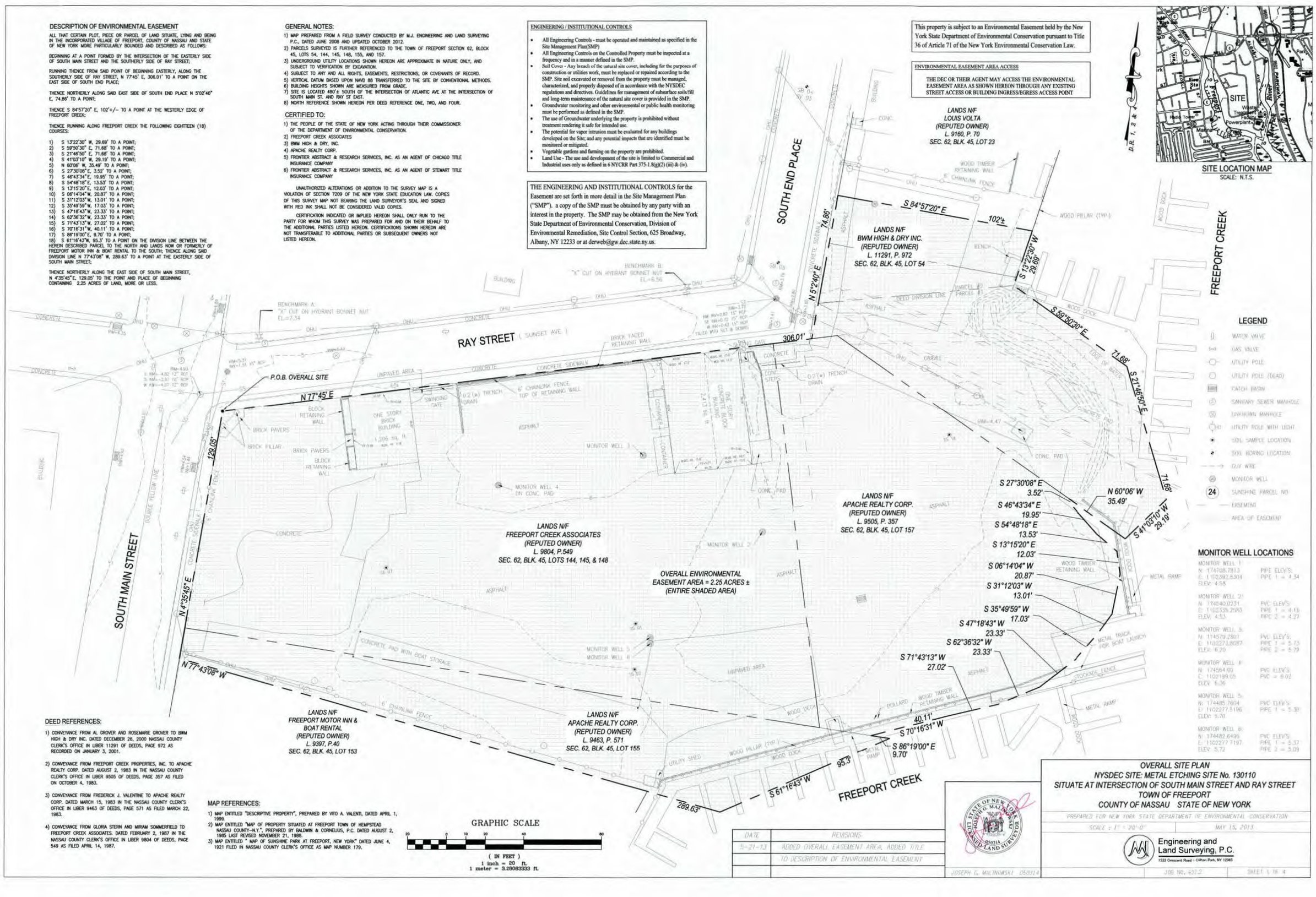
THE ENGINEERING AND INSTITUTIONAL CONTROLS for the Easement are set forth in more detail in the Site Management Plan ("SMP"). a copy of the SMP must be obtained by any party with an interest in the property. The SMP may be obtained from the New York State Department of Environmental Conservation, Division of Environmental Remediation, Site Control Section, 625 Broadway, Albany, NY 12233 or at derweb@gw.dec.state.ny.us.

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the New York Environmental Conservation Law.

ENVIRONMENTAL EASEMENT AREA ACCESS

THE DEC OR THEIR AGENT MAY ACCESS THE ENVIRONMENTAL EASEMENT AREA AS SHOWN HEREON THROUGH ANY EXISTING STREET ACCESS OR BUILDING INGRESS/EGRESS ACCESS POINT

SITE LOCATION MAP
SCALE: N.T.S.



LEGEND

- WATER VALVE
- GAS VALVE
- UTILITY POLE
- UTILITY POLE (DEAD)
- CATCH BASIN
- SANITARY SEWER MANHOLE
- UNKNOWN MANHOLE
- UTILITY POLE WITH LIGHT
- SOIL SAMPLE LOCATION
- SOIL BORING LOCATION
- GUY WIRE
- MONITOR WELL
- 24 SUNSHINE PARCEL NO.
- EASEMENT
- AREA OF EASEMENT

MONITOR WELL LOCATIONS

MONITOR WELL 1 N: 174708.7913 E: 1102392.8304 ELEV: 4.55		PIPE ELEV'S: PIPE 1 = 4.34
MONITOR WELL 2: N: 174540.0231 E: 1102335.2583 ELEV: 4.53		PVC ELEV'S: PIPE 1 = 4.18 PIPE 2 = 4.27
MONITOR WELL 3: N: 174579.2801 E: 1102273.8087 ELEV: 6.20		PVC ELEV'S: PIPE 1 = 5.53 PIPE 2 = 5.79
MONITOR WELL 4: N: 174564.193 E: 1102139.05 ELEV: 6.36		PVC ELEV'S: PVC = 6.02
MONITOR WELL 5: N: 174485.7604 E: 1102277.5196 ELEV: 5.70		PVC ELEV'S: PIPE 1 = 5.38
MONITOR WELL 6: N: 174482.6496 E: 1102277.7197 ELEV: 5.72		PVC ELEV'S: PIPE 1 = 5.37 PIPE 2 = 5.09

DEED REFERENCES:

1) CONVEYANCE FROM AL GROVER AND ROSEMARIE GROVER TO BWM HIGH & DRY INC. DATED DECEMBER 26, 2000 NASSAU COUNTY CLERK'S OFFICE IN LIBER 11291 OF DEEDS, PAGE 972 AS RECORDED ON JANUARY 3, 2001.
2) CONVEYANCE FROM FREEPORT CREEK PROPERTIES, INC. TO APACHE REALTY CORP. DATED AUGUST 2, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9505 OF DEEDS, PAGE 357 AS FILED ON OCTOBER 4, 1983.
3) CONVEYANCE FROM FREDERICK J. VALENTINE TO APACHE REALTY CORP. DATED MARCH 15, 1983 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9463 OF DEEDS, PAGE 571 AS FILED MARCH 22, 1983.
4) CONVEYANCE FROM GLORIA STERN AND MIRIAM SOMMERFIELD TO FREEPORT CREEK ASSOCIATES. DATED FEBRUARY 2, 1987 IN THE NASSAU COUNTY CLERK'S OFFICE IN LIBER 9804 OF DEEDS, PAGE 549 AS FILED APRIL 14, 1987.

MAP REFERENCES:

1) MAP ENTITLED "DESCRIPTIVE PROPERTY", PREPARED BY VITO A. VALENTI, DATED APRIL 1, 1999.
2) MAP ENTITLED "MAP OF PROPERTY SITUATED AT FREEPORT TOWN OF HEMPSTEAD NASSAU COUNTY–N.Y.", PREPARED BY BALDWIN & CORNELIUS, P.C. DATED AUGUST 2, 1985 LAST REVISED NOVEMBER 21, 1988.
3) MAP ENTITLED " MAP OF SUNSHINE PARK AT FREEPORT, NEW YORK" DATED JUNE 4, 1921 FILED IN NASSAU COUNTY CLERK'S OFFICE AS MAP NUMBER 179.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.
1 meter = 3.28083333 ft.

DATE	REVISIONS:
5-21-13	ADDED OVERALL EASEMENT AREA, ADDED TITLE TO DESCRIPTION OF ENVIRONMENTAL EASEMENT

STATE OF NEW YORK — JOSEPH G. MALINOWSKI — LICENSED LAND SURVEYOR — 050314

JOSEPH G. MALINOWSKI 050314

OVERALL SITE PLAN
NYSDEC SITE: METAL ETCHING SITE No. 130110
SITUATE AT INTERSECTION OF SOUTH MAIN STREET AND RAY STREET
TOWN OF FREEPORT
COUNTY OF NASSAU STATE OF NEW YORK

PREPARED FOR NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SCALE : 1" = 20'-0" | MAY 15, 2013

Engineering and Land Surveying, P.C.
1533 Crescent Road – Clifton Park, NY 12065

JOB NO. 632.2 | SHEET 1 OF 1

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APPENDIX B

EXCAVATION WORK PLAN

APPENDIX B – EXCAVATION WORK PLAN

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

David Chiusano, Project Manager
Site Remediation Engineer
New York State Department of Conservation
625 Broadway 12th Floor
Albany, New York 12233-7017

Email: djchiusa@gw.dec.state.ny.us

This notification will include:

- A detailed description of the work to be performed, including the location and areal extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control,
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work,
- A summary of the applicable components of this EWP,
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120,

- A copy of the contractor's health and safety plan, in electronic format, if it differs from the HASP provided in Appendix B-1 of this document,
- Identification of disposal facilities for potential waste streams,
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2 SOIL SCREENING METHODS

Prior to intrusive soil screening, on-site utilities shall be field located. Soil screening is to take place prior to any excavation or disposal of soil from within the site boundaries. Soil boring methods are recommended for soil screening at the site, due to asphalt/porous pavement cover; however, depending on the extent of the planned excavation, test pit methods may be used, following saw-cutting of asphalt. Soil samples shall be collected at a minimum of one per 500 cubic yards of planned soil excavation, and analyzed for VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, and TAL Metals and mercury by EPA Method 6010/7470, or per the disposal facility's requirements, if applicable.

Visual, olfactory and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

B-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points.

Stockpiles will be kept covered at all times with appropriately anchored tarps. 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 NYSDEC.

B-4 MATERIALS EXCAVATION AND LOAD OUT

Asphalt, porous pavement, or concrete shall be saw-cut, removed and stockpiled prior to excavation of underlying soil. Excavated soil shall be stockpiled separate from asphalt or concrete debris prior to load out. Excavations left open overnight or longer shall be surrounded by temporary construction fencing. A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material. The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this Plan.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements).

If site conditions during excavation activities require that trucks drive over bare soil, a truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete. Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

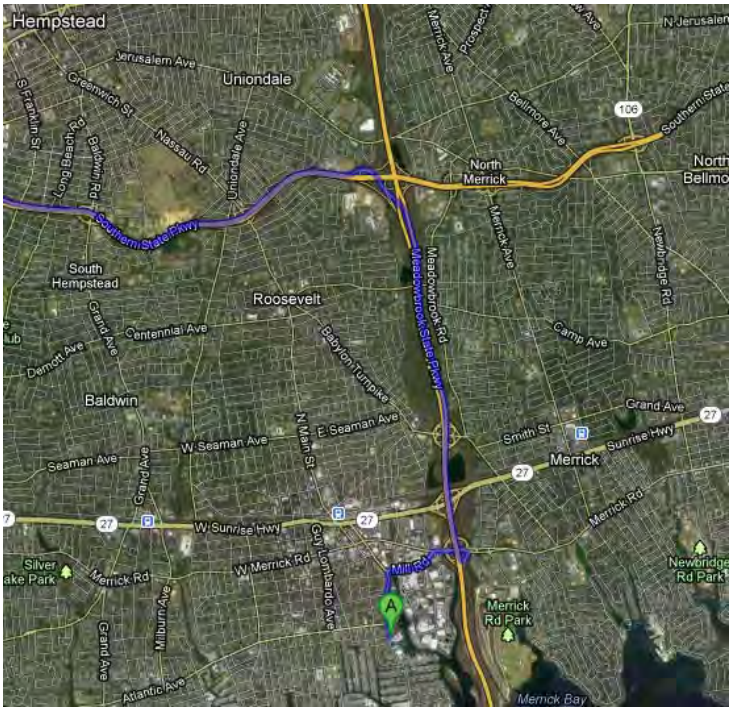
B-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the site if necessary. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

Trucks leaving the site shall go north on S Main Street and turn right on Mill Road. Continue right onto East Avenue, and then straight onto Guy Lombardo Avenue. Turn onto Sunrise Highway in either direction, depending on destination.



Map courtesy of maps.google.com

All trucks loaded with site materials will exit the vicinity of the site using only these approved truck routes. This is the most appropriate route and takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development. Trucks will be prohibited from stopping and idling in the neighborhood outside the project site. Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

B-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of

soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted SCOs is prohibited from being taken to a New York State recycling facility (6NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

Analytical results from soil screening activities which are completed in accordance with section B-2 of this EWP will be used to determine if reuse is appropriate. Chemical criteria for on-site reuse of material have been approved by NYSDEC and are listed in Table 4 of the SMP. The qualified environmental professional will ensure that procedures defined for materials reuse in the SMP are followed and that unacceptable material does not remain on-site. Soil slated for reuse is to be stockpiled distinctly separate from soil to be disposed off-site.

On-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

B-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a SPDES permit.

B-9 COVER SYSTEM RESTORATION

After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Contract Documents. The demarcation layer, consisting of non-woven geotextile or equivalent material will be replaced to provide a visual reference to the top of the 'Remaining Contamination Zone', the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this Site Management Plan. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the Site Management Plan.

B-10 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior

to receipt at the site. The source of backfill supply shall be approved by the NYSDEC. The facility shall be operating under a valid NYSDEC Mining Permit or other applicable regulatory authority for the duration of the site work.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site. Material shall not contain man-made fills, trash, refuse, backfills from previous construction, root or other organic matter, frozen material, or any other deleterious materials. Material shall not contain free liquids when delivered, or placed and compacted.

All materials shall be sampled for Target Compound List (TCL) VOCs by USEPA Method 8260, TCL SVOCs by USEPA Method 8270, polychlorinated biphenyls (PCBs) by USEPA Method 8082, and TAL Metals by USEPA Method 6010/7000 series. All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.8(d) included as Table B-1. Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, the resulting soil quality standards are listed in Table 1 of the SMP. Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11 STORMWATER POLLUTION PREVENTION

Barriers and hay bale checks will be installed and inspected once a 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 NYSDEC. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

Silt fencing or hay bales will be installed around the entire perimeter of the construction area.

B-12 CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition.

All UST removal work shall be performed in accordance with Section 5.5 of the NYSDEC DER-10: Technical Guidance for Site Investigation and Remediation (May 2010). All UST removal work shall also comply with applicable local, county, state, and federal regulations. Ten days' notice must be provided to the NYSDEC DER prior to the closure of a regulated UST.

The contractor shall monitor the site with an explosimeter and an organic vapor detector to indicate the presence and concentration of flammable vapors and gas. The atmosphere in the bottom, middle, and top of the excavation shall be monitored with the explosimeter regularly until the tank is removed from the site. If unsafe working conditions exist at any point during removal, work shall be suspended immediately until it is determined that conditions are acceptable for resuming work.

During excavation, extreme caution shall be exercised in order to maintain the integrity of the UST. The contractor shall provide shoring and bracing where necessary to support existing structures. Excavated material shall be placed in a separate stockpile, sampled, and submitted for acceptance by an approved disposal facility.

Removal of each tank shall consist of opening the tank, cleaning the interior, removal of tank from the site, and disposal. This includes removal and disposal of all

service lines associated with each UST back to their source. Disposal shall be in strict accordance with NYSDEC and applicable local, county, state, and federal regulations. The contractor shall remove all liquid and sludge from the tank using explosion proof pumps. All equipment must be bonded to the tank and the tank must be grounded to a separate ground when purging the tank with compressed air or inert gas under pressure. The contractor shall avoid leakage from the tanks onto the surrounding soil by properly pumping the contents of the tanks into permitted transport vehicles. Transport vehicles for tank contents shall not remain on-site for more than 24 hours. The removed contents shall be disposed of according to appropriate federal, state, and local laws. If leakage or spillage occurs, the contractor shall immediately notify the NYSDEC Spill Case Hotline, and the Nassau County health department within 15 minutes.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for full a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

B-13 COMMUNITY AIR MONITORING PLAN

Community air monitoring will be implemented to monitor for VOC and particulate levels at the perimeter of the work area. Total VOCs will be monitored continuously at the downwind perimeter of the work area daily using approved instrumentation. If total VOC levels exceed 5 parts per million (ppm) above background at the work area perimeter, work activities will be halted and monitoring continued. All

readings will be recorded and available to the NYSDEC and New York State Department of Health (NYSDOH) personnel to review.

Because the site is in a densely populated area, with active commercial buildings adjacent to the site, a fixed monitoring station shall be located at the site perimeter, regardless of wind direction.

Exceedances of action levels listed in the Community Air Monitoring Plan will be reported to NYSDEC and NYSDOH Project Managers.

B-14 ODOR CONTROL PLAN

This odor control plan is capable of controlling emissions of nuisance odors off-site. Specific odor control methods to be used as necessary will include odor masking agents. If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by

sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

B-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.
- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

B-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work. A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

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APPENDIX C

MONITORING WELL CONSTRUCTION DETAILS

ERM-Northeast

WELL : MW-01

520 Broadhallow Road, Melville, NY 11747

MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Metal Etching	**0011475.2**				5
Drilling Company	*Foreman*	Date	Time	Level (feet)	*Ground Elevation (feet)*
Delta Well And Pump					5
Surveyor					*Top of Protective Steel Cap Elevation (feet)*
Donald G. Dekenipp					
Date and Time of Completion	*Geologist*				*Top of Riser Pipe Elevation (feet)*
7/14/2004	**Mike Mattern**	7/16/2004	7:00	3.95	**4.96**

Generalized Soil Description	*Elevation	**Depth	CONSTRUCTION DETAILS
			PROTECTIVE STEEL CAP FLUSH WITH GROUND
			GROUND SURFACE
	4.96	0.00	<--- WATER TIGHT CAP WITH LOCK
	3.96	1.00	<--- PROTECTIVE STEEL CASING CEMENTED IN PLACE
			<-- BENTONITE SEAL
			<-- #1 MORRIE SAND
	-8.04	13.00	
	-10.04	15.00	
			<-- BENTONITE SEAL
	-14.04	19.00	
	-16.04	21.00	<---- RISER
			DIAMETER: 1"
			MATERIAL: PVC
			<---- WELL SCREEN
			SLOT SIZE:. 010
			DIAMETER: 1
			MATERIAL: PVC
			<---- SAND PACK
			TYPE: #1 Morrie Sand
	-26.04	31.00	<---- BOTTOM CAP
			BOTTOM OF BOREHOLE

REMARKS This well is one in a cluster of two installed in the same bore hole.

* Elevation (feet) above mean sea level unless noted

** Depth in feet below ground surface

ERM-Northeast

WELL : MW-04

520 Broadhallow Road, Melville, NY 11747

MONITORING WELL CONSTRUCTION LOG

Project Name & Location **Metal Etching**	*Project No.* **0011475.2**	*Water Level(s)* *(ft below top of PVC casing)*			*Site Elevation Datum (feet)*
Drilling Company **Delta Well And Pump**	*Foreman*	Date	Time	Level (feet)	*Ground Elevation (feet)*
Surveyor **Donald G. Dekenipp**					*Top of Protective Steel Cap Elevation (feet)* **7.41**
Date and Time of Completion **9/13/04 \ 13:54**	*Geologist* **Mike Mendes**	10/7/2004	7:53	5.49	*Top of Riser Pipe Elevation (feet)* **7.07**

Generalized Soil Description	*Elevation	**Depth	CONSTRUCTION DETAILS
			PROTECTIVE STEEL CAP FLUSH WITH GROUND
			GROUND SURFACE
	7.07	0.00	<--- WATER TIGHT CAP WITH LOCK
			< ----- PROTECTIVE STEEL CASING CEMENTED IN PLACE
			<-- BENTONITE-CEMENT GROUT
	6.07	1.00	
			<-- BENTONITE SEAL
	5.07	2.00	
	4.07	3.00	<------ RISER
			DIAMETER: 2"
			MATERIAL: PVC
			<------ WELL SCREEN
			SLOT SIZE:. 010
			DIAMETER: 2
			MATERIAL: PVC
			<------ SAND PACK
			TYPE: #1 Morrie Sand
	-5.93	13.00	<------ BOTTOM CAP
			BOTTOM OF BOREHOLE

REMARKS _____

* Elevation (feet) above mean sea level unless noted ** Depth in feet below ground surface

ERM-Northeast

WELL : MW-05

520 Broadhallow Road, Melville, NY 11747

MONITORING WELL CONSTRUCTION LOG

Project Name & Location	Project No.	Water Level(s) (ft below top of PVC casing)			Site Elevation Datum (feet)
Metal Etching	**0011475.2**				
Drilling Company	*Foreman*	Date	Time	Level (feet)	*Ground Elevation (feet)*
Delta Well And Pump					
Surveyor					*Top of Protective Steel Cap Elevation (feet)*
Donald G. Dekenipp					**5.48**
Date and Time of Completion	*Geologist*				*Top of Riser Pipe Elevation (feet)*
9/13/04 \ 14:59	**Mike Mendes**	10/7/2004	7:44	3.92	**5.16**

Generalized Soil Description	*Elevation	**Depth	CONSTRUCTION DETAILS
			PROTECTIVE STEEL CAP FLUSH WITH GROUND
			GROUND SURFACE
	5.16	0.00	<--- WATER TIGHT CAP WITH LOCK
			<- PROTECTIVE STEEL CASING CEMENTED IN PLACE
			<-- BENTONITE-CEMENT GROUT
	4.16	1.00	
			<-- BENTONITE SEAL
	3.16	2.00	
	2.16	3.00	<------ RISER
			DIAMETER: 2"
			MATERIAL: PVC
			<------ WELL SCREEN
			SLOT SIZE:. 010
			DIAMETER: 2
			MATERIAL: PVC
			<------ SAND PACK
			TYPE: #1 Morrie Sand
	-13.00	13.00	<------ BOTTOM CAP
			BOTTOM OF BOREHOLE

REMARKS _____

* Elevation (feet) above mean sea level unless noted ** Depth in feet below ground surface

ERM-Northeast

WELL : MW-06

520 Broadhallow Road, Melville, NY 11747

MONITORING WELL CONSTRUCTION LOG

Project Name & Location **Metal Etching**	*Project No.* **0011475.2**	*Water Level(s)* *(ft below top of PVC casing)*			*Site Elevation Datum (feet)*
Drilling Company **Delta Well And Pump**	*Foreman*	Date	Time	Level (feet)	*Ground Elevation (feet)*
Surveyor **Donald G. Dekenipp**					*Top of Protective Steel Cap Elevation (feet)* **5.65**
Date and Time of Completion **9/14/04 \ 11:40**	*Geologist* **Mike Mendes**	10/7/2004	7:49	3.87	*Top of Riser Pipe Elevation (feet)* **5.37**

Generalized Soil Description	*Elevation	**Depth	CONSTRUCTION DETAILS
			PROTECTIVE STEEL CAP FLUSH WITH GROUND
			GROUND SURFACE
	5.37	0.00	<--- WATER TIGHT CAP WITH LOCK
			< ---- PROTECTIVE STEEL CASING CEMENTED IN PLACE
			<-- BENTONITE-CEMENT GROUT
	4.37	1.00	
			<-- BENTONITE SEAL
	3.37	2.00	
	2.37	3.00	<------ RISER
			DIAMETER: 2"
			MATERIAL: PVC
			<------ WELL SCREEN
			SLOT SIZE:. 010
			DIAMETER: 2
			MATERIAL: PVC
			<------ SAND PACK
			TYPE: #1 Morrie Sand
	-7.63	13.00	<------ BOTTOM CAP
			BOTTOM OF BOREHOLE

REMARKS _____

* Elevation (feet) above mean sea level unless noted ** Depth in feet below ground surface

Geologic Log and Well Construction Details

MW-08 D/S

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, New York 11980

Client:		Depth to Water (ft. from measuring pt.)		Site Elevation
NYSDEC Haz Waste		Date	DTW	
Site Name:	Address:			
Freeport Metal Etching	435 South Main Street, Freeport, NY			
Drilling Company:	Method:			Measuring Point Elevation
AARCO	Geoprobe equiped w/ rotary auger			
Date Started:	Date Completed:			
11/10/2011	11/10/11			
Completion Depth:	ENVIROTRAC Geologist:			
31	Michael Rose			

WELL CONSTRUCTION (NTS)	DEPTH (feet below grade)	SAMPLES: Recovery (inches)	SAMPLES: Blows per 6 inches	SAMPLES: PID (ppm)	SOIL DESCRIPTION
MW-08D / S	0	NA	NA	NA	0'-5' (Pre-cleared) Fill material, concrete and brick intermixed with brown to black coarse to medium grained sand. Dry to moist, petroleum odor
		NA	NA	313.2	6'-30' Fill material, brown to black medium to fine grained sand with some gravel. Wet at 6'
	10	NA	NA	NM	
	20				
	30				

LEGEND:

- Concrete
- Bentonite Seal
- Gravel Pack
- Screen
- End Cap

Well Construction Details:

Bottom of Well:	31', 14'
Screen material:	2", 10-slot schedule 40 PVC
Casing material:	2" schedule 40 PVC
Sand Pack:	Morie #1
Bentonite Seal:	1'-4'
Surface Seal:	10" bolt-down manhole

NTS - Not to Scale NA - Not Applicable NM - Not Measured DTW - Depth to Water DTP - Depth to Product

EnviroTrac Environmental Services

Geologic Log and Well Construction Details

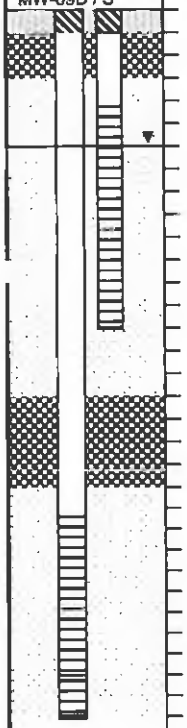
MW-09 S/D

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, New York 11980

Client:		Depth to Water (ft. from measuring pt.)		Site Elevation
NYSDEC Haz Waste		Date	DTW	
Site Name:	Address:			
Freeport Metal Etching	435 South Main Street, Freeport, NY			
Drilling Company:	Method:			Measuring Point Elevation
AARCO	Geoprobe equiped w/ rotary auger			
Date Started:	Date Completed:			
11/11/2011	11/11/11			
Completion Depth:	ENVIROTRAC Geologist:			
31	Michael Rose			

WELL CONSTRUCTION (NTS)	DEPTH (feet below grade)	SAMPLES Recovery (inches)	SAMPLES Blows per 6 inches	SAMPLES PID (ppm)	SOIL DESCRIPTION
MW-09D / S	0	NA	NA	NA	0'-5' (Pre-cleared) Fill material, concrete and brick intermixed with brown to black coarse to medium grained sand Dry to moist, petroleum odor
		NA	NA	313.2	6'-30' Fill material, brown to black medium to fine grained sand with some gravel Wet at 6'
	10	NA	NA	NM	
	20				
	30				



LEGEND:

- Concrete
- Bentonite Seal
- Gravel Pack
- Screen
- End Cap

Well Construction Details:

Bottom of Well:	32', 14'
Screen material:	2", 10-slot schedule 40 PVC
Casing material:	2" schedule 40 PVC
Sand Pack:	Morie #1
Bentonite Seal:	1'-4'
Surface Seal:	10" bolt-down manhole

NTS - Not to Scale NA - Not Applicable NM - Not Measured DTW - Depth to Water DTP - Depth to Product

EnviroTrac Environmental Services

Geologic Log and Well Construction Details

MW-10S

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, New York 11980

Client:		Depth to Water (ft. from measuring pt.)		Site Elevation
NYSDEC Haz Waste		Date	DTW	
Site Name:	Address			
Freeport Metal Etching	435 South Main Street, Freeport, NY			
Drilling Company	Method:			Measuring Point Elevation
AARCO	Geoprobe equiped w/ rotary auger			
Date Started:	Date Completed:			
11/10/2011	11/10/11			
Completion Depth	ENVIROTRAC Geologist:			
15'	Michael Rose			

WELL CONSTRUCTION (NTS)	DEPTH (feet below grade)	SAMPLES Recovery (inches)	SAMPLES Blows per 6 inches	SAMPLES PID (ppm)	SOIL DESCRIPTION
MW-10S	0	NA	NA	NA	0'-5' (Pre-cleared) Fill material, concrete and brick intermixed with brown to black coarse to medium grained sand. Dry to moist, petroleum odor
		NA	NA	313.2	5'-30' Fill material, brown to black medium to fine grained sand with some gravel. Wet at 6'
	10	NA	NA	NM	
	20				
	30				

LEGEND

- Concrete
- Bentonite Seal
- Gravel Pack
- Screen
- End Cap

Well Construction Details:

Bottom of Well:	14'
Screen material:	2", 10-slot schedule 40 PVC
Casing material:	2" schedule 40 PVC
Sand Pack:	Morie #1
Bentonite Seal	1'-4'
Surface Seal:	10" bolt-down manhole
Special Note*:	Deep Well Not Utilized

NTS - Not to Scale NA - Not Applicable NM - Not Measured DTW - Depth to Water DTP - Depth to Product

EnviroTrac Environmental Services

Geologic Log and Well Construction Details

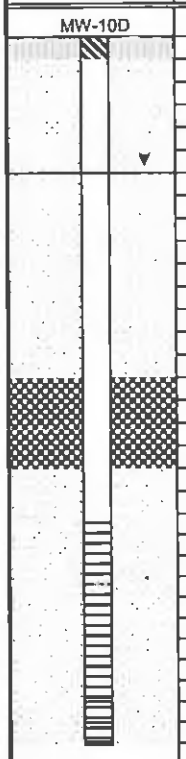
MW-10D

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, New York 11980

Client:		Depth to Water (ft. from measuring pt.)		Site Elevation
NYSDEC Haz Waste		Date	DTW	
Site Name:	Address:			
Freeport Metal Etching	435 South Main Street, Freeport, NY			
Drilling Company:	Method			
AARCO	Geoprobe equiped w/ rotary auger			Measuring Point Elevation
Date Started:	Date Completed:			
11/11/2011	11/11/11			
Completion Depth	ENVIROTRAC Geologist			
32	Michael Rose			

WELL CONSTRUCTION (NTS)	DEPTH (feet below grade)	SAMPLES: Recovery (inches)	SAMPLES: Blows per 6 inches	SAMPLES: PID (ppm)	SOIL DESCRIPTION
MW-10D	0	NA	NA	NM	0'-5' (Pre-cleared) Fill material, concrete and brick intermixed with brown to black coarse to medium grained sand. Dry to moist, petroleum odor.
		NA	NA	NM	6'-30' Fill material, brown to black medium to fine grained sand with some gravel. Wet at 6'
	10	NA	NA	NM	
	20				
	30				



LEGEND:

- Concrete
- Bentonite Seal
- Gravel Pack
- Screen
- End/Top Cap

Well Construction Details:

Bottom of Well:	32'
Screen material:	2", 10-slot schedule 40 PVC
Casing material:	2" schedule 40 PVC
Sand Pack:	Morie #1
Bentonite Seal:	1'-4'
Surface Seal:	10" bolt-down manhole

NTS - Not to Scale NA - Not Applicable NM - Not Measured DTW - Depth to Water DTP - Depth to Product

EnviroTrac Environmental Services

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing _____ Easting: _____
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Job. No.	Client:	NYSDEC	Location:
1490709	Project:	Freeport Metal Etching Site	Metal Etching Site, Freeport, NY

Drilling Method: Hollow Stem Auger
Soil Boring Number: MW-05R
Sampling Method: NA
Sheet 1 of 1

					Drilling Start	Drilling Finish
Water Level:	1.40					
Time:	12:17				DATE 7/26/13	DATE 7/26/13
Date:	26-Jul-13				TIME 09:00	TIME 10:11

Surface Conditions: asphalt
Weather: cloudy
Temperature: 65 deg

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	
				0	0-1.5 ft: Concrete Collar, 0-3.5 ft 2" pvc pipe
				1	
				2	1.5-2.5 ft: Hydrated bentonite chips
				3	2.5-15 ft: Sand Interval (Filpro #1)
				4	3.5-13.5 ft: 10 slot PVC screen
				5	
				6	
				7	
				8	
				9	
				10	
				11	
				12	
				13	
				14	
				15	
				16	
				17	
				18	
				19	
				20	
				21	
				22	
				23	
				24	
				25	
				26	
				27	
				28	
				29	

Monitoring Well Construction Information

Monitoring Well Diameter:	2	in		
Bottom of Monitoring Well:	13.5	ft bgs		
Stick Up or Flush Mount:	Flush Mount			
Screen Interval:	3.5	To	13.5	ft bgs
Riser Interval:	0	To	3.5	ft bgs
Sand Pack Interval:	2.5	To	15	ft bgs
Bentonite Seal:	1.5	To	2.5	ft bgs
Grout Interval:	0	To	1.5	ft bgs

Soil Vapor Point Installation Information

Depth of Soil Vapor Point:	ft
Bottom of Tubing:	ft
Top of Sand Pack:	ft
Top of Bentonite Seal:	ft

Logged by: M. Russo
Date: 7/26/13
Drilling Contractor: CDI
Driller: Dennis

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing _____ Easting: _____
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Job. No.	Client:	NYSDEC	Location:
1490709	Project:	Freeport Metal Etching Site	Metal Etching Site, Freeport, NY

Drilling Method:	Soil Boring Number:
Hollow Stem Auger	MW-08SR
Sampling Method:	**Sheet 1 of 1**
NA	**Drilling**

Water Level:	4.00				Start	Finish
Time:	12:18				DATE 7/26/13	DATE 7/26/13
Date:	26-Jul-13				TIME 11:36	TIME 12:30

Surface Conditions:	asphalt
Weather:	cloudy
Temperature:	65 deg

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	
				0	0-1.5 ft: Concrete Collar, 0-3.5 ft 2" pvc pipe
				1	
				2	1.5-2.5 ft: Hydrated bentonite chips
				3	2.5-15 ft: Sand Interval (Filpro #1)
				4	3.5-13.5 ft: 10 slot PVC screen
				5	
				6	
				7	
				8	
				9	
				10	
				11	
				12	
				13	
				14	
				15	
				16	
				17	
				18	
				19	
				20	
				21	
				22	
				23	
				24	
				25	
				26	
				27	
				28	
				29	

Monitoring Well Construction Information

Monitoring Well Diameter:	2	in		
Bottom of Monitoring Well:	13.5	ft bgs		
Stick Up or Flush Mount:	Flush Mount			
Screen Interval:	3.5	To	13.5	ft bgs
Riser Interval:	0	To	3.5	ft bgs
Sand Pack Interval:	2.5	To	15	ft bgs
Bentonite Seal:	1.5	To	2.5	ft bgs
Grout Interval:	0	To	1.5	ft bgs

Soil Vapor Point Installation Information

Depth of Soil Vapor Point:	ft
Bottom of Tubing:	ft
Top of Sand Pack:	ft
Top of Bentonite Seal:	ft

Logged by: M. Russo Date: 7/26/13
Drilling Contractor: CDI Driller: Dennis

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LOG OF SOIL BORING

Coordinates: Northing _____ Easting: _____
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Job. No.	**Client:**	NYSDEC	**Location:**
1490709	**Project:**	Freeport Metal Etching Site	Metal Etching Site, Freeport, NY
Drilling Method:			**Soil Boring Number:**
Hollow Stem Auger			MW-08DR
Sampling Method:			**Sheet 1 of 2**
NA			**Drilling**

					Start	**Finish**
Water Level:	3.35					
Time:	12:18				DATE 7/26/13	DATE 7/26/13
Date:	26-Jul-13				TIME 10:15	TIME 11:36

Surface Conditions: asphalt
Weather: cloudy
Temperature: 65 deg

Blow Counts (140-lb)	**Ft. Driven/ Ft. Recvrd**	**Boring Diagram**	**PID (ppm)**	**Depth in Feet**	
				0	0-.5 ft: Concrete Collar, 0-21.5 ft 2" pvc pipe
					0.5-1 ft: Bentonite
				1	1-13 ft: Sand Interval (Filpro #1)
				2	
				3	
				4	
				5	
				6	
				7	
				8	
				9	
				10	
				11	
				12	
				13	13-15 ft: Backfill
				14	
				15	15-19 ft: Hydrated bentonite chips
				16	
				17	
				18	
				19	19-35 ft: Sand Interval (Filpro #1)
				20	
				21	
					21.5-31.5 ft: 10 slot PVC screen
				22	
				23	
				24	
				25	
				26	
				27	
				28	
				29	

Monitoring Well Construction Information

Monitoring Well Diameter:	2	in		
Bottom of Monitoring Well:	31.5	ft bgs		
Stick Up or Flush Mount:	Flush Mount			
Screen Interval:	21.5	To	31.5	ft bgs
Riser Interval:	0	To	21.5	ft bgs
Sand Pack Interval:	1/19	To	13/35	ft bgs
Bentonite Seal:	0.5/15	To	1/19	ft bgs
Grout Interval:	0	To	0.5	ft bgs

Soil Vapor Point Installation Information

Depth of Soil Vapor Point:	ft
Bottom of Tubing:	ft
Top of Sand Pack:	ft
Top of Bentonite Seal:	ft

Logged by: M. Russo Date: 7/26/13
Drilling Contractor: CDI Driller: Dennis

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LOG OF SOIL BORING

Coordinates:
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Job. No.	**Client:**	NYSDEC	**Location:**
1490709	**Project:**	Freeport Metal Etching Site	Metal Etching Site, Freeport, NY

Drilling Method:	**Soil Boring Number:**
Hollow Stem Auger	MW-08DR
Sampling Method:	**Sheet 2 of 2**
NA	Drilling

Water Level:					**Start**	**Finish**
Time:						
Date:						

Surface Conditions:
Weather:
Temperature:

Blow Counts (140-lb)	**Feet Driven/Ft. Recvrd**	**Boring Diagram**	**PID (ppm)**	**Depth in Feet**	**USCS Log**
				30	
				31	
				32	
				33	
				34	
				35	
				36	
				37	
				38	
				39	
				40	
				41	
				42	
				43	
				44	
				45	
				46	
				47	
				48	
				49	
				50	
				51	
				52	
				53	
				54	
				55	
				56	
				57	
				58	
				59	
				60	
				61	
				62	

Logged by: M. Russo Date: 7/26/13

Drilling Contractor: CDI Driller: Dennis

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EA Science and Technology

LOG OF SOIL BORING

Coordinates: Northing _____ Easting: _____
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Job. No.	Client:	NYSDEC	Location:
1490709	Project:	Freeport Metal Etching Site	Metal Etching Site, Freeport, NY

Drilling Method:	Soil Boring Number:
Hollow Stem Auger	MW-11S
Sampling Method:	**Sheet 1 of 1**
NA	**Drilling**

					Start	Finish
Water Level:	3.93'					
Time:	1330				DATE: 4/4/14	DATE: 4/4/14
Date:	4-Apr-14				TIME: 1115	TIME: 1330

Surface Conditions: Asphalt
Weather: Overcast, Rainy
Temperature: 50 Deg

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	
		Concrete / Collar		0	0-5': Hand Augered. Dark Brown m-c sand. Some c gravel and moist. Water seeps into bore hole.
		Bentonite / Chips		1	
				2	
				3	
				4	
				5	5-10': Orangish-brown m-c sand. Some f gravel and little c shell fragments; saturated. Bottom 1' of sample has black staining and petroleum odor.
		Filpro #1 Sand / PVC SCREEN Slot 10		6	
				7	
				8	
				9	
				10	10-15': Orangish-brown m-c sand. Little m-c shell fragments and saturated.
				11	
				12	
				13	
				14	
				15	
				16	Terminal depth: 16'
				17	Well set @ 15.2'
				18	
				19	
				20	
				21	
				22	
				23	
				24	
				25	
				26	
				27	
				28	
				29	

Monitoring Well Construction Information

Monitoring Well Diameter:	2	in		
Bottom of Monitoring Well:	15.2	ft bgs		
Stick Up or Flush Mount:	Flush Mount			
Screen Interval:	5.2	To	15.2	ft bgs
Riser Interval:	0	To	5.2	ft bgs
Sand Pack Interval:	3	To	16	ft bgs
Bentonite Seal:	1	To	3	ft bgs
Grout Interval:	0	To	1	ft bgs

Soil Vapor Point Installation Information

Depth of Soil Vapor Point:		ft
Bottom of Tubing:		ft
Top of Sand Pack:		ft
Top of Bentonite Seal:		ft

Logged by: M. Russo Date: 4/4/14
Drilling Contractor: Clearwater Drilling Services, Inc. Driller: Dennis/Bruce

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Job. No.	**Client:**	NYSDEC			**Location:**	
1490709	**Project:**	Freeport Metal Etching Site			Metal Etching Site, Freeport, NY	
Drilling Method:					**Soil Boring Number:**	
Hollow Stem Auger					MW-11D	
Sampling Method:					**Sheet 1 of 2**	
NA					**Drilling**	
Water Level:	3.65'				**Start**	**Finish**
Time:	1330				DATE: 4/4/14	DATE: 4/4/14
Date:	4-Apr-14				TIME: 0840	TIME: 1330

Coordinates: Northing _____ Easting: _____
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Surface Conditions: Asphalt
Weather: Overcast, Rainy
Temperature: 44 Deg

Blow Counts (140-lb)	Ft. Driven/ Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	
		Concrete / Collar		0	0-5': Hand Augered. Brown to dark brown m-c sand. Some c gravel and shell fragments; moist. Water seeps into bore hole.
		Bentonite Chips & Sand		1	
				2	
				3	
				4	
				5	5-10': Brownish gray m-c sand. Some c gravel and little c shell fragments; saturated.
				6	
				7	
		Grout		8	
				9	
				10	10-15': Orangish-brown m-c sand and some m-c gravel; saturated.
				11	
				12	
				13	
				14	
		Hydrated Bentonite Chips		15	15-20': Orangish-brown f-m sand; saturated.
				16	
				17	
				18	
				19	
				20	20-25': Orangish-brown f-m sand. The bottom 6" of sample contains f-m sand and c gravel. The whole sample is saturated.
				21	
		Filpro #1 Sand		22	
		Screen		23	
				24	
				25	25-30': Orangish-brown f-m sand; saturated.
		PVC		26	
				27	
		Slot 10		28	
				29	

Monitoring Well Construction Information

Monitoring Well Diameter:	2	in		
Bottom of Monitoring Well:	30.2	ft bgs		
Stick Up or Flush Mount:	Flush Mount			
Screen Interval:	20.2	To	30.2	ft bgs
Riser Interval:	0	To	20.2	ft bgs
Sand Pack Interval:	2/17	To	1.5/31	ft bgs
Bentonite Seal:	1.5/14.8	To	1/17	ft bgs
Grout Interval:	2	To	14.8	ft bgs

Soil Vapor Point Installation Information

Depth of Soil Vapor Point:	ft
Bottom of Tubing:	ft
Top of Sand Pack:	ft
Top of Bentonite Seal:	ft

Logged by: M. Russo Date: 4/4/14
Drilling Contractor: Clearwater Drilling Services, Inc. Driller: Dennis/Bruce

EA Engineering, P.C.
EA Science and Technology

LOG OF SOIL BORING

Coordinates:
Surface Elevation:
Casing Below Surface:
Reference Elevation:
Reference Description:

Job. No.	**Client:**	NYSDEC	**Location:**
1490709	**Project:**	Freeport Metal Etching Site	Metal Etching Site, Freeport, NY

Drilling Method:	**Soil Boring Number:**
Hollow Stem Auger	MW-11D
Sampling Method:	**Sheet 2 of 2**
NA	Drilling

					Start	**Finish**
Water Level:	3.65'				DATE: 4/4/14	DATE: 4/4/14
Time:	1330				TIME: 0840	TIME: 1330
Date:	4-Apr-14					

Surface Conditions: Asphalt
Weather: Overcast, Rainy
Temperature: 44 Deg

Blow Counts (140-lb)	Feet Driven/Ft. Recvrd	Boring Diagram	PID (ppm)	Depth in Feet	USCS Log	
		Sand		30		
				31		
				32		Terminal depth: 31'
				33		Well set @ 30.2'
				34		
				35		
				36		
				37		
				38		
				39		
				40		
				41		
				42		
				43		
				44		
				45		
				46		
				47		
				48		
				49		
				50		
				51		
				52		
				53		
				54		
				55		
				56		
				57		
				58		
				59		
				60		
				61		
				62		

Logged by: M. Russo Date: 4/4/14

Drilling Contractor: Clearwater Drilling Services, Inc. Driller: Dennis/Bruce

APPENDIX D

FIELD FORMS

SITE-WIDE INSPECTION **Day: _____ Date: _____**

NYSDEC		Temperature: (F)		(am)		(pm)
		Wind Direction:		(am)		(pm)
METAL ETCHING SITE **NYSDEC Site # 130110**		Weather:	(am) (pm)			
Contract #		Arrive at site		(am)		
Freeport, New York		Leave site:		(pm)		

Site Security

Evidence of vandalism (wells, protective cover damage):

Evidence of cover system intrusion (ruts, burrows, excavations):

Evidence of penetrations (poles, posts, stakes):

General site condition (gates, access, storm drains):

Additional Comments:

Asphalt Cover

Evidence of settlement, rutting, potholes:

Evidence of cracking, distortion, or disintegration:

Additional Comments:

Drainage System

Evidence of damage to storm drains:

Evidence of stockpiles on porous pavement areas:

Evidence of ponding on porous pavement areas:

Evidence of spilled liquids (well tampering/vent blowout):

Additional Comments:

Sub-Slab Depressurization Systems

Are there any new cracks in the slab that have not been sealed? If so, describe:

Are there any new cracks in structure walls? If so, describe:

SITE-WIDE INSPECTION **Day: _____Date: _____**

Does system PVC pipe appear to be compromised in any way? If so, describe:
Does manometer read within range marked?
Is fan making any abnormal noises?
Is contact information on SSDS up to date?
Has the building use changed since the last inspection?
Has building heating, ventilation and air conditioning changed since the last inspection?

Inspection Photolog

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	**Personnel:**	**Client:** NYSDEC
Location: Metal Etching Co., Inc. Site	**Well Condition:**	**Weather:**
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**

Purge Date:	**Purge Time:**
Purge Method:	**Field Technician:**

Well Volume		
A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (Gal)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO mg/L)	Turbidity (ntu)

Total Quantity of Water Removed (gal): _____ **Sampling Time:** _____
Samplers: _____ **Split Sample With:** _____
Sampling Date: _____ **Sample Type:** _____

COMMENTS AND OBSERVATIONS: _____

NEW YORK STATE DEPARTMENT OF HEALTH INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name _____ Date/Time Prepared _____

Preparer's Affiliation _____ Phone No._____

Purpose of Investigation _____

1. OCCUPANT: Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant ___)

Interviewed: Y / N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS Type of

Building: (Circle appropriate response)

Residential	School	Commercial/Multi-use
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other:_____

If multiple units, how many?
_____ If the property is commercial, type?

Business Type(s) _____

Does it include residences (i.e., multi-use)? Y / N If yes, how many? _____

Other characteristics:

Number of floors_____ Building age_____

Is the building insulated? Y / N How air tight? Tight / Average / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors
Airflow near source
Outdoor air infiltration
Infiltration into air ducts

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	concrete	stone	brick
b. Basement type:	full	crawlspace	slab	other _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with _____	
e. Concrete floor:	unsealed	sealed	sealed with _____	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with _____	
h. The basement is:	wet	damp	dry	moldy
i. The basement is:	finished	unfinished	partially finished	
j. Sump present?	Y / N			
k. Water in sump?	Y / N / not applicable			

Basement/Lowest level depth below grade: _____(feet)
Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

6. HEATING, VENTING and AIR CONDITIONING

Type of heating system(s) used in this building: (circle all that apply –note primary)

Hot air circulation - Heat pump - Hot water baseboard - Space Heaters - Stream radiation - Radiant floor - Electric baseboard - Wood stove - Outdoor wood boiler - Other _____

The primary type of fuel used is:
Natural Gas - Fuel Oil - Kerosene - Electric - Propane - Solar - Wood - Coal

Domestic hot water tank fueled by: _____
Boiler/furnace located in: Basement - Outdoors - Main Floor - Other_____
Air conditioning: Central Air - Window units - Open Windows - None
Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time - Occasionally - Seldom - Almost Never

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement _____
1st Floor _____
2nd Floor _____
3rd Floor _____
4th Floor _____

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?	Y / N	
b. Does the garage have a separate heating unit?	Y / N / NA	
c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)	Y / N / NA	Please specify_____
d. Has the building ever had a fire?	Y / N	When?_____
e. Is a kerosene or unvented gas space heater present?	Y / N	Where? _____
f. Is there a workshop or hobby/craft area?	Y / N	Where & Type? _____
g. Is there smoking in the building?	Y / N	How frequently? _____
h. Have cleaning products been used recently?	Y / N	When & Type? _____
i. Have cosmetic products been used recently?	Y / N	When & Type? _____
j. Has painting/staining been done in the last 6 months?	Y / N	When & Type? _____
k. Is there new carpet, drapes or other textiles?	Y / N	Where & When? _____
l. Have air fresheners been used recently?	Y / N	When & Type? _____
m. Is there a kitchen exhaust fan?	Y / N	If yes, where vented? _____
n. Is there a bathroom exhaust fan?	Y / N	If yes, where vented? _____
o. Is there a clothes dryer?	Y / N	If yes, is it vented outside? Y / N
p. Has there been a pesticide application?	Y / N	When &Type? _____

Are there odors in the building? Y / N
If yes, please describe:
_____

Do any of the building occupants use solvents at work? Y / N

(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

If yes, what types of solvents are used? _____
If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation:
Is the system active or passive? Active/Passive

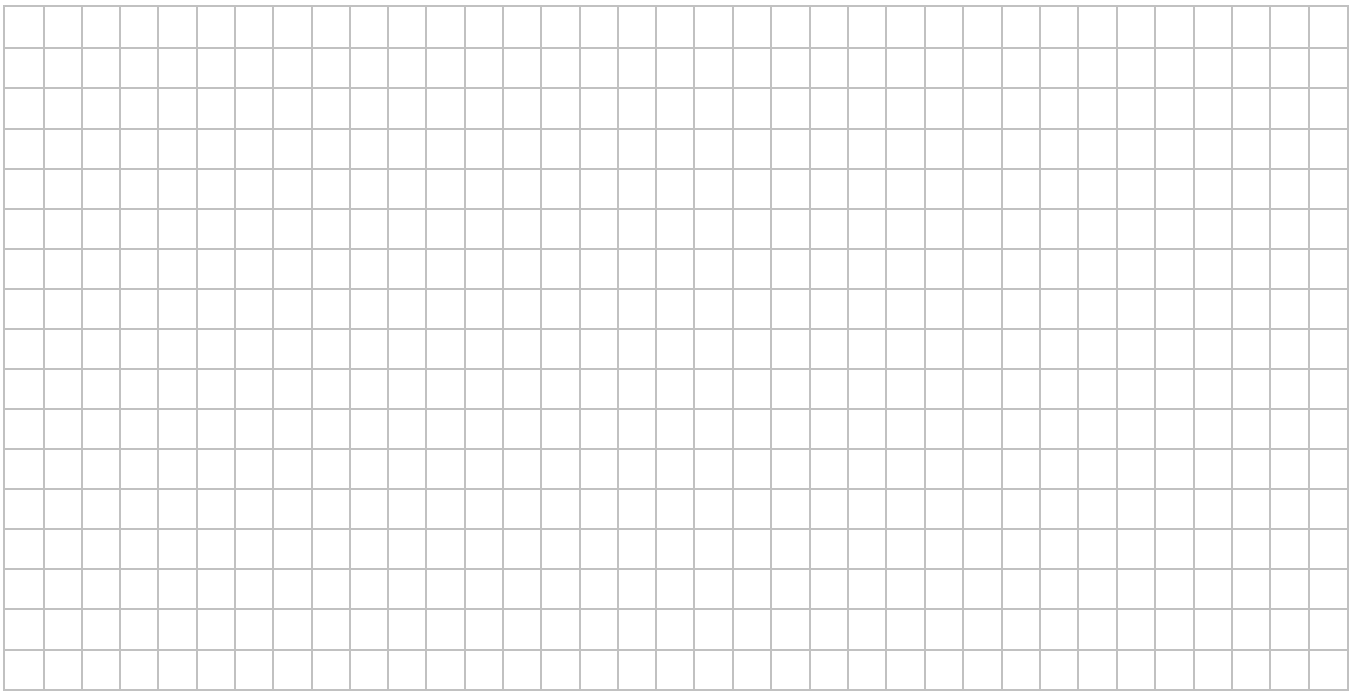
9. WATER AND SEWAGE
Water Supply: Public Water Drilled Well Driven Well Dug Well Other: _____
Sewage Disposal: Public Sewer Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)
a. Provide reasons why relocation is recommended: _____
b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel
c. Responsibility for costs associated with reimbursement explained? Y / N
d. Relocation package provided and explained to residents? Y / N

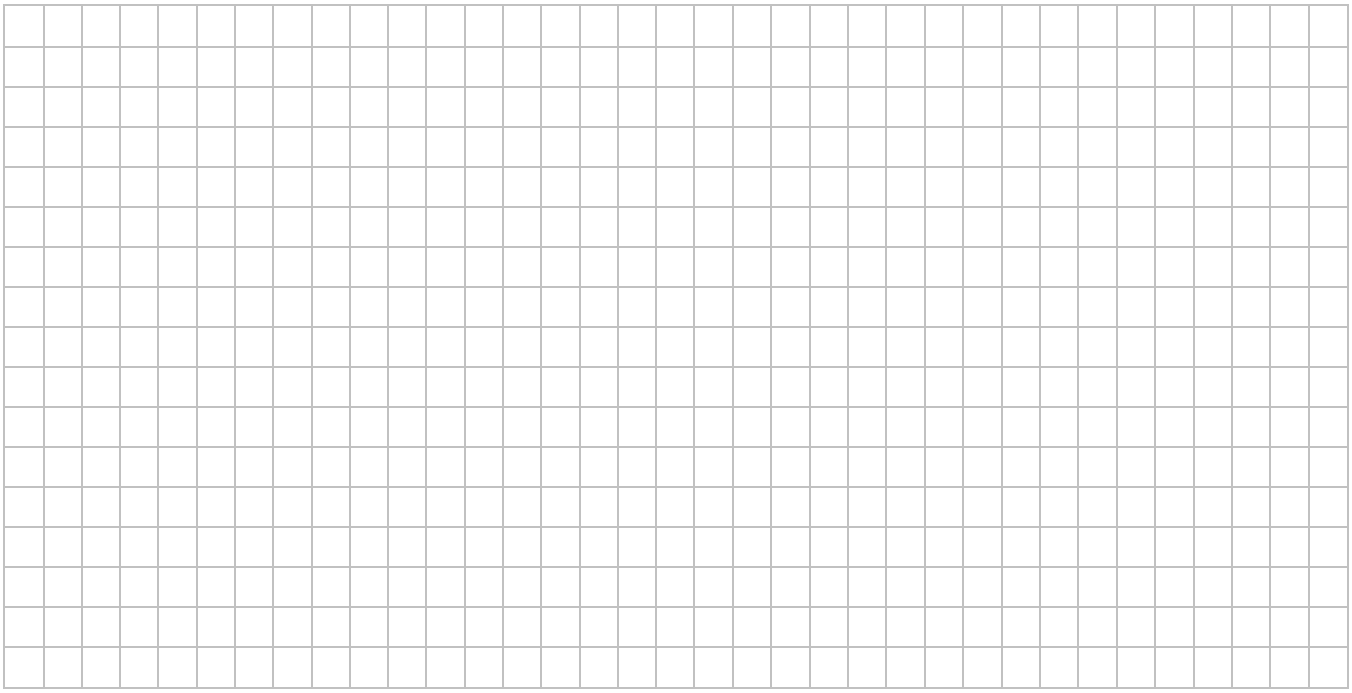
11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

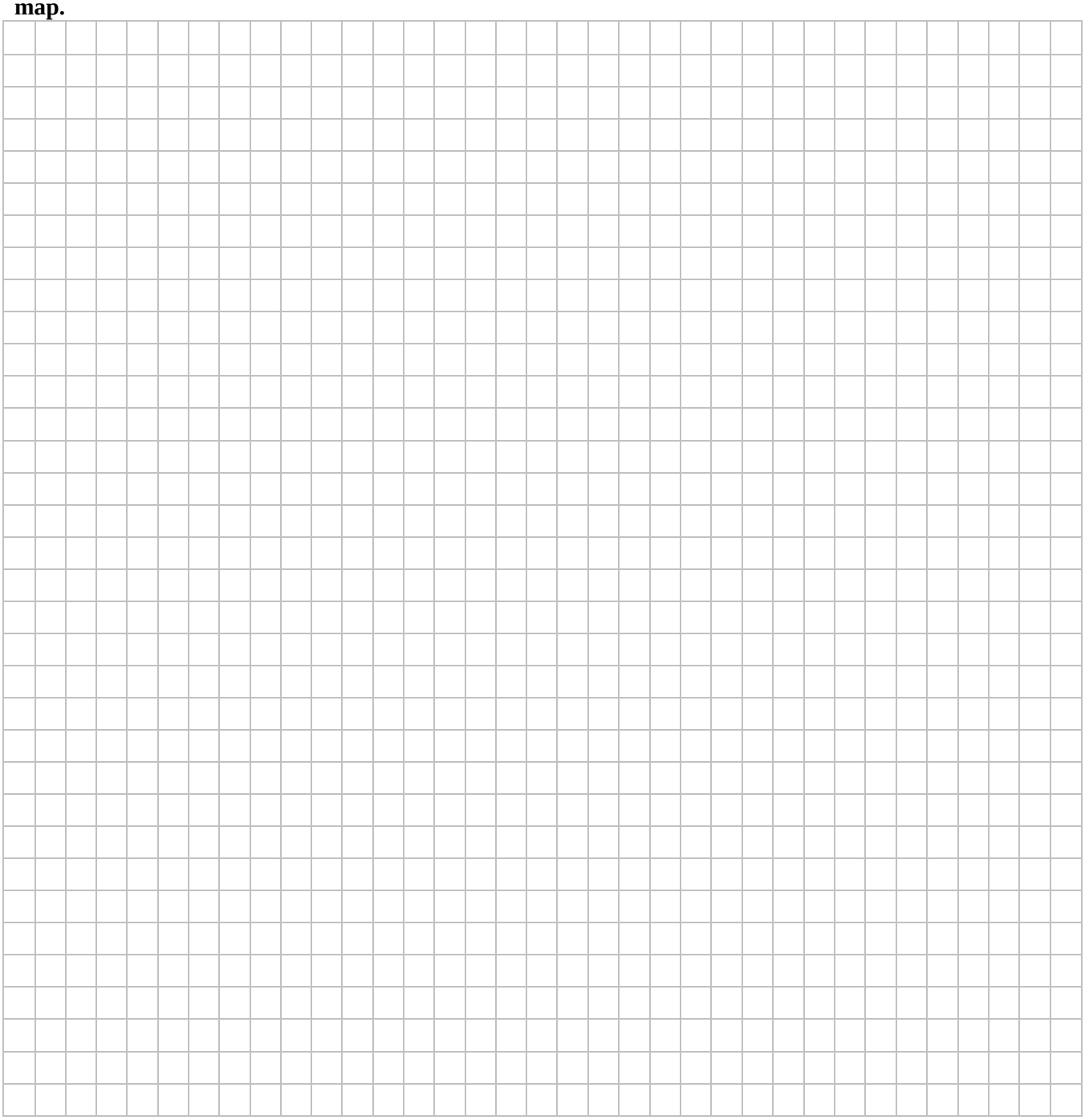


First Floor:



12. OUTDOOR PLOT

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.
Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: _____

List specific products found in the residences that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo ** Y / N

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

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

FIELD AIR SAMPLING FORM

Consultant	Project #:
	Project Name:
Address	Location:
Location	Project Manager:

Sample Location Information:

Site ID Number:				Sampler(s):	
PID Meter Used: (Model, Serial #)				Building I.D. No.:	

SUMMA Canister Record:

INDOOR AIR - FIRST FLOOR		INDOOR AIR - BASEMENT		SUBSLAB SOIL GAS		OUTDOOR AIR	
Flow Regulator No.:		Flow Regulator No.:		Flow Regulator No.:		Flow Regulator No.:	
Canister Serial No.:		Canister Serial No.:		Canister Serial No.:		Canister Serial No.:	
Start Date/Time:		Start Date/Time:		Start Date/Time:		Start Date/Time:	
Start Pressure: (inches Hg)		Start Pressure: (inches Hg)		Start Pressure: (inches Hg)		Start Pressure: (inches Hg)	
Stop Date/Time:		Stop Date/Time:		Stop Date/Time:		Stop Date/Time:	
Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)		Stop Pressure: (inches Hg)	
Sample ID:		Sample ID:		Sample ID:		Sample ID:	

Other Sampling Information:

Story/Level		Story/Level		Basement or Crawl Space?		Direction from Building	
Room		Room		Floor Slab Thickness (inches) *[if present]*		Distance from Building	
Indoor Air Temp (^{o}F)		Indoor Air Temp		Potential Vapor Entry Points Observed?		Intake Height Above Ground Level (ft.)	
Barometric Pressure?		Barometric Pressure?		Ground Surface Condition (Crawl Space Only)		Intake Tubing Used?	
Intake Height Above Floor Level (ft.)		Intake Height Above Floor Level (ft.)		If slab, intake Depth If Crawl Space, intake height		Distance to nearest Roadway	
Noticeable Odor?		Noticeable Odor?		Noticeable Odor?		Noticeable Odor?	
PID Reading (ppb)		PID Reading (ppb)		PID Reading (ppb)		PID Reading (ppb)	
Duplicate Sample?		Duplicate Sample?		Duplicate Sample?		Duplicate Sample?	

Comments:

Sampler Signature:

APPENDIX E

QUALITY ASSURANCE PROJECT PLAN

1. PURPOSE AND OBJECTIVES

1.1 PURPOSE

This Quality Assurance Project Plan (QAPP) is for the site management work done for the Metal Etching site in the city of Freeport, Nassau County, New York (New York State Department of Environmental Conservation [NYSDEC] Site No. 130110). This QAPP contains site-specific procedures for the collection, analysis, and evaluation of data that will be legally and scientifically defensible.

1.2 QUALITY ASSURANCE PROJECT PLAN OBJECTIVES

This QAPP provides site-specific information and standard operating procedures applicable to all work performed at the site that. The information includes definitions and goals for data quality and required types and quantities of quality assurance (QA)/quality control (QC) samples. The procedures address sampling protocols; field documentation; sample handling, custody, and shipping; instrument calibration and maintenance; auditing; data reduction, validation, and reporting; corrective action requirements; and QA reporting. The Site Management Plan contains a site description and information on site field activities; such as, sample locations, sampling procedures, analytical methods, and reporting limits.

2. PROJECT ORGANIZATION AND RESPONSIBILITIES

While all personnel involved in an investigation and the generation of data are implicitly a part of the overall project management and QA/QC program, certain members of the Project Team have specifically designated responsibilities. Project responsibilities are summarized below.

2.1 CONSULTANT

The consultant responsible for site management will provide field support during groundwater sampling activities and evaluation of analytical data. The roles required in this project include:

- ***Project QA/QC Officer***—The QA/QC Officer provides guidance on technical matters and reviews technical documents relating to the project. They assess the effectiveness of the QA/QC program and recommend modifications when applicable. Additionally, the QA/QC Officer may delegate technical guidance to specially trained individuals under his direction.

- ***Project Manager***—The Project Manager provides overall coordination and preparation of the project activities. This includes coordination with NYSDEC, budget control, subcontractor performance, implementation of the QAPP, and allocation of resources and staffing to implement both the QA/QC program and the site Health and Safety Plan.

- ***Site Manager***—The Site Manager will serve as the on-site contact person for field activities and tests. They will be responsible for coordinating the field activities, including inspecting and replacing equipment, preparing daily and interim reports, scheduling sampling and inspections, and coordinating shipment and receipt of samples and containers.

2.2 LABORATORY

Laboratory analyses for this project will be performed by an Environmental Laboratory Analytical Program (ELAP) certified laboratory. The laboratory will have its own provisions for conducting an internal QA/QC review of the data before they are released. The laboratories' contract supervisors will contact the consultant's Project Manager with any sample discrepancies or data concerns.

Electronic data deliverable formatted QA/QC reports will be filed by the analytical laboratories when data are submitted to the consultant. Corrective actions will be reported to the consultant's Project Manager along with the QA/QC report. The laboratories may be contacted directly by the consultant or NYSDEC personnel to discuss QA concerns. The consultant will act as laboratory coordinator on this project and all correspondence from the laboratories will be coordinated with the consultant's Project Manager.

3. SAMPLING RATIONALE, DESIGNATION, AND CONTAINERS

3.1 SAMPLING RATIONALE

The sampling rationale is presented for groundwater monitoring in the Site Management Plan. Laboratory quality control samples including field duplicates, matrix spike, and matrix spike duplicates are to be collected at a frequency of 1 per 20 samples. Field duplicates are two samples of the same matrix, which are collected, to the extent possible, from the same location at the same time using the same techniques. Field duplicates provide information on the precision of the sampling and analysis process. Matrix spike and matrix spike duplicates are two additional samples of the same matrix fortified with the analyte(s) of interest and analyzed to monitor measurement bias associated with the sample matrix.

The remedial investigation laboratory program includes the number of samples for each sample location, as well as QA/QC samples (Table 1).

3.2 SAMPLE DESIGNATION

Field samples collected from the site will be assigned a unique sample tracking number. Sample/designation will be an alpha-numeric code, which will identify each sample by the site identification, matrix sampled, location number, and date of collection.

The following terminology will be used for the sample identification:

- **Groundwater Samples**

  — NYSDEC SITE ID-MW-XX

3.3 SAMPLE CONTAINERS

Types of sample containers and preservatives required for sample collection will be determined by the analyzing laboratory. Sample containers will be properly washed, decontaminated, and the appropriate preservative will be added by the analytical laboratory. Containers with preservative will be labeled accordingly.

3.4 SAMPLE HOLDING TIMES

Sample holding times will be in accordance with the NYSDEC Analytical Services Protocol (ASP) requirements. All samples shall be transferred to the analytical laboratory with enough time for the lab to process the samples before the holding time is expired.

3.5 SAMPLE TRACKING AND CUSTODY

The laboratory must satisfy the sample chain-of-custody requirements by implementing the following Standard Operating Procedures for laboratory/sample security:

- Samples are stored in a secure area
- Access to the laboratory is through a monitored area
- Visitors sign a visitor's log and are escorted while in the laboratory
- Only the designated sample custodians have keys to sample storage area(s)
- Transfers of samples in and out of storage are documented.

4. ANALYTICAL LABORATORY

The data collected during this investigation will be used to determine the presence and concentration of volatile organic compounds (VOCs) and metals in groundwater.

Groundwater samples collected during execution of the QAPP will be submitted to the approved analytical laboratory. The laboratory must be a New York State Department of Health ELAP-certified laboratory, meeting specifications for documentation, data reduction, and reporting. Preliminary analytical results will be provide within 14 days of sample receipt and full NYSDEC Analytical Services Protocol Category B deliverables and associated electronic data deliverables (EDDs) in Equis format will be provided to the consultant within 30 days of sample receipt.

4.1 CALIBRATION PROCEDURES AND FREQUENCY

Instruments and equipment used in this investigation are controlled by a formal calibration program, which verifies that equipment is of the proper type, range, accuracy, and precision to provide data compatible with specified requirements. Instruments and equipment that measure a quantity, or whose performance is expected at a stated level, are subject to calibration. Calibration is performed using reference standards or externally by calibration agencies or equipment manufacturers.

4.1.1 Calibration System

The following sections contain a discussion of the elements comprising the calibration system.

4.1.1.1 Calibration Procedures

Written procedures are used for all instruments and equipment subject to calibration. Whenever possible, recognized procedures, such as those published by the American Society of Testing and Materials or United States Environmental Protection Agency (USEPA), or procedures provided by manufacturers, are adopted. If established procedures are not available, a procedure is developed considering the type of equipment, stability characteristics of the equipment, required accuracy, and the effect of operational error on the quantities measured.

4.1.1.2 Calibration Frequency

Calibration frequency is based on the type of equipment, inherent stability, manufacturer's recommendations, values provided in recognized standards, intended data use, specified analytical methods, effect of error upon the measurement process, and prior experience.

4.1.1.3 Calibration Reference Standards

Two types of reference standards will be used by the standby laboratories for calibration:

- ***Physical standards***, such as weights for calibrating balances and certified thermometers for calibrating working thermometers, refrigerators and ovens, are generally used for periodic calibration.

- ***Chemical standards***, such as Standard Reference Materials provided by the National Institute of Standards and Technology or USEPA. These may include vendor-certified materials traceable to National Institute of Standards and Technology or USEPA Standard Reference Materials. These are primarily used for operational calibration.

4.1.1.4 Calibration Failure

Equipment that cannot be calibrated or becomes inoperable is removed from service. Such equipment must be repaired and satisfactorily recalibrated before re-use. For laboratory equipment that fails calibration, analysis cannot proceed until appropriate corrective action is taken and the analyst achieves an acceptable calibration.

Laboratory managers are responsible for development and implementation of a contingency plan for major equipment failure. The plan includes guidelines on waiting for repairs, use of other instrumentation, subcontracting analyses, and evaluating scheduled priorities.

4.1.1.5 Calibration Records

Records are prepared and maintained for each piece of equipment subject to calibration. Records demonstrating accuracy of preparation, stability, and proof of continuity of reference standards are also maintained. Copies of the raw calibration data are kept with the analytical sample data.

4.1.2 Operational Calibration

Operational calibration is generally performed as part of the analytical procedure and refers to those operations in which instrument response (in its broadest interpretation) is related to analyte concentration. Included is the preparation of a standard response (calibration) curve and often the analysis of blanks.

4.1.2.1 Preparation of Calibration Curve

Preparation of a standard calibration curve is accomplished by the analysis of calibration standards, which are prepared by adding the analyte(s) of interest to the solvent that is introduced into the instrument. The concentrations of the calibration standards are chosen to cover the working range of the instrument or method. Sample measurements are made within this working range. The calibration curve is prepared by plotting or regressing the instrument responses versus the analyte concentrations. Concentrations of the analyzed samples are back-calculated from the calibration curve.

4.1.2.2 Blanks

Reagent and/or solvent blanks are analyzed to assess if the materials used to prepare the standards are free from interfering substances that could affect the analysis. A method blank is prepared whenever samples are processed through steps that are not applied to the calibration standards.

4.1.3 Periodic Calibration

Periodic calibrations are performed for equipment (e.g., balances, thermometers) that is required in the analytical method, but that is not routinely calibrated as part of the analytical procedure.

4.2 FIELD EQUIPMENT CALIBRATION

The procedures and frequencies for the calibration of field equipment are provided below in the table below.

FIELD INSTRUMENTATION CALIBRATION FREQUENCY

Instrument	Frequency of Calibration Check	Calibration Standard
pH Meter	Prior to use – daily	Commercially prepared pH buffer solutions (4.01, 7.00, 10.00)
Conductivity Meter	Prior to use – daily	Commercially prepared saline solution (12.9 mS/cm)
Water Level Meter	Prior to initiating field work	100-ft engineer's tape
Dissolved Oxygen Meter	Per sampling event	Saturation
Photoionization Detector	Prior to use – daily	100 ppm isobutylene
Turbidity	Prior to use – daily	10 NTU, 200 NTU

NOTE: NTU = Nephelometric turbidity units.

5. ANALYTICAL TEST PARAMETERS

This QAPP will require the analysis of aqueous samples using USEPA Method 8260B for VOCs, and USEPA Method 6010/7470 for metals. Compound lists for each analytical method are included in Table 2.

6. ANALYTICAL DATA VALIDATION

The laboratory will review data prior to its release from the laboratory. Objectives for review are in accordance with the QA/QC objectives stated in the NYSDEC Division of Environmental Remediation-10 (DER-10). The laboratories are required to evaluate their ability to meet these objectives. Outlying data will be flagged in accordance with laboratory standard operating procedures and corrective action will be taken to rectify the problem.

In order to ensure the validity of analytical data generated by a project, it will be validated by an entity independent from the analysts and the project. The resumes of the personnel providing the data validation services shall be submitted for approval under a separate cover.

TABLE 1 SITE CHARACTERIZATION ANALYTICAL PROGRAM

	Sample Matrix	VOCs (USEPA 8260B) and Metals (USEPA 6010/7470)
No. of Samples	Aqueous	10
Field Duplicate		1
MS/MSD		2
Total No. of Analyses		13

NOTE: USEPA = U.S. Environmental Protection Agency.
MS/MSD= Matrix spike/matrix spike duplicate.
Laboratory quality control samples will be collected at a rate of 1 per 20 samples, per matrix.

TABLE 2 ANALYTE LIST AND ANALYTICAL REPORTING LIMITS

USEPA METHOD 8260B (VOCs)	
Analyte	Reporting Limit µg/L
1,1,1,2-Tetrachloroethane	0.07
1,1,1-Trichloroethane	0.04
1,1,2,2-Tetrachloroethane	0.20
1,1,2-Trichloroethane	0.08
1,1-Dichloroethane	0.03
1,1-Dichloroethene	0.03
1,1-Dichloropropene	0.12
1,2,3-Trichloropropane	0.09
1,2-Dibromo-3-chloropropane	0.50
1,2-Dibromoethane	0.10
1,2-Dichlorobenzene	0.05
1,2-Dichloroethane	0.02
1,2-Dichloropropane	0.02
1,3-Dichlorobenzene	0.05
1,3-Dichloropropane	0.08
1,4-Dichlorobenzene	0.04
2,2-Dichloropropane	0.08
2-Butanone	0.70
2-Chlorotoulene	0.08
2-Hexanone	0.40
4-Chlorotoulene	0.06
4-Methyl-2-pentanone	1.2
Acetone	10
Benzene	0.03
Bromobenzene	0.11
Bromochloromethene	0.09
Bromodichloromethane	0.03
Bromoform	0.20
Bromomethane	0.03
Carbon disulfide	0.04
Carbon tetrachloride	0.02
Chlorobenzene	0.03
Chloroethane	0.09
Chloroform	0.04
Chloromethane	0.05
cis-1,2-dichloroethene	0.06
cis-1,3-dichloropropene	0.04
Dibromochloromethane	0.07
Dibromomethane	0.01
Dichlorodifluoromethane	0.11
Ethylbenzene	0.03
Isopropylbenzene	0.10
Methlyene chloride	0.08
n-Propylbenzene	0.10
Styrene	0.27
Tetrachloroethene	0.05
Toluene	0.08
trans-1,2-dichloroethene	0.04
trans-1,3-dichloropropene	0.04
Trichloroethene	0.02
Vinyl chloride	0.04
Xylene (Total)	1.0

USEPA METHOD 6010/7470 (METALS)	
Analyte	Reporting Limit µg/L
Aluminum	0.0061
Antimony	0.0021
Arsenic	0.0025
Barium	0.00014
Beryllium	0.000053
Cadmium	0.00017
Calcium	0.017
Chromium	0.00055
Cobalt	0.00069
Copper	0.0013
Iron	0.0028
Lead	0.00088
Magnesium	0.0061
Manganese	0.00021
Mercury (Method 7470)	0.000012
Nickel	0.0012
Potassium	0.055
Selenium	0.0017
Silver	0.0008
Sodium	0.0054
Thallium	0.0026
Vanadium	0.0013
Zinc	0.0021

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APPENDIX F

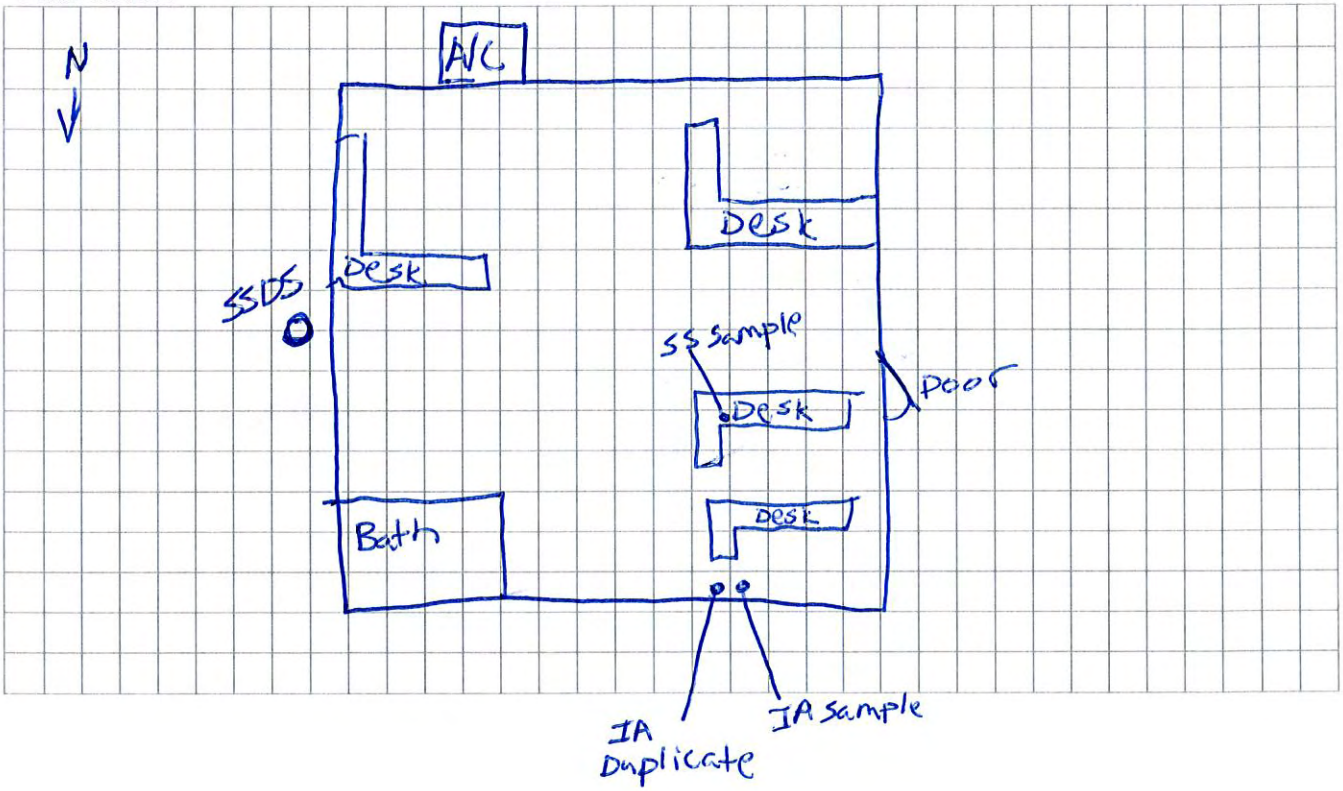
HISTORICAL SOIL VAPOR INTRUSION AIR MONITORING FORMS

11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:

First Floor:



Appendix B

Site Wide Inspection Forms

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SITE-WIDE INSPECTION **Day: _Tuesday_ Date: _3.6.18_**

NYSDEC		Temperature: (F)	45	(am)	40	(pm)
		Wind Direction:		(am)		(pm)
METAL ETCHING SITE		Weather:	(am) overcast / mist & fog			
NYSDEC Site # 130110			(pm) overcast			
Contract # D-007624.09		Arrive at site	0900	(am)		
Freeport, New York		Leave site:	1430	(pm)		

Site Security

Evidence of vandalism (wells, protective cover damage):

No, wells are in good condition.

Evidence of cover system intrusion (ruts, burrows, excavations):

Slight depressions in cover.

Evidence of penetrations (poles, posts, stakes):

No

General site condition (gates, access, storm drains):

The gate is operational. The concrete around the entrance storm drains is severely broken. There is stormwater ponding and becomes backed up.

Additional Comments:

Should repair the site entry way storm drain.

Asphalt Cover

Evidence of settlement, rutting, potholes:

Yes, mild rutting in high traffic areas around maintenance building.

Evidence of cracking, distortion, or disintegration:

Some breakdown on pad in front of the painting tent and to the left of the office, toward the boat racks.

Additional Comments:

Drainage System

Evidence of damage to storm drains:

Yes, the entry way storm drain is damaged due to heavy loads.

Evidence of stockpiles on porous pavement areas:

No.

Evidence of ponding on porous pavement areas:

Yes.

Evidence of spilled liquids:

No.

Additional Comments:

Sub-Slab Depressurization Systems

Are there any new cracks in the slab that have not been sealed? If so, describe:

No.

Are there any new cracks in structure walls? If so, describe:

No.

Does system PVC pipe appear to be compromised in any way? If so,

describe: Near the top exhaust pipe, some cracking at the elbow.

SITE-WIDE INSPECTION **Day: _Tuesday_ Date: _3.6.18_**

Does manometer read within range marked?

No color left in manometer liquid.

Is fan making any abnormal noises?

No.

Is contact information on SSDS up to date?

Yes.

Has the building use changed since the last inspection?

No.

Has building heating, ventilation and air conditioning changed since the last inspection?

No.

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Appendix C

Monitoring Well Purge Logs

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NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	Personnel:	Client:
MW-4	SS/MM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Metal Etching Co., Inc. Site	Stripped Bolts	Sunny, S 5 mph, 45F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny Dipper T	03/08/18	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Flush	1327	2"

Purge Date:	Purge Time:
03/06/2018 **/** 03/07/2018	1135 / 1040
Purge Method:	**Field Technician:**
Peristaltic Pump	MM/SS

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
12.99	0.16	-0.2"
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
3.31	1.55	Peristaltic
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
9.68	4.65	11'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1140	~3'	---	0.3	7.80	-74	6.58	0.000	4.12	161
1143	~3'	0.9	0.3	7.43	-60	10.90	0.260	0.00	321
1146	~3'	1.8	0.3	7.43	-63	11.51	0.255	0.00	140
1149	~3'	2.7	0.3	7.53	-60	12.22	0.248	0.00	26.0
1152	~3'	3.6	0.3	7.52	-59	12.51	0.248	0.00	19.9
1155	~3'	4.5	0.3	7.52	-52	12.27	0.248	0.00	9.9
1158	~3'	5.4	0.3	7.51	-50	12.23	0.248	0.00	10.2
1201	~3'	6.3	0.3	7.51	-48	12.09	0.252	0.00	11.5
1204	~3'	7.2	0.3	7.51	-47	12.08	0.252	0.00	8.7
1207	~3'	8.1	0.3	7.51	-45	12.04	0.252	0.00	7.4
1210	~3'	9.0	0.3	7.50	-45	12.07	0.252	0.00	7.4
1043	~3'	---	0.3	7.58	-141	10.34	0.302	2.09	11.2
1046	~3'	0.9	0.3	7.39	-83	10.99	0.288	1.72	1.4
1049	~3'	1.8	0.3	7.46	-80	11.03	0.288	1.36	1.2
1052	~3'	2.7	0.3	7.4	-53	11.01	0.284	1.3	0.0
1055	~3'	3.6	0.3	7.41	-53	11.05	0.283	1.28	0.0
1058	~3'	4.5	0.3	7.42	-51	11.01	0.282	1.26	0.0

Total Quantity of Water Removed (L):	9.0 / 4.5	**Sampling Time:**	1210 / 1100
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/06/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Water level not functioning

Repurge on 3/7 to collect TOC/Chloride/Nitrate/Sulfate

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-5R	**Personnel:** SS/MM	**Client:** NYSDEC
Location: Metal Etching Co., Inc. Site	**Well Condition:** Missing Bolts	**Weather:** Sunny, S 5 mph, 45F
Sounding Method: Heron Skinny Dipper T	**Gauge Date:** 03/08/18	**Measurement Ref:** TOC
Stick Up/Down (ft): Flush	**Gauge Time:** 1337	**Well Diameter (in):** 2"

Purge Date: 03/06/2018 **/** 03/07/2018	**Purge Time:** 1030 / 1010
Purge Method: Peristaltic Pump	**Field Technician:** MM/SS

Well Volume

A. Well Depth (ft): 13.28	**D. Well Volume (ft):** 0.16	**Depth/Height of Top of PVC:** -0.2"
B. Depth to Water (ft): 0.42	**E. Well Volume (gal) C*D):** 2.06	**Pump Type:** Peristaltic
C. Liquid Depth (ft) (A-B): 12.86	**F. Three Well Volumes (gal) (E3):** 6.17	**Pump Designation:** 12'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1035	0.50	---	0.3	7.14	-225	7.91	1.60	8.16	19.6
1038	0.50	0.9	0.3	6.94	-166	8.06	1.70	0.15	8.6
1041	0.50	1.8	0.3	6.93	-163	8.11	1.70	0.01	7.5
1044	0.50	2.7	0.3	6.98	-160	8.07	1.72	0.00	6.2
1047	0.50	3.6	0.3	6.96	-158	8.08	1.73	0.00	4.9
1050	0.50	4.5	0.3	6.93	-159	8.05	1.77	0.00	3.1
1053	0.50	5.4	0.3	6.96	-158	8.00	1.80	0.00	2.8
1056	0.50	6.3	0.3	6.96	-158	8.03	1.81	0.00	2.6
1059	0.50	7.2	0.3	6.96	-158	8.01	1.81	0.00	2.4
1010	0.50	---	0.3	7.15	-151	6.35	1.60	6.79	3.1
1013	0.50	0.9	0.3	7.03	-157	6.67	1.61	4.87	3.4
1016	0.50	1.8	0.3	6.99	-164	6.98	1.61	3.60	2.8
1019	0.50	2.7	0.3	7.02	-173	7.03	1.60	2.76	2.9
1022	0.50	3.6	0.3	6.99	-175	7.02	1.60	2.12	1.8
1025	0.50	4.5	0.3	7.00	-180	7.05	1.61	1.91	1.9
1028	0.50	5.4	0.3	7.06	-181	7.03	1.61	1.78	1.7

Total Quantity of Water Removed (L):	7.2 / 5.4	**Sampling Time:**	1100 / 1030
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/06/2018	**Sample Type:**	Grab

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	Personnel:	Client:
MW-06	SS/MM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Metal Etching Co., Inc. Site	Good / No bolts	Clear, 45F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny Dipper T	03/08/18	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Flush	1340	2"

Purge Date:	Purge Time:
03/06/2018 **/** 03/07/2018	1038 / 1004
Purge Method:	**Field Technician:**
Peristaltic Pump	MM/SS

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
13.51	0.16	-0.2"
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
1.84	1.87	Peristaltic
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
11.67	5.60	12'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1042	2.05	---	0.3	6.98	-105	8.93	2.760	6.81	0.0
1046	2.02	1.2	0.3	6.59	-115	9.92	2.540	5.39	0.0
1050	2.02	2.4	0.3	6.53	-125	10.32	2.300	4.00	0.0
1054	2.01	3.6	0.3	6.49	-134	10.49	2.060	2.65	0.0
1058	2.01	4.8	0.3	6.49	-137	10.58	2.020	2.22	0.0
1102	2.01	6.0	0.3	6.50	-140	10.67	2.000	1.81	0.0
1106	2.01	7.2	0.3	6.50	-142	10.69	1.990	1.44	0.0
1110	2.01	8.4	0.3	6.53	-146	10.77	2.000	1.23	0.0
1114	2.01	9.6	0.3	6.55	-149	10.82	2.010	1.04	0.0
1118	2.01	10.8	0.3	6.55	-150	10.87	2.020	0.96	0.0
1122	2.01	12.0	0.3	6.56	-151	10.89	2.030	0.87	0.0
1010	2.00	---	0.3	7.05	-56	9.80	4.400	0.00	18.2
1014		1.2	0.3	7.01	-75	9.80	4.130	0.00	16.9
1018		2.4	0.3	7.16	-88	9.82	3.860	0.00	15.8
1022		3.6	0.3	7.18	-96	9.92	3.580	0.00	14.7
1026		4.8	0.3	7.18	-103	10.06	3.360	0.00	12.5

Total Quantity of Water Removed (L):	12.0 / 4.8	**Sampling Time:**	1125 / 1030
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/06/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Fuel odor

Repurge on 3/7 to collect Dissolved Gases/Chloride/Nitrate/Sulfate

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-08SR	**Personnel:** SS/MM	**Client:** NYSDEC
Location: Metal Etching Co., Inc. Site	**Well Condition:** Good	**Weather:** Sunny, 40F
Sounding Method: Heron Skinny Dipper T	**Gauge Date:** 03/08/18	**Measurement Ref:** TOC
Stick Up/Down (ft): Flush	**Gauge Time:** 1315	**Well Diameter (in):** 2"

Purge Date: 03/08/18	**Purge Time:** 1111
Purge Method: Peristaltic Pump	**Field Technician:** MM/SS

Well Volume

A. Well Depth (ft): 13.21	**D. Well Volume (ft):** 0.16	**Depth/Height of Top of PVC:** -0.2"
B. Depth to Water (ft): 2.43	**E. Well Volume (gal) C*D):** 1.72	**Pump Type:** Peristaltic
C. Liquid Depth (ft) (A-B): 10.78	**F. Three Well Volumes (gal) (E3):** 5.17	**Pump Designation:** 12'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1115	2.54	---	0.3	7.84	88	10.65	0.580	1.26	10.3
1119	2.54	1.2	0.3	7.90	83	10.76	0.570	0.64	3.0
1123	2.54	2.4	0.3	7.91	72	10.93	0.573	0.12	2.3
1127	2.54	3.6	0.3	7.91	67	10.99	0.573	0.01	2.4
1131	2.54	4.8	0.3	7.92	61	11.03	0.575	0.00	2.0
1135	2.54	6.0	0.3	7.93	55	10.88	0.573	0.00	0.9

Total Quantity of Water Removed (L): 6.0
Samplers: MM/SS
Sampling Date: 03/08/2018
Sampling Time: 1140
Split Sample With: N/A
Sample Type: Grab

COMMENTS AND OBSERVATIONS:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	Personnel:	Client:
MW-08DR	SS/MM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Metal Etching Co., Inc. Site	Good	Sunny, 40F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny Dipper T	03/08/18	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Flush	1317	2"

Purge Date:	Purge Time:
03/08/18	1144
Purge Method:	**Field Technician:**
Peristaltic Pump	MM/SS

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
31.10	0.16	-0.2"
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
2.62	4.56	Peristaltic
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
28.48	13.67	30'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1148	2.80	---	0.3	7.09	59	14.90	0.663	0.00	159.0
1152	2.81	1.2	0.3	7.23	45	15.02	0.827	0.57	21.1
1156	2.80	2.4	0.3	6.83	20	15.71	0.888	0.00	14.5
1200	2.79	3.6	0.3	6.79	2	15.75	0.921	0.00	11.9
1204	2.78	4.8	0.3	6.79	-12	15.82	0.926	0.00	8.8
1208	2.76	6.0	0.3	6.79	-29	15.81	0.929	0.00	6.2
1212	2.76	7.2	0.3	6.98	-47	15.85	0.917	2.10	14.7
1216	2.76	8.4	0.3	6.84	-46	16.01	0.902	0.00	4.7

Total Quantity of Water Removed (L):	8.4	**Sampling Time:**	1220
Samplers:	MM/SS	**Split Sample With:**	MS/MSD
Sampling Date:	03/08/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Rusty Water

MS/MSD collected here

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-09S	**Personnel:** SS/MM	**Client:** NYSDEC
Location: Metal Etching Co., Inc. Site	**Well Condition:** Good	**Weather:** Sunny, S 5 mph, 40F
Sounding Method: Heron Skinny Dipper T	**Gauge Date:** 03/08/18	**Measurement Ref:** TOC
Stick Up/Down (ft): Flush	**Gauge Time:** 1330	**Well Diameter (in):** 2"

Purge Date: 03/08/18	**Purge Time:** 1100
Purge Method: Peristaltic Pump	**Field Technician:** MM/SS

Well Volume

A. Well Depth (ft): 14.16	**D. Well Volume (ft):** 0.16	**Depth/Height of Top of PVC:** -0.2"
B. Depth to Water (ft): 1.60	**E. Well Volume (gal) C*D):** 2.01	**Pump Type:** Peristaltic
C. Liquid Depth (ft) (A-B): 12.56	**F. Three Well Volumes (gal) (E3):** 6.03	**Pump Designation:** 12'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1102	1.60	---	0.3	7.22	68	9.00	0.201	14.41	>1000
1105		0.9	0.3	7.45	37	6.44	0.193	7.87	826.0
1108		1.8	0.3	7.42	21	6.61	0.181	7.93	629.0
1111		2.7	0.3	7.41	17	6.61	0.148	8.07	428.0
1114		3.6	0.3	7.39	12	6.70	0.191	5.65	500.0
1117		4.5	0.3	7.43	-1	6.87	0.181	4.97	318.0
1120		5.4	0.3	7.63	-33	7.31	0.139	4.03	77.5
1123		6.3	0.3	7.60	-32	7.39	0.132	3.84	61.7
1126		7.2	0.3	7.64	-39	7.51	0.124	3.46	40.7
1129		8.1	0.3	7.66	-53	7.75	0.121	3.08	31.4
1132		9.0	0.3	7.71	-57	7.74	0.119	2.66	29.4
1135		9.9	0.3	7.70	-61	7.81	0.119	2.64	28.7

Total Quantity of Water Removed (L):	9.9	**Sampling Time:**	1137
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/08/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Water level not functioning

Cloudy run-off from snow melt initially

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-9D	**Personnel:** SS/MM	**Client:** NYSDEC
Location: Metal Etching Co., Inc. Site	**Well Condition:** Good	**Weather:** Sunny, 5 pmh, 40F
Sounding Method: Heron Skinny Dipper T	**Gauge Date:** 03/08/18	**Measurement Ref:** TOC
Stick Up/Down (ft): Flush	**Gauge Time:** 1332	**Well Diameter (in):** 2"

Purge Date: 03/08/18	**Purge Time:** 1145
Purge Method: Peristaltic Pump	**Field Technician:** MM/SS

Well Volume

A. Well Depth (ft): 32.14	**D. Well Volume (ft):** 0.16	**Depth/Height of Top of PVC:** -0.2"
B. Depth to Water (ft): 1.58	**E. Well Volume (gal) C*D):** 4.89	**Pump Type:** Peristaltic
C. Liquid Depth (ft) (A-B): 30.56	**F. Three Well Volumes (gal) (E3):** 14.67	**Pump Designation:** 30'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1146	1.61	---	0.3	7.25	-108	8.28	0.407	3.76	>1000
1149		0.9	0.3	7.35	-49	8.21	0.058	6.23	207.0
1152		1.8	0.3	7.31	-46	8.66	0.057	5.47	157.0
1155		2.7	0.3	7.40	-27	8.81	0.053	5.85	68.8
1158		3.6	0.3	7.41	-22	8.93	0.054	5.80	123.0
1201		4.5	0.3	7.35	-71	9.20	0.096	7.05	40.2
1204		5.4	0.3	7.35	-74	9.13	0.100	7.07	34.1
1207		6.3	0.3	7.34	-87	9.29	0.120	6.68	17.4
1210		7.2	0.3	7.33	-90	9.38	0.125	6.57	15.3
1213		8.1	0.3	7.34	-100	9.26	0.140	6.36	23.9
1216		9.0	0.3	7.32	-110	9.56	0.170	6.09	14.2
1219		9.9	0.3	7.33	-114	9.51	0.173	5.87	12.5
1222		10.8	0.3	7.33	-115	9.52	0.174	5.93	12.1

Total Quantity of Water Removed (L):	10.8	**Sampling Time:**	1224
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/06/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Water level not functioning

Turbid at first due to run-off from snow melt

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	Personnel:	Client:
MW-10S	SS/MM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Metal Etching Co., Inc. Site	Good	Clear, 45F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny Dipper T	03/08/18	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Flush	1320	2"

Purge Date:	Purge Time:
03/06/2018 **/** 03/07/2018	1202 / 1044
Purge Method:	**Field Technician:**
Peristaltic Pump	MM/SS

Well Volume		
A. Well Depth (ft):	**D. Well Volume (ft):**	**Depth/Height of Top of PVC:**
15.88	0.16	-0.2"
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
2.41	2.16	Peristaltic
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
13.47	6.47	13'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1206	2.47	---	0.3	7.15	-151	11.07	0.878	4.62	0.0
1210	2.47	1.2	0.3	7.24	-160	11.10	0.875	3.71	0.0
1214	2.49	2.4	0.3	7.23	-162	11.14	0.876	3.16	0.0
1218	2.47	3.6	0.3	7.23	-164	11.10	0.875	2.95	0.0
1222	2.50	4.8	0.3	7.23	-167	11.14	0.878	2.53	0.0
1226	2.51	6.0	0.3	7.26	-170	11.21	0.881	2.31	0.0
1230	2.47	7.2	0.3	7.28	-173	11.11	0.881	2.06	0.0
1234	2.47	8.4	0.3	7.28	-173	11.17	0.889	1.93	0.0
1238	2.47	9.6	0.3	7.25	-174	11.16	0.889	1.76	0.0
1048		---	0.3	7.64	-109	10.07	0.831	0.00	5.2
1052		1.2	0.3	7.56	-113	10.23	0.820	0.00	4.8
1056		2.4	0.3	7.53	-117	10.11	0.826	0.00	2.8
1100		3.6	0.3	7.51	-119	10.01	0.827	0.00	3.0
1104		4.8	0.3	7.51	-120	9.99	0.832	0.00	3.5

Total Quantity of Water Removed (L):	9.6 / 4.8	**Sampling Time:**	1240 / 1106
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/06/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Repurge on 3/7 to collect TOC

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	Personnel:	Client:
MW-10M	SS/MM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Metal Etching Co., Inc. Site	Good	Sunny, 40F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny Dipper T	03/08/18	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Flush	1322	2"

Purge Date:	Purge Time:
03/06/2018 **/** 03/07/2018	1302 / 1342
Purge Method:	**Field Technician:**
Peristaltic Pump	MM/SS

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
26.79	0.16	-0.2"
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
2.74	3.85	Peristaltic
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
24.05	11.54	25'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (°C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1306	2.56	---	0.3	6.20	21	12.69	2.020	0.91	9.4
1310	2.58	1.2	0.3	6.24	36	12.86	1.950	0.95	8.7
1314	2.60	2.4	0.3	6.53	24	13.03	1.520	0.91	10.3
1318	2.62	3.6	0.3	6.57	13	13.01	1.400	0.79	7.5
1322	2.64	4.8	0.3	6.57	-1	12.75	1.370	0.76	7.4
1326	2.64	6.0	0.3	6.57	-4	12.62	1.380	0.86	6.5
1330	2.66	7.2	0.3	6.51	-3	12.01	1.400	1.00	5.6
1334	2.68	8.4	0.3	6.45	1	11.59	1.430	0.99	4.5
1338	2.73	9.6	0.3	6.40	0	11.61	1.360	0.78	3.2
1342	2.77	10.8	0.3	6.39	0	11.50	1.370	0.84	3.2
1344		---	0.3	7.01	-30	11.70	0.920	0.00	4.1
1348		1.2	0.3	6.99	-29	11.35	0.968	0.00	3.4
1352		2.4	0.3	6.98	-29	11.32	0.995	0.00	2.4
1356		3.6	0.3	6.99	-29	11.14	0.986	0.00	3.0
1400		4.8	0.3	6.99	-30	10.99	0.993	0.00	3.2
1404		6.0	0.3	6.98	-30	10.91	0.997	0.00	3.5

Total Quantity of Water Removed (L):	10.8 / 6.0	**Sampling Time:**	1350 / 1405
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/06/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Repurge on 3/7 to collect TOC

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.: MW-10D	**Personnel:** SS/MM	**Client:** NYSDEC
Location: Metal Etching Co., Inc. Site	**Well Condition:** Good	**Weather:** Sunny, S 5 mph, 45F
Sounding Method: Heron Skinny Dipper T	**Gauge Date:** 03/08/18	**Measurement Ref:** TOC
Stick Up/Down (ft): Flush	**Gauge Time:** 1324	**Well Diameter (in):** 2"

Purge Date: 03/06/2018 **/** 03/07/2018	**Purge Time:** 1135 / 1040
Purge Method: Peristaltic Pump	**Field Technician:** MM/SS

Well Volume

A. Well Depth (ft): 32.12	**D. Well Volume (ft):** 0.16	**Depth/Height of Top of PVC:** -0.2"
B. Depth to Water (ft): 2.65	**E. Well Volume (gal) C*D):** 4.72	**Pump Type:** Peristaltic
C. Liquid Depth (ft) (A-B): 29.47	**F. Three Well Volumes (gal) (E3):** 14.15	**Pump Designation:** 31'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^oC)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1247	~2.5	---	0.3	6.81	-101	13.87	0.499	0.00	>1000
1250		0.9	0.3	6.85	-95	14.78	0.471	0.00	>1000
1253		1.8	0.3	6.78	-87	14.91	0.466	0.00	377.0
1256		2.7	0.3	6.63	-73	15.12	0.459	0.00	235.0
1259		3.6	0.3	6.61	-70	15.21	0.459	0.00	176.0
1302		4.5	0.3	6.57	-67	15.20	0.457	0.00	194.0
1305		5.4	0.3	6.54	-66	15.27	0.455	0.00	161.0
1308		6.3	0.3	6.54	-64	15.30	0.452	0.00	178.0
1311		7.2	0.3	6.51	-62	15.41	0.449	0.00	134
1314		8.1	0.3	6.51	-62	15.17	0.449	0.00	228
1317		9.0	0.3	6.50	-62	14.57	0.455	0.00	>1000
1320		9.9	0.3	6.54	-64	14.75	0.454	0.00	394.0
1323		10.8	0.3	6.50	-65	14.80	0.455	0.00	>1000
1326		11.7	0.3	6.50	-55	14.87	0.455	0.00	185.0
1329		12.6	0.3	6.50	-56	15.30	0.444	0.00	27.7
1332		13.5	0.3	6.51	-57	15.34	0.447	0.00	16.5
1335		14.4	0.3	6.51	-58	.	0.477	0.00	12.6
1343	~2.5	---	0.3	7.02	-110	8.94	0.383	2.41	619.0
1347		1.2	0.3	6.72	-93	9.81	0.486	0.97	187.0
1351		2.4	0.3	6.75	-86	9.87	0.464	0.82	30.0
1355		3.6	0.3	6.74	-81	10.43	0.427	1.25	15.9
1359		4.8	0.3	6.73	-79	10.51	0.423	1.25	9.3
1403		6	0.3	6.72	-78	10.63	0.427	1.14	6.4
1407		7.2	0.3	6.72	-78	10.86	0.421	1.19	5.4
1410		8.4	0.3	6.72	-78	10.86	0.420	1.17	5.2

Total Quantity of Water Removed (L):	14.4 / 8.4	**Sampling Time:**	1335 / 1410
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	3/6/2018 / 03/07/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Water level not functioning

Repurge on 3/7 to collect TOC/Chloride/Nitrate/Sulfate

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	Personnel:	Client:
MW-11S	SS/MM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Metal Etching Co., Inc. Site	Good	Sleet, E 10 mph, 30F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny Dipper T	03/08/18	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Flush	1343	2"

Purge Date:	Purge Time:
03/07/18	1130
Purge Method:	**Field Technician:**
Peristaltic Pump	MM/SS

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
15.10	0.16	-0.2"
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
1.33	2.20	Peristaltic
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
13.77	6.61	14'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1135	~1	---	0.3	7.60	-235	10.68	0.951	0.56	257.0
1138		0.9	0.3	7.61	-238	10.71	0.914	0.54	118.0
1141		1.8	0.3	7.64	-243	10.76	0.908	0.52	58.0
1144		2.7	0.3	7.65	-244	10.78	0.908	0.51	60.5
1147		3.6	0.3	7.70	-252	10.77	0.905	0.61	44.1
1150		4.5	0.3	7.70	-253	10.78	0.904	0.41	38.1
1153		5.4	0.3	7.71	-254	10.78	0.891	0.41	27.7
1156		6.3	0.3	7.71	-256	10.79	0.891	0.41	25.1
1159		7.2	0.3	7.72	-256	10.79	0.891	0.41	21.9
1202		8.1	0.3	7.73	-258	10.80	0.887	0.41	27.5
1205		9.0	0.3	7.74	-258	10.81	0.886	0.43	25.5
1208		9.9	0.3	7.74	-260	10.80	0.883	0.42	23.5
1211		10.8	0.3	7.74	-260	10.81	0.883	0.43	21.3

Total Quantity of Water Removed (L):	10.8	**Sampling Time:**	1212
Samplers:	MM/SS	**Split Sample With:**	DUP
Sampling Date:	03/07/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Water level not functioning

130110-DUP-030718 collected here for VOC and Metals

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Metal Etching Co., Inc. Site No. 130110
GROUNDWATER SAMPLING
PURGE FORM

Well I.D.:	Personnel:	Client:
MW-11D	SS/MM	NYSDEC
Location:	**Well Condition:**	**Weather:**
Metal Etching Co., Inc. Site	Good	Sleet, E 10 mph, 30F
Sounding Method:	**Gauge Date:**	**Measurement Ref:**
Heron Skinny Dipper T	03/08/18	TOC
Stick Up/Down (ft):	**Gauge Time:**	**Well Diameter (in):**
Flush	1345	2"

Purge Date:	Purge Time:
03/07/18	1235
Purge Method:	**Field Technician:**
Peristaltic Pump	MM/SS

Well Volume

A. Well Depth (ft):	D. Well Volume (ft):	Depth/Height of Top of PVC:
30.20	0.163	-0.2"
B. Depth to Water (ft):	**E. Well Volume (gal) C*D):**	**Pump Type:**
1.29	4.71	Peristaltic
C. Liquid Depth (ft) (A-B):	**F. Three Well Volumes (gal) (E3):**	**Pump Designation:**
28.91	14.14	29'

Water Quality Parameters

Time (hrs)	DTW (ft btoc)	Volume (L)	Rate (Lpm)	pH (pH units)	ORP (mV)	Temp. (^{o}C)	Cond. (mS/cm)	DO (mg/L)	Turbidity (ntu)
1140	1.50	---	0.3	7.09	-116	10.09	1.590	1.28	27.8
1143		0.9	0.3	6.99	-90	10.90	1.500	0.79	5.1
1146		1.8	0.3	6.93	-52	11.43	1.470	0.63	2.2
1149		2.7	0.3	6.97	-37	11.59	1.460	0.60	1.2
1152		3.6	0.3	7.00	-32	11.61	1.460	0.58	0.0
1155		4.5	0.3	7.03	-30	11.66	1.460	0.53	0.0
1158		5.4	0.3	7.01	-26	11.70	1.460	0.49	0.0
1201		6.3	0.3	7.01	-25	11.77	1.460	0.45	0.0
1204		7.2	0.3	7.01	-25	11.82	1.460	0.43	0.0

Total Quantity of Water Removed (L):	7.2	**Sampling Time:**	1303
Samplers:	MM/SS	**Split Sample With:**	N/A
Sampling Date:	03/07/2018	**Sample Type:**	Grab

COMMENTS AND OBSERVATIONS:

Water level not functioning

Appendix D

Daily Field Reports

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DAILY FIELD REPORT **Day: Tuesday Date: 06 March 2018**

Project Name: Metal Etching, Inc.
NYSDEC Site # 130110

Contract # D007624-09
Location: Freeport, New York

Weather: Sunny, 45F AM
Sunny, 40 F PM

Arrive at site: 0900
Leave site: 1430

HEALTH & SAFETY:

Are there any changes to the Health & Safety Plan? Yes ( ) No (X)
(If yes, list the deviation under items for concern)

Are monitoring results at acceptable levels?				
	Soil	Yes ( )	N/A (X)	* No ( )
	Waters	Yes ( )	N/A (X)	* No ( )
	Air	Yes ( )	N/A (X)	* No ( )

- *If No, provide comments*

OTHER ITEMS:

Site Sketch Attached: Yes ( ) No (X)
Photos Taken: Yes (X) No ( )

DESCRIPTION OF DAILY WORK PERFORMED:

S. Soldner and M. Miller (EA) on site for groundwater sampling. Arrived onsite at 0900. Began unpacking equipment and setting up at wells; noticed that flex tubing (silicon) had not been provided by Pine Environmental. Traveled offsite to a local Cascade Drilling (Zebra) office in Lynbrook, NY to get some tubing. Returned to the site at 1020. Began indoor and outdoor air sampling cannisters (24 hour regulator; to pick up and ship on 3/7). Purged and sampled monitoring wells MW04, MW05R, MW06, MW10S, MW10M, MW10D one hour before until two hours after high tide. S. Soldner collected PFC field blank. Packed coolers and left site around 1415 to ship MNA samples at UPS.

Sample ID	QA/QC	Description
130110-MW04		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW05R		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW06		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW10S		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW10M		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW10D		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-IA-0318		TO-15
130110-OA-0318	Duplicate: 130110-DUP-0318	TO-15

CONTRACTOR/SUBCONTRACTOR EQUIPMENT AND PERSONNEL ON SITE:

EA personnel: Megan Miller, Stephen Soldner

VISITORS TO SITE:

None

PROJECT SCHEDULE ISSUES:

None

PROJECT BUDGET ISSUES:

None.

ITEMS OF CONCERN:

None

COMMENTS:

None

ATTACHMENT(S) TO THIS REPORT:

None

SITE REPRESENTATIVE:

Name: Stephen Soldner

Date: 07 March 2018

Photographs

Outdoor air cannisters set up

Typical sampling setup

DAILY FIELD REPORT **Day: Wednesday Date: 07 March 2018**

Project Name: Metal Etching, Inc.
NYSDEC Site # 130110

Contract # D007624-09
Location: Freeport, New York

Weather: Overcast, ENE 15 mph, 36F AM
Sleet, NNE 25 mph, 33F PM

Arrive at site: 0930
Leave site: 1400

HEALTH & SAFETY:

Are there any changes to the Health & Safety Plan? Yes ( ) No (X)
(If yes, list the deviation under items for concern)

Are monitoring results at acceptable levels?				
	Soil	Yes ( )	N/A (X)	* No ( )
	Waters	Yes ( )	N/A (X)	* No ( )
	Air	Yes ( )	N/A (X)	* No ( )

- *If No, provide comments*

OTHER ITEMS:

Site Sketch Attached: Yes ( ) No (X)
Photos Taken: Yes (X) No ( )

DESCRIPTION OF DAILY WORK PERFORMED:

S. Soldner and M. Miller (EA) on site for groundwater sampling. Arrived onsite at 0930. Began unpacking equipment and setting up at wells. Turned off and took down indoor and outdoor air monitors. Purged and sampled monitoring wells MW011S and MW11D; re-purged and sampled MW04, MW05R, MW06, MW10S, MW10M, and MW10D two hour before until two hours after high tide. S. Soldner collected PFC field blank. Packed coolers and left site around 1440 to ship MNA samples and air samples at UPS.

Sample ID	QA/QC	Description
130110-MW04		Sulfide/Chloride/Nitrate, TOC
130110-MW05R		Sulfide/Chloride/Nitrate, TOC
130110-MW06		VOC, Sulfide/Chloride/Nitrate, Dissolved Gases
130110-MW10S		Sulfide/Chloride/Nitrate, TOC
130110-MW10M		Sulfide/Chloride/Nitrate
130110-MW10D		Sulfide/Chloride/Nitrate
130110-MW08SR		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW11S	Duplicate 130110-DUP-030718 collected here for VOC and Metals	VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW11D		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-FB-030718		PFC

CONTRACTOR/SUBCONTRACTOR EQUIPMENT AND PERSONNEL ON SITE:

EA personnel: Megan Miller, Stephen Soldner

VISITORS TO SITE:

None

PROJECT SCHEDULE ISSUES:

None

PROJECT BUDGET ISSUES:

None.

ITEMS OF CONCERN:

None

COMMENTS:

None

ATTACHMENT(S) TO THIS REPORT:

None

SITE REPRESENTATIVE:

Name: Stephen Soldner

Date: 07 March 2018

Photographs

Typical sampling set-up

DAILY FIELD REPORT **Day: Thursday Date: 08 March 2018**

Project Name: Metal Etching, Inc.
NYSDEC Site # 130110

Contract # D007624-09
Location: Freeport, New York

Weather: Clear, NW 9 mph, 36F AM
Overcast, W 13 mph, 39F PM

Arrive at site: 1000
Leave site: 1400

HEALTH & SAFETY:

Are there any changes to the Health & Safety Plan? Yes ( ) No (X)
(If yes, list the deviation under items for concern)

Are monitoring results at acceptable levels?				
	Soil	Yes ( )	N/A (X)	* No ( )
	Waters	Yes ( )	N/A (X)	* No ( )
	Air	Yes ( )	N/A (X)	* No ( )

- *If No, provide comments*

OTHER ITEMS:

Site Sketch Attached: Yes ( ) No (X)
Photos Taken: Yes (X) No ( )

DESCRIPTION OF DAILY WORK PERFORMED:

S. Soldner and M. Miller (EA) on site for groundwater sampling. Arrived onsite at 1000. Began unpacking equipment and setting up at wells. Purged and sampled monitoring wells MW08SR, MW08DR, MW09SR, and MW09DR one hour before until two hours after high tide. S. Soldner collected PFC field blank. Gauged wells from 1315 to 1345 at high tide. M. Miller performed site-wide inspection. Packed coolers and left site around 1440 to ship MNA samples and air samples at UPS.

Sample ID	QA/QC	Description
130110-MW08SR		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW08DR	MS/MSD for VOC and Metals	VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW09SR		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC
130110-MW09DR		VOC, Metals/Mercury, Sulfide/Chloride/Nitrate, TOC, Sulfate, Dissolved Gases, PFC

CONTRACTOR/SUBCONTRACTOR EQUIPMENT AND PERSONNEL ON SITE:

EA personnel: Megan Miller, Stephen Soldner

VISITORS TO SITE:
None

PROJECT SCHEDULE ISSUES:

None

PROJECT BUDGET ISSUES:

None.

ITEMS OF CONCERN:

None

COMMENTS:

None

ATTACHMENT(S) TO THIS REPORT:

None

SITE REPRESENTATIVE:

Name: Stephen Soldner

Date: 08 March 2018

Photographs

View of asphalt at site

View of entrance and storm drain in need of repair

View of asphalt adjacent to office building

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Appendix E

Data Usability Summary Reports

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ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
METAL ETCHING, FREEPORT, LONG ISLAND, NEW YORK

Client: EA Engineering, Science & Technology, Inc., Syracuse, New York
SDG: SC44537
Laboratory: Eurofins Spectrum Analytical, Agawam, Massachusetts
Site: Metal Etching, Freeport, Long Island, New York
Date: June 4, 2018

VOC			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	130110-MW-05R	SC44537-02	Water
2	130110-MW-10S	SC44537-03	Water
3	130110-MW-10M	SC44537-04	Water
4	130110-MW-04	SC44537-05	Water
5	130110-MW-10D	SC44537-06	Water

A Data Usability Summary Review was performed on the analytical data for five water samples collected on March 6, 2018 by EA Engineering at the Metal Etching site in Freeport, Long Island, New York. The samples were analyzed under Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions".*

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW-846 Method 8260C

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-33A, Revision 0, July 2015: Low/Medium Volatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries

- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision

Data Usability Assessment

There was no rejection of data.

Overall the data is acceptable for the intended purposes as qualified for the following deficiencies.

- Three compounds were qualified as estimated in all samples due to high continuing calibration %D values.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (VOC)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- The following table presents compounds that exceeded percent deviation (%D) criteria and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
3/8/18	Chloroethane	28.2%	J/UJ	All Samples
	Trichlorofluoromethane	31.9%		
	Ethyl Ether	21.4%		

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC samples were not collected.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The following table presents LCS samples that exhibited percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

LCS ID	Compound	%R	Qualifier	Affected Samples
1803225-BS1	Trichlorofluoromethane	135%	None	All Associated ND

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 6/4/18

Nancy Weaver
Senior Chemist

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-05R

1

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-02	File ID:	4453702.D		
Sampled:	03/06/18 11:00	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 03:45		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	7.81	0.80	10.0	J
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	0.40	0.32	1.00	J
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	UJ
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MW04118

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-05R

1

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-02	File ID:	4453702.D		
Sampled:	03/06/18 11:00	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 03:45		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.19	0.24	1.00	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	0.83	0.30	1.00	J
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.00	0.50	1.00	U
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U UJ
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	0.76	0.36	1.00	J
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	0.40	0.38	2.00	J
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U
60-29-7	Ethyl ether	1.00	0.37	1.00	U UJ
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	0.33	0.29	1.00	J
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

MW 5/14/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-10S

2

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-03	File ID:	4453703.D		
Sampled:	03/06/18 12:40	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 04:12		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	1.24	0.80	10.0	J
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	~~U~~ UJ
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MW6141.8

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-10S

2

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-03	File ID:	4453703.D		
Sampled:	03/06/18 12:40	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 04:12		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q	
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U	
100-41-4	Ethylbenzene	1.00	0.33	1.00	U	
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U	
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U	
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U	
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U	
1634-04-4	Methyl tert-butyl ether	1.37	0.24	1.00		
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U	
75-09-2	Methylene chloride	2.00	0.66	2.00	U	
91-20-3	Naphthalene	1.00	0.35	1.00	U	
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U	
100-42-5	Styrene	1.00	0.40	1.00	U	
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U	
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U	
108-88-3	Toluene	1.00	0.30	1.00	U	
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U	
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U	
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U	
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U	
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U	
79-01-6	Trichloroethene	1.00	0.50	1.00	U	
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	~~U~~	UJ
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U	
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U	
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U	
75-01-4	Vinyl chloride	1.00	0.47	1.00	U	
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U	
95-47-6	o-Xylene	1.00	0.28	1.00	U	
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U	
60-29-7	Ethyl ether	1.00	0.37	1.00	~~U~~	UJ
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U	
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U	
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U	
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U	
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U	
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U	
64-17-5	Ethanol	200	30.9	200	U	

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-10M

3

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-04	File ID:	4453704.D		
Sampled:	03/06/18 13:50	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 04:39		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	~~U~~ UJ
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

NEW 6141.8

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-10M

3

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-04	File ID:	4453704.D		
Sampled:	03/06/18 13:50	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 04:39		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q	
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U	
100-41-4	Ethylbenzene	1.00	0.33	1.00	U	
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U	
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U	
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U	
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U	
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U	
75-09-2	Methylene chloride	2.00	0.66	2.00	U	
91-20-3	Naphthalene	1.00	0.35	1.00	U	
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U	
100-42-5	Styrene	1.00	0.40	1.00	U	
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U	
127-18-4	Tetrachloroethene	0.97	0.57	1.00	J	
108-88-3	Toluene	1.00	0.30	1.00	U	
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U	
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U	
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U	
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U	
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U	
79-01-6	Trichloroethene	1.00	0.50	1.00	U	
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	~~U~~	UJ
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U	
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U	
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U	
75-01-4	Vinyl chloride	1.00	0.47	1.00	U	
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U	
95-47-6	o-Xylene	1.00	0.28	1.00	U	
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U	
60-29-7	Ethyl ether	1.00	0.37	1.00	~~U~~	UJ
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U	
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U	
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U	
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U	
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U	
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U	
64-17-5	Ethanol	200	30.9	200	U	

per 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-04

4

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-05	File ID:	4453705.D		
Sampled:	03/06/18 12:10	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 05:07		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	~~U~~ UJ
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	0.60	0.33	1.00	J
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

NW 6/14/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-04

4

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-05	File ID:	4453705.D		
Sampled:	03/06/18 12:10	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 05:07		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q	
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U	
100-41-4	Ethylbenzene	1.00	0.33	1.00	U	
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U	
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U	
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U	
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U	
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U	
75-09-2	Methylene chloride	2.00	0.66	2.00	U	
91-20-3	Naphthalene	1.00	0.35	1.00	U	
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U	
100-42-5	Styrene	1.00	0.40	1.00	U	
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U	
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U	
108-88-3	Toluene	1.00	0.30	1.00	U	
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U	
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U	
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U	
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U	
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U	
79-01-6	Trichloroethene	1.00	0.50	1.00	U	
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	~~U~~	UJ
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U	
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U	
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U	
75-01-4	Vinyl chloride	1.00	0.47	1.00	U	
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U	
95-47-6	o-Xylene	1.00	0.28	1.00	U	
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U	
60-29-7	Ethyl ether	1.00	0.37	1.00	~~U~~	UJ
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U	
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U	
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U	
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U	
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U	
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U	
64-17-5	Ethanol	200	30.9	200	U	

NW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-10D

5

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY
Project Number:	1490709			Received:	03/07/18 10:31
Matrix:	Ground Water	Laboratory ID:	SC44537-06	File ID:	4453706.D
Sampled:	03/06/18 13:35	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 05:34
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml
Batch:	1803225	Sequence:	S817447	Calibration:	1802088
Reported to:	MRL	Dilution:	1		

Instrument: HPV5

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	~~U~~ UJ
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

RLW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-10D

5

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44537		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/07/18 10:31		
Matrix:	Ground Water	Laboratory ID:	SC44537-06	File ID:	4453706.D		
Sampled:	03/06/18 13:35	Prepared:	03/08/18 09:11	Analyzed:	03/09/18 05:34		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803225	Sequence:	S817447	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q	
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U	
100-41-4	Ethylbenzene	1.00	0.33	1.00	U	
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U	
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U	
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U	
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U	
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U	
75-09-2	Methylene chloride	2.00	0.66	2.00	U	
91-20-3	Naphthalene	1.00	0.35	1.00	U	
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U	
100-42-5	Styrene	1.00	0.40	1.00	U	
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U	
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U	
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U	
108-88-3	Toluene	1.00	0.30	1.00	U	
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U	
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U	
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U	
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U	
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U	
79-01-6	Trichloroethene	1.00	0.50	1.00	U	
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	~~U~~	UJ
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U	
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U	
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U	
75-01-4	Vinyl chloride	1.00	0.47	1.00	U	
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U	
95-47-6	o-Xylene	1.00	0.28	1.00	U	
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U	
60-29-7	Ethyl ether	1.00	0.37	1.00	~~U~~	UJ
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U	
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U	
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U	
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U	
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U	
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U	
64-17-5	Ethanol	200	30.9	200	U	

MW 6/14/18

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
METAL ETCHING, FREEPORT, LONG ISLAND, NEW YORK

Client: EA Engineering, Science & Technology, Inc., Syracuse, New York
SDG: SC44621
Laboratory: Eurofins Spectrum Analytical, Agawam, Massachusetts
Site: Metal Etching, Freeport, Long Island, New York
Date: June 4, 2018

VOC			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	130110-MW-08SR	SC44621-01	Water
2	130110-MW-08DR	SC44621-02	Water
2MS	130110-MW-08DRMS	SC44621-02MS	Water
2MSD	130110-MW-08DRMSD	SC44621-02MSD	Water
2RE	130110-MW-08DRRE	SC44621-02RE	Water
2REMS	130110-MW-08DRREMS	SC44621-02REMS	Water
2REMSD	130110-MW-08DRREMSD	SC44621-02REMSD	Water
3	130110-MW-09SR	SC44621-03	Water
4	130110-MW-09DR	SC44621-04	Water
4RE	130110-MW-09DRRE	SC44621-04RE	Water
5	TRIP BLANK	SC44621-05	Water

A Data Usability Summary Review was performed on the analytical data for four water samples and one aqueous trip blank sample collected on March 8, 2018 by EA Engineering at the Metal Etching site in Freeport, Long Island, New York. The samples were analyzed under Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions".*

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW-846 Method 8260C

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-33A, Revision 0, July 2015: Low/Medium Volatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision

Data Usability Assessment

There was no rejection of data.

Overall the data is acceptable for the intended purposes as qualified for the following deficiencies.

- Four compounds were qualified as estimated in five samples due to high continuing calibration %D values.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (VOC)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- The following table presents compounds that exceeded percent deviation (%D) criteria and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
3/12/18	2,2-Dichloropropane	20.5%	J/UJ	1-3
3/14/18	Chloroethane	41.2%	J/UJ	2RE, 4-5
	Trichlorofluoromethane	30.2%		
	Tetrahydrofuran	21.4%		
	trans-1,4-Dichloro-2-butene	30.9%		
3/16/18	Chloroethane	48.3%	J/UJ	4RE
	Tetrahydrofuran	20.4%		
	trans-1,4-Dichloro-2-butene	25%		

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
1803567-BLK1	Acetone	1.94	None	Associated Sample ND

Field Blank

- Field QC results are summarized below.

VOCs				
Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
TRIP BLANK	None - ND	-	-	

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier	Affected Samples
2	Dichlorodifluoromethane	69%/OK/OK	UJ	2
2RE	Bromomethane	55%/OK/OK	UJ	2RE
	Chloromethane	57%/60%/OK		
	Dichlorodifluoromethane	50%/55%/OK		

Laboratory Control Samples

- The following table presents LCS samples that exhibited percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

LCS ID	Compound	%R	Qualifier	Affected Samples
1803567-BS1	Chloroethane	148%	None	All Associated ND
1803478-BS1	Bromomethane	132%	None	All Associated ND

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- EDS Sample ID #2 exhibited a high concentration of tetrachloroethene and was flagged (E) by the laboratory indicating the calibration range was exceeded. The laboratory reanalyzed the sample at a 20X dilution. Use dilution results for reporting purposes.
- EDS Sample ID # exhibited a high concentration of cis-1,2-dichloroethene and was flagged (E) by the laboratory indicating the calibration range was exceeded. The laboratory reanalyzed the sample at a 5X dilution. Use dilution results for reporting purposes.

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 6/5/18

Nancy Weaver
Senior Chemist

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-08SR

1

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-01	File ID:	4462101.D		
Sampled:	03/08/18 11:40	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 02:50		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	U
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.53	0.33	1.00	
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00 UJ	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-08SR

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-01	File ID:	4462101.D		
Sampled:	03/08/18 11:40	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 02:50		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	2.01	0.50	1.00	
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-08DR

2

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-02	File ID:	4462102.D		
Sampled:	03/08/18 12:24	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 03:17		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	5				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	5.00	2.66	5.00	U
67-64-1	Acetone	50.0	4.02	50.0	U
107-13-1	Acrylonitrile	2.50	2.33	2.50	U
71-43-2	Benzene	5.00	1.42	5.00	U
108-86-1	Bromobenzene	5.00	1.66	5.00	U
74-97-5	Bromochloromethane	5.00	1.69	5.00	U
75-27-4	Bromodichloromethane	2.50	2.08	2.50	U
75-25-2	Bromoform	5.00	2.12	5.00	U
74-83-9	Bromomethane	10.0	4.48	10.0	U
78-93-3	2-Butanone (MEK)	10.0	5.35	10.0	U
104-51-8	n-Butylbenzene	5.00	2.06	5.00	U
135-98-8	sec-Butylbenzene	5.00	1.63	5.00	U
98-06-6	tert-Butylbenzene	5.00	1.58	5.00	U
75-15-0	Carbon disulfide	10.0	2.06	10.0	U
56-23-5	Carbon tetrachloride	5.00	2.18	5.00	U
108-90-7	Chlorobenzene	5.00	1.24	5.00	U
75-00-3	Chloroethane	10.0	2.94	10.0	U
67-66-3	Chloroform	5.00	1.63	5.00	U
74-87-3	Chloromethane	10.0	1.84	10.0	U
95-49-8	2-Chlorotoluene	5.00	1.58	5.00	U
106-43-4	4-Chlorotoluene	5.00	1.58	5.00	U
96-12-8	1,2-Dibromo-3-chloropropane	10.0	4.32	10.0	U
124-48-1	Dibromochloromethane	2.50	1.58	2.50	U
106-93-4	1,2-Dibromoethane (EDB)	2.50	1.01	2.50	U
74-95-3	Dibromomethane	5.00	1.54	5.00	U
95-50-1	1,2-Dichlorobenzene	5.00	1.38	5.00	U
541-73-1	1,3-Dichlorobenzene	5.00	1.57	5.00	U
106-46-7	1,4-Dichlorobenzene	5.00	1.36	5.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	10.0 UJ	2.92	10.0	~~U~~
75-34-3	1,1-Dichloroethane	5.00	1.62	5.00	U
107-06-2	1,2-Dichloroethane	5.00	1.38	5.00	U
75-35-4	1,1-Dichloroethene	5.00	3.46	5.00	U
156-59-2	cis-1,2-Dichloroethene	5.25	1.64	5.00	
156-60-5	trans-1,2-Dichloroethene	5.00	1.88	5.00	U
78-87-5	1,2-Dichloropropane	5.00	1.46	5.00	U
142-28-9	1,3-Dichloropropane	5.00	1.07	5.00	U
594-20-7	2,2-Dichloropropane	5.00 UJ	2.09	5.00	~~U~~
563-58-6	1,1-Dichloropropene	5.00	2.89	5.00	U
10061-01-5	cis-1,3-Dichloropropene	2.50	1.80	2.50	U

mw 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-08DR

2

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-02	File ID:	4462102.D		
Sampled:	03/08/18 12:24	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 03:17		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	5				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	2.50	1.74	2.50	U
100-41-4	Ethylbenzene	5.00	1.64	5.00	U
87-68-3	Hexachlorobutadiene	2.50	2.35	2.50	U
591-78-6	2-Hexanone (MBK)	10.0	2.64	10.0	U
98-82-8	Isopropylbenzene	5.00	1.80	5.00	U
99-87-6	4-Isopropyltoluene	5.00	1.40	5.00	U
1634-04-4	Methyl tert-butyl ether	5.00	1.18	5.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	10.0	2.58	10.0	U
75-09-2	Methylene chloride	10.0	3.30	10.0	U
91-20-3	Naphthalene	5.00	1.76	5.00	U
103-65-1	n-Propylbenzene	5.00	1.72	5.00	U
100-42-5	Styrene	5.00	2.02	5.00	U
630-20-6	1,1,1,2-Tetrachloroethane	5.00	1.89	5.00	U
79-34-5	1,1,2,2-Tetrachloroethane	2.50	1.65	2.50	U
127-18-4	Tetrachloroethene	690 ~~725~~	11.4 ~~2.85~~	20.0 ~~5.00~~	~~E~~
108-88-3	Toluene	5.00	1.50	5.00	U
87-61-6	1,2,3-Trichlorobenzene	5.00	1.88	5.00	U
120-82-1	1,2,4-Trichlorobenzene	5.00	1.89	5.00	U
71-55-6	1,1,1-Trichloroethane	5.00	2.54	5.00	U
108-70-3	1,3,5-Trichlorobenzene	5.00	1.48	5.00	U
79-00-5	1,1,2-Trichloroethane	5.00	1.65	5.00	U
79-01-6	Trichloroethene	5.20	2.48	5.00	
75-69-4	Trichlorofluoromethane (Freon 11)	5.00	2.44	5.00	U
96-18-4	1,2,3-Trichloropropane	5.00	1.46	5.00	U
95-63-6	1,2,4-Trimethylbenzene	5.00	1.78	5.00	U
108-67-8	1,3,5-Trimethylbenzene	5.00	2.16	5.00	U
75-01-4	Vinyl chloride	5.00	2.36	5.00	U
179601-23-1	m,p-Xylene	10.0	1.90	10.0	U
95-47-6	o-Xylene	5.00	1.42	5.00	U
109-99-9	Tetrahydrofuran	10.0	5.30	10.0	U
60-29-7	Ethyl ether	5.00	1.87	5.00	U
994-05-8	Tert-amyl methyl ether	5.00	2.46	5.00	U
637-92-3	Ethyl tert-butyl ether	5.00	1.66	5.00	U
108-20-3	Di-isopropyl ether	5.00	1.43	5.00	U
75-65-0	Tert-Butanol / butyl alcohol	50.0	29.5	50.0	U
110-57-6	trans-1,4-Dichloro-2-butene	25.0	4.10	25.0	U
123-91-1	1,4-Dioxane	100	57.0	100	U
64-17-5	Ethanol	1000	154	1000	U

NW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-08DR

2RE

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY
Project Number:	1490709			Received:	03/09/18 10:45
Matrix:	Ground Water	Laboratory ID:	SC44621-02RE1	File ID:	4462102RE1.D
Sampled:	03/08/18 12:24	Prepared:	03/14/18 09:09	Analyzed:	03/14/18 14:05
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml
Batch:	1803478	Sequence:	S817616	Calibration:	1802088
Reported to:	MRL	Dilution:	20		

use original results

Instrument: HPV5

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	20.0	10.6	20.0	UD
67-64-1	Acetone	200	16.1	200	UD
107-13-1	Acrylonitrile	10.0	9.32	10.0	UD
71-43-2	Benzene	20.0	5.68	20.0	UD
108-86-1	Bromobenzene	20.0	6.64	20.0	UD
74-97-5	Bromochloromethane	20.0	6.76	20.0	UD
75-27-4	Bromodichloromethane	10.0	8.34	10.0	UD
75-25-2	Bromoform	20.0	8.50	20.0	UD
74-83-9	Bromomethane	40.0 UJ	17.9	40.0	UD
78-93-3	2-Butanone (MEK)	40.0	21.4	40.0	UD
104-51-8	n-Butylbenzene	20.0	8.24	20.0	UD
135-98-8	sec-Butylbenzene	20.0	6.52	20.0	UD
98-06-6	tert-Butylbenzene	20.0	6.30	20.0	UD
75-15-0	Carbon disulfide	40.0	8.24	40.0	UD
56-23-5	Carbon tetrachloride	20.0	8.74	20.0	UD
108-90-7	Chlorobenzene	20.0	4.98	20.0	UD
75-00-3	Chloroethane	40.0 UJ	11.8	40.0	UD
67-66-3	Chloroform	20.0	6.52	20.0	UD
74-87-3	Chloromethane	40.0 UJ	7.36	40.0	UD
95-49-8	2-Chlorotoluene	20.0	6.32	20.0	UD
106-43-4	4-Chlorotoluene	20.0	6.32	20.0	UD
96-12-8	1,2-Dibromo-3-chloropropane	40.0	17.3	40.0	UD
124-48-1	Dibromochloromethane	10.0	6.34	10.0	UD
106-93-4	1,2-Dibromoethane (EDB)	10.0	4.04	10.0	UD
74-95-3	Dibromomethane	20.0	6.18	20.0	UD
95-50-1	1,2-Dichlorobenzene	20.0	5.54	20.0	UD
541-73-1	1,3-Dichlorobenzene	20.0	6.28	20.0	UD
106-46-7	1,4-Dichlorobenzene	20.0	5.44	20.0	UD
75-71-8	Dichlorodifluoromethane (Freon12)	40.0 UJ	11.7	40.0	UD
75-34-3	1,1-Dichloroethane	20.0	6.46	20.0	UD
107-06-2	1,2-Dichloroethane	20.0	5.54	20.0	UD
75-35-4	1,1-Dichloroethene	20.0	13.9	20.0	UD
156-59-2	cis-1,2-Dichloroethene	20.0	6.54	20.0	UD
156-60-5	trans-1,2-Dichloroethene	20.0	7.54	20.0	UD
78-87-5	1,2-Dichloropropane	20.0	5.84	20.0	UD
142-28-9	1,3-Dichloropropane	20.0	4.28	20.0	UD
594-20-7	2,2-Dichloropropane	20.0	8.36	20.0	UD
563-58-6	1,1-Dichloropropene	20.0	11.6	20.0	UD
10061-01-5	cis-1,3-Dichloropropene	10.0	7.18	10.0	UD

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-08DR

2RE

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY
Project Number:	1490709			Received:	03/09/18 10:45
Matrix:	Ground Water	Laboratory ID:	SC44621-02RE1	File ID:	4462102RE1.D
Sampled:	03/08/18 12:24	Prepared:	03/14/18 09:09	Analyzed:	03/14/18 14:05
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml
Batch:	1803478	Sequence:	S817616	Calibration:	1802088
Reported to:	MRL	Dilution:	20		

use original results

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	10.0	6.94	10.0	UD
100-41-4	Ethylbenzene	20.0	6.58	20.0	UD
87-68-3	Hexachlorobutadiene	10.0	9.40	10.0	UD
591-78-6	2-Hexanone (MBK)	40.0	10.6	40.0	UD
98-82-8	Isopropylbenzene	20.0	7.20	20.0	UD
99-87-6	4-Isopropyltoluene	20.0	5.58	20.0	UD
1634-04-4	Methyl tert-butyl ether	20.0	4.74	20.0	UD
108-10-1	4-Methyl-2-pentanone (MIBK)	40.0	10.3	40.0	UD
75-09-2	Methylene chloride	40.0	13.2	40.0	UD
91-20-3	Naphthalene	20.0	7.02	20.0	UD
103-65-1	n-Propylbenzene	20.0	6.88	20.0	UD
100-42-5	Styrene	20.0	8.10	20.0	UD
630-20-6	1,1,1,2-Tetrachloroethane	20.0	7.56	20.0	UD
79-34-5	1,1,2,2-Tetrachloroethane	10.0	6.60	10.0	UD
127-18-4	Tetrachloroethene	690	11.4	20.0	D
108-88-3	Toluene	20.0	5.98	20.0	UD
87-61-6	1,2,3-Trichlorobenzene	20.0	7.54	20.0	UD
120-82-1	1,2,4-Trichlorobenzene	20.0	7.56	20.0	UD
71-55-6	1,1,1-Trichloroethane	20.0	10.2	20.0	UD
108-70-3	1,3,5-Trichlorobenzene	20.0	5.92	20.0	UD
79-00-5	1,1,2-Trichloroethane	20.0	6.60	20.0	UD
79-01-6	Trichloroethene	20.0	9.94	20.0	UD
75-69-4	Trichlorofluoromethane (Freon 11)	20.0 UJ	9.74	20.0	UD
96-18-4	1,2,3-Trichloropropane	20.0	5.84	20.0	UD
95-63-6	1,2,4-Trimethylbenzene	20.0	7.10	20.0	UD
108-67-8	1,3,5-Trimethylbenzene	20.0	8.62	20.0	UD
75-01-4	Vinyl chloride	20.0	9.44	20.0	UD
179601-23-1	m,p-Xylene	40.0	7.60	40.0	UD
95-47-6	o-Xylene	20.0	5.66	20.0	UD
109-99-9	Tetrahydrofuran	40.0 UJ	21.2	40.0	UD
60-29-7	Ethyl ether	20.0	7.48	20.0	UD
994-05-8	Tert-amyl methyl ether	20.0	9.86	20.0	UD
637-92-3	Ethyl tert-butyl ether	20.0	6.64	20.0	UD
108-20-3	Di-isopropyl ether	20.0	5.72	20.0	UD
75-65-0	Tert-Butanol / butyl alcohol	200	118	200	UD
110-57-6	trans-1,4-Dichloro-2-butene	100 UJ	16.4	100	UD
123-91-1	1,4-Dioxane	400	228	400	UD
64-17-5	Ethanol	4000	618	4000	UD

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-09SR

3

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-03	File ID:	4462103.D		
Sampled:	03/08/18 11:37	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 03:44		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	9.09	0.80	10.0	J
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	1.47	1.07	2.00	J
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	0.77	0.41	2.00	J
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	U
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00 UJ	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

NEW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-09SR

3

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-03	File ID:	4462103.D		
Sampled:	03/08/18 11:37	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 03:44		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	0.53	0.40	1.00	J
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.00	0.50	1.00	U
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	847	30.9	200	

JW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-09DR

4

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-04	File ID:	4462104.D		
Sampled:	03/08/18 12:20	Prepared:	03/14/18 09:09	Analyzed:	03/14/18 14:33		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803478	Sequence:	S817616	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	7.41	0.80	10.0	J
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	1.07	1.07	2.00	J
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00 UJ	0.59	2.00	~~U~~
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	84.2 ~~112~~	1.64 ~~0.33~~	5.00 ~~1.00~~	~~E~~
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-09DR

4

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Ground Water	Laboratory ID:	SC44621-04	File ID:	4462104.D		
Sampled:	03/08/18 12:20	Prepared:	03/14/18 09:09	Analyzed:	03/14/18 14:33		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803478	Sequence:	S817616	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	4.23	0.57	1.00	
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	12.4	0.50	1.00	
75-69-4	Trichlorofluoromethane (Freon 11)	1.00 UJ	0.49	1.00	~~U~~
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	21.5	0.47	1.00	
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00 UJ	1.06	2.00	~~U~~
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00 UJ	0.82	5.00	~~U~~
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	682	30.9	200	

MW6141.8

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-09DR

4RE

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY
Project Number:	1490709			Received:	03/09/18 10:45
Matrix:	Ground Water	Laboratory ID:	SC44621-04RE1	File ID:	4462104RE1.D
Sampled:	03/08/18 12:20	Prepared:	03/15/18 11:05	Analyzed:	03/16/18 10:46
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml
Batch:	1803567	Sequence:	S817675	Calibration:	1802088
Reported to:	MRL	Dilution:	5		

use original results

Instrument: HPV5

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	5.00	2.66	5.00	UD
67-64-1	Acetone	50.0	4.02	50.0	UD
107-13-1	Acrylonitrile	2.50	2.33	2.50	UD
71-43-2	Benzene	5.00	1.42	5.00	UD
108-86-1	Bromobenzene	5.00	1.66	5.00	UD
74-97-5	Bromochloromethane	5.00	1.69	5.00	UD
75-27-4	Bromodichloromethane	2.50	2.08	2.50	UD
75-25-2	Bromoform	5.00	2.12	5.00	UD
74-83-9	Bromomethane	10.0	4.48	10.0	UD
78-93-3	2-Butanone (MEK)	10.0	5.35	10.0	UD
104-51-8	n-Butylbenzene	5.00	2.06	5.00	UD
135-98-8	sec-Butylbenzene	5.00	1.63	5.00	UD
98-06-6	tert-Butylbenzene	5.00	1.58	5.00	UD
75-15-0	Carbon disulfide	10.0	2.06	10.0	UD
56-23-5	Carbon tetrachloride	5.00	2.18	5.00	UD
108-90-7	Chlorobenzene	5.00	1.24	5.00	UD
75-00-3	Chloroethane	10.0 UJ	2.94	10.0	UD
67-66-3	Chloroform	5.00	1.63	5.00	UD
74-87-3	Chloromethane	10.0	1.84	10.0	UD
95-49-8	2-Chlorotoluene	5.00	1.58	5.00	UD
106-43-4	4-Chlorotoluene	5.00	1.58	5.00	UD
96-12-8	1,2-Dibromo-3-chloropropane	10.0	4.32	10.0	UD
124-48-1	Dibromochloromethane	2.50	1.58	2.50	UD
106-93-4	1,2-Dibromoethane (EDB)	2.50	1.01	2.50	UD
74-95-3	Dibromomethane	5.00	1.54	5.00	UD
95-50-1	1,2-Dichlorobenzene	5.00	1.38	5.00	UD
541-73-1	1,3-Dichlorobenzene	5.00	1.57	5.00	UD
106-46-7	1,4-Dichlorobenzene	5.00	1.36	5.00	UD
75-71-8	Dichlorodifluoromethane (Freon12)	10.0	2.92	10.0	UD
75-34-3	1,1-Dichloroethane	5.00	1.62	5.00	UD
107-06-2	1,2-Dichloroethane	5.00	1.38	5.00	UD
75-35-4	1,1-Dichloroethene	5.00	3.46	5.00	UD
156-59-2	cis-1,2-Dichloroethene	84.2	1.64	5.00	D
156-60-5	trans-1,2-Dichloroethene	5.00	1.88	5.00	UD
78-87-5	1,2-Dichloropropane	5.00	1.46	5.00	UD
142-28-9	1,3-Dichloropropane	5.00	1.07	5.00	UD
594-20-7	2,2-Dichloropropane	5.00	2.09	5.00	UD
563-58-6	1,1-Dichloropropene	5.00	2.89	5.00	UD
10061-01-5	cis-1,3-Dichloropropene	2.50	1.80	2.50	UD

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-09DR

4RE

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY
Project Number:	1490709			Received:	03/09/18 10:45
Matrix:	Ground Water	Laboratory ID:	SC44621-04RE1	File ID:	4462104RE1.D
Sampled:	03/08/18 12:20	Prepared:	03/15/18 11:05	Analyzed:	03/16/18 10:46
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml
Batch:	1803567	Sequence: S817675		Calibration:	1802088
Reported to:	MRL	Dilution:	5		

use original results

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	2.50	1.74	2.50	UD
100-41-4	Ethylbenzene	5.00	1.64	5.00	UD
87-68-3	Hexachlorobutadiene	2.50	2.35	2.50	UD
591-78-6	2-Hexanone (MBK)	10.0	2.64	10.0	UD
98-82-8	Isopropylbenzene	5.00	1.80	5.00	UD
99-87-6	4-Isopropyltoluene	5.00	1.40	5.00	UD
1634-04-4	Methyl tert-butyl ether	5.00	1.18	5.00	UD
108-10-1	4-Methyl-2-pentanone (MIBK)	10.0	2.58	10.0	UD
75-09-2	Methylene chloride	10.0	3.30	10.0	UD
91-20-3	Naphthalene	5.00	1.76	5.00	UD
103-65-1	n-Propylbenzene	5.00	1.72	5.00	UD
100-42-5	Styrene	5.00	2.02	5.00	UD
630-20-6	1,1,1,2-Tetrachloroethane	5.00	1.89	5.00	UD
79-34-5	1,1,2,2-Tetrachloroethane	2.50	1.65	2.50	UD
127-18-4	Tetrachloroethene	3.40	2.85	5.00	JD
108-88-3	Toluene	5.00	1.50	5.00	UD
87-61-6	1,2,3-Trichlorobenzene	5.00	1.88	5.00	UD
120-82-1	1,2,4-Trichlorobenzene	5.00	1.89	5.00	UD
71-55-6	1,1,1-Trichloroethane	5.00	2.54	5.00	UD
108-70-3	1,3,5-Trichlorobenzene	5.00	1.48	5.00	UD
79-00-5	1,1,2-Trichloroethane	5.00	1.65	5.00	UD
79-01-6	Trichloroethene	9.15	2.48	5.00	D
75-69-4	Trichlorofluoromethane (Freon 11)	5.00	2.44	5.00	UD
96-18-4	1,2,3-Trichloropropane	5.00	1.46	5.00	UD
95-63-6	1,2,4-Trimethylbenzene	5.00	1.78	5.00	UD
108-67-8	1,3,5-Trimethylbenzene	5.00	2.16	5.00	UD
75-01-4	Vinyl chloride	15.8	2.36	5.00	D
179601-23-1	m,p-Xylene	10.0	1.90	10.0	UD
95-47-6	o-Xylene	5.00	1.42	5.00	UD
109-99-9	Tetrahydrofuran	10.0 UJ	5.30	10.0	UD
60-29-7	Ethyl ether	5.00	1.87	5.00	UD
994-05-8	Tert-amyl methyl ether	5.00	2.46	5.00	UD
637-92-3	Ethyl tert-butyl ether	5.00	1.66	5.00	UD
108-20-3	Di-isopropyl ether	5.00	1.43	5.00	UD
75-65-0	Tert-Butanol / butyl alcohol	50.0	29.5	50.0	UD
110-57-6	trans-1,4-Dichloro-2-butene	25.0 UJ	4.10	25.0	UD
123-91-1	1,4-Dioxane	100	57.0	100	UD
64-17-5	Ethanol	572	154	1000	JD

rev 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

Trip Blank

5

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Aqueous	Laboratory ID:	SC44621-05	File ID:	4462105RE1.D		
Sampled:	03/08/18 00:00	Prepared:	03/14/18 09:19	Analyzed:	03/14/18 15:54		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803478	Sequence:	S817616	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00 UJ	0.59	2.00	~~U~~
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

NEW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

Trip Blank

5

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44621		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:45		
Matrix:	Aqueous	Laboratory ID:	SC44621-05	File ID:	4462105RE1.D		
Sampled:	03/08/18 00:00	Prepared:	03/14/18 09:19	Analyzed:	03/14/18 15:54		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803478	Sequence:	S817616	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.00	0.50	1.00	U
75-69-4	Trichlorofluoromethane (Freon 11)	1.00 UJ	0.49	1.00	~~U~~
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00 UJ	1.06	2.00	~~U~~
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00 UJ	0.82	5.00	~~U~~
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

NW 6/4/18

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
METAL ETCHING, FREEPORT, LONG ISLAND, NEW YORK

Client: EA Engineering, Science & Technology, Inc., Syracuse, New York
SDG: SC44624
Laboratory: Eurofins Spectrum Analytical, Agawam, Massachusetts
Site: Metal Etching, Freeport, Long Island, New York
Date: June 4, 2018

VOC			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	130110-MW-06	SC44624-01	Water
2	130110-MW-11D	SC44624-07	Water
3	130110-MW-11S	SC44624-08	Water
4	130110-DUP-0318	SC44624-09	Water
5	TRIP BLANK	SC44624-10	Water

A Data Usability Summary Review was performed on the analytical data for four water samples and one aqueous trip blank sample collected on March 7, 2018 by EA Engineering at the Metal Etching site in Freeport, Long Island, New York. The samples were analyzed under Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions"*.

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW-846 Method 8260C

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-33A, Revision 0, July 2015: Low/Medium Volatile Data Validation;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field blank contamination
- Surrogate Spike recoveries

- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision

Data Usability Assessment

There was no rejection of data.

Overall the data is acceptable for the intended purposes as qualified for the following deficiencies.

- Four compounds were qualified as estimated in five samples due to high continuing calibration %D values.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (VOC)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- The following table presents compounds that exceeded percent deviation (%D) criteria and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
3/12/18	2,2-Dichloropropane	20.5%	UJ	2-5
3/16/18	Chloroethane	48.3%	UJ	1
	Tetrahydrofuran	20.4%		
	trans-1,4-Dichloro-2-butene	25%		

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

VOCs				
Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
TRIP BLANK	None - ND	-	-	

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The following table presents LCS samples that exhibited percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are

considered estimated and qualified (J). Results are valid and usable, however possibly biased.

LCS ID	Compound	%R	Qualifier	Affected Samples
1803567-BS1	Chloroethane	148%	None	All Associated ND

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

VOC				
Compound	130110-MW-11S ug/L	130110-DUP-0318 ug/L	RPD	Qualifier
tert-Butylbenzene	0.36	0.37	3%	None

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 6/4/18

Nancy Weaver
Senior Chemist

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-06

1

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-01	File ID:	4462401.D		
Sampled:	03/07/18 10:30	Prepared:	03/15/18 11:05	Analyzed:	03/16/18 11:14		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803567	Sequence:	S817675	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.13	0.28	1.00	
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	0.61	0.33	1.00	J
98-06-6	tert-Butylbenzene	2.26	0.32	1.00	
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	~~U~~ UJ
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-06

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-01	File ID:	4462401.D		
Sampled:	03/07/18 10:30	Prepared:	03/15/18 11:05	Analyzed:	03/16/18 11:14		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803567	Sequence:	S817675	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	2.93	0.36	1.00	
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	0.51	0.24	1.00	J
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	0.82	0.34	1.00	J
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	1.06	0.30	1.00	
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.00	0.50	1.00	U
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.84	0.38	2.00	
95-47-6	o-Xylene	0.30	0.28	1.00	J
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	~~U~~ UJ
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

NW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-11D

2

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-07	File ID:	4462407.D		
Sampled:	03/07/18 13:03	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 05:33		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	U
67-66-3	Chloroform	0.34	0.33	1.00	J
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.65	0.33	1.00	
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U UJ
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MW6141.8

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-11D

2

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-07	File ID:	4462407.D		
Sampled:	03/07/18 13:03	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 05:33		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.38	0.57	1.00	
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.17	0.50	1.00	
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-11S

3

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-08	File ID:	4462408.D		
Sampled:	03/07/18 12:12	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 06:01		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	0.36	0.32	1.00	J
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	U
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	~~U~~ UJ
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-MW-11S

3

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-08	File ID:	4462408.D		
Sampled:	03/07/18 12:12	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 06:01		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.00	0.50	1.00	U
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

mw 5/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-DUP-0318

4

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-09	File ID:	4462409.D		
Sampled:	03/07/18 00:00	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 06:28		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	0.37	0.32	1.00	J
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	U
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U UJ
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

NW 6141.8

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

130110-DUP-0318

4

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Ground Water	Laboratory ID:	SC44624-09	File ID:	4462409.D		
Sampled:	03/07/18 00:00	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 06:28		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.00	0.50	1.00	U
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

NW 6/4/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

Trip Blank

5

Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Aqueous	Laboratory ID:	SC44624-10	File ID:	4462410.D		
Sampled:	03/07/18 00:00	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 06:55		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
76-13-1	1,1,2-Trichlorotrifluoroethane (Freon 113)	1.00	0.53	1.00	U
67-64-1	Acetone	10.0	0.80	10.0	U
107-13-1	Acrylonitrile	0.50	0.47	0.50	U
71-43-2	Benzene	1.00	0.28	1.00	U
108-86-1	Bromobenzene	1.00	0.33	1.00	U
74-97-5	Bromochloromethane	1.00	0.34	1.00	U
75-27-4	Bromodichloromethane	0.50	0.42	0.50	U
75-25-2	Bromoform	1.00	0.42	1.00	U
74-83-9	Bromomethane	2.00	0.90	2.00	U
78-93-3	2-Butanone (MEK)	2.00	1.07	2.00	U
104-51-8	n-Butylbenzene	1.00	0.41	1.00	U
135-98-8	sec-Butylbenzene	1.00	0.33	1.00	U
98-06-6	tert-Butylbenzene	1.00	0.32	1.00	U
75-15-0	Carbon disulfide	2.00	0.41	2.00	U
56-23-5	Carbon tetrachloride	1.00	0.44	1.00	U
108-90-7	Chlorobenzene	1.00	0.25	1.00	U
75-00-3	Chloroethane	2.00	0.59	2.00	U
67-66-3	Chloroform	1.00	0.33	1.00	U
74-87-3	Chloromethane	2.00	0.37	2.00	U
95-49-8	2-Chlorotoluene	1.00	0.32	1.00	U
106-43-4	4-Chlorotoluene	1.00	0.32	1.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	0.86	2.00	U
124-48-1	Dibromochloromethane	0.50	0.32	0.50	U
106-93-4	1,2-Dibromoethane (EDB)	0.50	0.20	0.50	U
74-95-3	Dibromomethane	1.00	0.31	1.00	U
95-50-1	1,2-Dichlorobenzene	1.00	0.28	1.00	U
541-73-1	1,3-Dichlorobenzene	1.00	0.31	1.00	U
106-46-7	1,4-Dichlorobenzene	1.00	0.27	1.00	U
75-71-8	Dichlorodifluoromethane (Freon12)	2.00	0.58	2.00	U
75-34-3	1,1-Dichloroethane	1.00	0.32	1.00	U
107-06-2	1,2-Dichloroethane	1.00	0.28	1.00	U
75-35-4	1,1-Dichloroethene	1.00	0.69	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	0.33	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	0.38	1.00	U
78-87-5	1,2-Dichloropropane	1.00	0.29	1.00	U
142-28-9	1,3-Dichloropropane	1.00	0.21	1.00	U
594-20-7	2,2-Dichloropropane	1.00	0.42	1.00	U
563-58-6	1,1-Dichloropropene	1.00	0.58	1.00	U
10061-01-5	cis-1,3-Dichloropropene	0.50	0.36	0.50	U

MJ

MW 6/14/18

FORM I - ORGANIC ANALYSIS DATA SHEET

SW846 8260C

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Laboratory:	Eurofins Spectrum Analytical, Inc. - MA			SDG:	SC44624		
Client:	EA Engineering, Science, & Technology - Syracuse			Project:	Metal Etching - Freeport, NY		
Project Number:	1490709			Received:	03/09/18 10:41		
Matrix:	Aqueous	Laboratory ID:	SC44624-10	File ID:	4462410.D		
Sampled:	03/07/18 00:00	Prepared:	03/12/18 11:08	Analyzed:	03/13/18 06:55		
% Solids:		Preparation:	SW846 5030 Water MS	Initial/Final:	5 ml / 5 ml		
Batch:	1803373	Sequence:	S817557	Calibration:	1802088	Instrument:	HPV5
Reported to:	MRL	Dilution:	1				

CAS NO.	COMPOUND	RESULT (µg/l)	MDL	MRL	Q
10061-02-6	trans-1,3-Dichloropropene	0.50	0.35	0.50	U
100-41-4	Ethylbenzene	1.00	0.33	1.00	U
87-68-3	Hexachlorobutadiene	0.50	0.47	0.50	U
591-78-6	2-Hexanone (MBK)	2.00	0.53	2.00	U
98-82-8	Isopropylbenzene	1.00	0.36	1.00	U
99-87-6	4-Isopropyltoluene	1.00	0.28	1.00	U
1634-04-4	Methyl tert-butyl ether	1.00	0.24	1.00	U
108-10-1	4-Methyl-2-pentanone (MIBK)	2.00	0.52	2.00	U
75-09-2	Methylene chloride	2.00	0.66	2.00	U
91-20-3	Naphthalene	1.00	0.35	1.00	U
103-65-1	n-Propylbenzene	1.00	0.34	1.00	U
100-42-5	Styrene	1.00	0.40	1.00	U
630-20-6	1,1,1,2-Tetrachloroethane	1.00	0.38	1.00	U
79-34-5	1,1,2,2-Tetrachloroethane	0.50	0.33	0.50	U
127-18-4	Tetrachloroethene	1.00	0.57	1.00	U
108-88-3	Toluene	1.00	0.30	1.00	U
87-61-6	1,2,3-Trichlorobenzene	1.00	0.38	1.00	U
120-82-1	1,2,4-Trichlorobenzene	1.00	0.38	1.00	U
71-55-6	1,1,1-Trichloroethane	1.00	0.51	1.00	U
108-70-3	1,3,5-Trichlorobenzene	1.00	0.30	1.00	U
79-00-5	1,1,2-Trichloroethane	1.00	0.33	1.00	U
79-01-6	Trichloroethene	1.00	0.50	1.00	U
75-69-4	Trichlorofluoromethane (Freon 11)	1.00	0.49	1.00	U
96-18-4	1,2,3-Trichloropropane	1.00	0.29	1.00	U
95-63-6	1,2,4-Trimethylbenzene	1.00	0.36	1.00	U
108-67-8	1,3,5-Trimethylbenzene	1.00	0.43	1.00	U
75-01-4	Vinyl chloride	1.00	0.47	1.00	U
179601-23-1	m,p-Xylene	2.00	0.38	2.00	U
95-47-6	o-Xylene	1.00	0.28	1.00	U
109-99-9	Tetrahydrofuran	2.00	1.06	2.00	U
60-29-7	Ethyl ether	1.00	0.37	1.00	U
994-05-8	Tert-amyl methyl ether	1.00	0.49	1.00	U
637-92-3	Ethyl tert-butyl ether	1.00	0.33	1.00	U
108-20-3	Di-isopropyl ether	1.00	0.29	1.00	U
75-65-0	Tert-Butanol / butyl alcohol	10.0	5.90	10.0	U
110-57-6	trans-1,4-Dichloro-2-butene	5.00	0.82	5.00	U
123-91-1	1,4-Dioxane	20.0	11.4	20.0	U
64-17-5	Ethanol	200	30.9	200	U

MW 6/4/18

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Appendix F

Air Sampling Forms

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FIELD AIR SAMPLING FORM

EA Engineering and Its Affiliate **EA Science & Technology** **6712 Brooklawn Parkway, Suite 104** **Syracuse, NY 13211**	**Project #:** 1490709 **Project Name:** NYSDEC Metal Etching Site **Location:** Freeport, NY **Project Manager:** Megan Miller

Sample Location Information:

Site ID Number: 130110		**Sampler(s):**	MM/SS
PID Meter Used:(Model, Serial #)	Mini Rae 3000	**Building I.D. No.:**	01 (Office)

SUMMA Canister Record:

INDOOR AIR		**OUTDOOR AIR**		**DUPLICATE SAMPLE**			
Flow Regulator No.:	3172	**Flow Regulator No.:**	3248	**Flow Regulator No.:**	3193	**Flow Regulator No.:**	
Canister Serial No.:	1784/1382	**Canister Serial No.:**	2014/C9301	**Canister Serial No.:**	C9650	**Canister Serial No.:**	
Start Date/Time:	3.6.18 / 1125	**Start Date/Time:**	3.6.18 / 1119	**Start Date/Time:**	3.6.18 / 1119	**Start Date/Time:**	
Start Pressure: (inches Hg)	-29	**Start Pressure: (inches Hg)**	-28.5	**Start Pressure: (inches Hg)**	-28.5	**Start Pressure: (inches Hg)**	
Stop Date/Time:	3.7.18 / 1055	**Stop Date/Time:**	3.7.18 / 1050	**Stop Date/Time:**	3.7.18 / 1050	**Stop Date/Time:**	
Stop Pressure: (inches Hg)	-5.5	**Stop Pressure: (inches Hg)**	-6	**Stop Pressure: (inches Hg)**	-5	**Stop Pressure: (inches Hg)**	
Sample ID: IA-0318		**Sample ID:** OA-0318		**Sample ID:** DUP-0318 other can identification 2138		**Sample ID:**	

Other Sampling Information:

Story/Level	**Ground level**	Direction from Building	**WEST**	Direction from Building	**WEST**	Direction from Building	
Room	**Office**	Distance from Building	**3 feet**	Distance from Building	**3 feet**	Distance from Building	
Indoor Air Temp (^{o}F)	**68 deg**	Intake Height Above Ground Level (ft.)	**3 feet**	Intake Height Above Ground Level (ft.)	**3 feet**	Intake Height Above Ground Level (ft.)	
Barometric Pressure?	**No**	Intake Tubing Used?	**No**	Intake Tubing Used?	**No**	Intake Tubing Used?	
Intake Height Above Floor Level (ft.)	**4 feet**	Distance to nearest Roadway	**15 -20 feet**	Distance to nearest Roadway	**15 feet**	Distance to nearest Roadway	
Noticeable Odor?	**No**	Noticeable Odor?	**No**	Noticeable Odor?	**No**	Noticeable Odor?	
PID Reading (ppb)	**0**	PID Reading (ppb)	**0**	PID Reading (ppb)	**0**	PID Reading (ppb)	
Duplicate Sample?	**No**	Duplicate Sample?	**Yes**	Duplicate Sample?		Duplicate Sample?	

Comments:

Indoor air sample was placed near the east wall of the office.

Duplicate sample was collected with the outdoor sample.

Sampler Signature: Steven Soldner

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Appendix G

Institutional Controls/Engineering Controls Certifications

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Enclosure 1
Engineering Controls - Standby Consultant/Contractor Certification Form

Site Details **Box 1**

Site No. 130110

Site Name Metal Etching Co., Inc.

Site Address: 435 South Main Street Zip Code: 11520
City/Town: Freeport
County: Nassau
Site Acreage: 2.3

Reporting Period: November 12, 2017 to November 12, 2018

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

Box 2

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

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor Date

SITE NO. 130110 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
62044 00240	BWM High & Dry Inc.	Ground Water Use Restriction Landuse Restriction Site Management Plan Monitoring Plan

Note: This parcel now includes former parcel 62-44-25.

Imposition of an institutional control in the form of an environmental notice that requires (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) submission of a periodic certification of institutional and engineering controls to the Department by the property owner. The required control, in the form of 3 environmental notices (EN)are in place.ENs were recorded in the Nassau County Clerk's Office on 3/25/14 and 3/28/14 as doc. ref Nos.:EL14000001(Freeport Creek Assoc.),EL14000002(BWM High&Dry),EL14000003(Apache Realty Corp.)

A site management plan (SMP)has been developed and includes the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.

SMP prepared by the Department and finalized in October 2012. SMP revised in April 2014 (Rev No. 01)to include recorded ENs. SMP revised in November 2018 (Rev. 02) to reflect reduced frequency of monitoring and reporting (annual monitoring, reporting every 3 yrs.) and add PFAS to list of analytes for groundwater sampling.

62045 00540	BWM High & Dry Inc.	Ground Water Use Restriction Landuse Restriction Site Management Plan Monitoring Plan

Imposition of an institutional control in the form of an environmental notice that requires (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) submission of a periodic certification of institutional and engineering controls to the Department by the property owner. The required control, in the form of 3 environmental notices (EN)are in place.ENs were recorded in the Nassau County Clerk's Office on 3/25/14 and 3/28/14 as doc. ref Nos.:EL14000001(Freeport Creek Assoc.),EL14000002(BWM High&Dry),EL14000003(Apache Realty Corp.)

A site management plan (SMP)has been developed and includes the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy. SMP prepared by the Department and finalized in October 2012. SMP revised in April 2014 (Rev No. 01)to include recorded ENs. SMP revised in November 2018 (Rev. 02) to reflect reduced frequency of monitoring and reporting (annual monitoring, reporting every 3 yrs.) and add PFAS to list of analytes for groundwater sampling.

62045 01440	Freeport Creek Assc.LLC c/o Gloria	Ground Water Use Restriction Landuse Restriction Site Management Plan Monitoring Plan

Imposition of an institutional control in the form of an environmental notice that requires (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) submission of a periodic certification of institutional and engineering controls to the Department by the property owner. The required control, in the form of 3 environmental notices (EN)are in place.ENs were recorded in the Nassau County Clerk's Office on 3/25/14 and 3/28/14 as doc. ref Nos.:EL14000001(Freeport Creek Assoc.),EL14000002(BWM High&Dry),EL14000003(Apache Realty Corp.)

A site management plan (SMP)has been developed and includes the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.

SMP prepared by the Department and finalized in October 2012. SMP revised in April 2014 (Rev No. 01) to include recorded ENs. SMP revised in November 2018 (Rev. 02) to reflect reduced frequency of monitoring and reporting (annual monitoring, reporting every 3 yrs.) and add PFAS to list of analytes for groundwater sampling.

62045 01450	Freeport Creek Assc LLC c/o Gloria	Ground Water Use Restriction Landuse Restriction Site Management Plan Monitoring Plan

Imposition of an institutional control in the form of an environmental notice that requires (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) submission of a periodic certification of institutional and engineering controls to the Department by the property owner. The required control, in the form of 3 environmental notices (EN)are in place.ENs were recorded in the Nassau County Clerk's Office on 3/25/14 and 3/28/14 as doc. ref Nos.:EL14000001(Freeport Creek Assoc.),EL14000002(BWM High&Dry),EL14000003(Apache Realty Corp.)

A site management plan (SMP)has been developed and includes the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.

SMP prepared by the Department and finalized in October 2012. SMP revised in April 2014 (Rev No. 01)to include recorded ENs. SMP revised in November 2018 (Rev. 02) to reflect reduced frequency of monitoring and reporting (annual monitoring, reporting every 3 yrs.) and add PFAS to list of analytes for groundwater sampling.

62045 01550 Apache Realty Corporation

Ground Water Use Restriction
Landuse Restriction
Site Management Plan
Monitoring Plan

Imposition of an institutional control in the form of an environmental notice requires (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) submission of a periodic certification of institutional and engineering controls to the Department by the property owner. The required control, in the form of 3 environmental notices (EN)are in place.ENs were recorded in the Nassau County Clerk's Office on 3/25/14 and 3/28/14 as doc. ref Nos.:EL14000001(Freeport Creek Assoc.),EL14000002(BWM High&Dry),EL14000003(Apache Realty Corp.)

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SMP prepared by the Department and finalized in October 2012. SMP revised in April 2014 (Rev No. 01)to include recorded ENs. SMP revised in November 2018 (Rev. 02) to reflect reduced frequency of monitoring and reporting (annual monitoring, reporting every 3 yrs.) and add PFAS to list of analytes for groundwater sampling.

62045 01570 Apache Realty Corporation

Ground Water Use Restriction
Landuse Restriction
Site Management Plan
Monitoring Plan

Imposition of an institutional control in the form of an environmental notice that requires (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) submission of a periodic certification of institutional and engineering controls to the Department by the property owner. The required control, in the form of 3 environmental notices (EN)are in place.ENs were recorded in the Nassau County Clerk's Office on 3/25/14 and 3/28/14 as doc. ref Nos.:EL14000001(Freeport Creek Assoc.),EL14000002(BWM High&Dry),EL14000003(Apache Realty Corp.)

A site management plan (SMP)has been developed and includes the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.

SMP prepared by the Department and finalized in October 2012. SMP revised in April 2014 (Rev No. 01)to include recorded ENs. SMP revised in November 2018 (Rev. 02) to reflect reduced frequency of monitoring and reporting (annual monitoring, reporting every 3 yrs.) and add PFAS to list of analytes for groundwater sampling

62045 01580	Freeport Creek Assc. c/o Gloria Stern	Site Management Plan Ground Water Use Restriction Landuse Restriction Monitoring Plan

Imposition of an institutional control in the form of an environmental notice that requires (a) limiting the use and development of the property to commercial use, which will also permit industrial use, in conformance of local zoning; (b) compliance with the approved site management plan; (c) restricting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH; and (d) submission of a periodic certification of institutional and engineering controls to the Department. The required control, in the form of 3 environmental notices (EN)are in place.ENs were recorded in the Nassau County Clerk's Office on 3/25/14 and 3/28/14 as doc. ref Nos.:EL14000001(Freeport Creek Assoc.),EL14000002(BWM High&Dry),EL14000003(Apache Realty Corp.)

Site management plan (SMP)has been developed which includes the following institutional and engineering controls: (a) management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings. Excavated soil will be tested, properly handled to protect the health and safety of workers and the nearby community, and will be properly managed in a manner acceptable to the Department; (b) continued evaluation of the potential for vapor intrusion for any buildings developed on the site, including provision for mitigation of any impacts identified; (c) monitoring of soil vapor and groundwater; (d) identification of any use restrictions on the site; and (e) provisions for the continued proper operation and maintenance of the components of the remedy.

SMP prepared by the Department and finalized in October 2012. SMP revised in April 2014 (Rev No.01) to include recorded ENs. SMP revised in November 2018 (Rev. 02) to reflect reduced frequency of monitoring and reporting (annual monitoring, reporting every 3 yrs.) and add PFAS to list of analytes for groundwater sampling.

Description of Engineering Controls **Box 4**

Parcel	Engineering Control
62044 00240	Cover System Fencing/Access Control Vapor Mitigation

Final Cover System: Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in the SMP.

Sub-Slab Depressurization Systems: Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

62045 00540	Vapor Mitigation Cover System Fencing/Access Control

Final Cover System: Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in the SMP.

Sub-Slab Depressurization Systems: Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

62045 01440

Vapor Mitigation
Cover System
Fencing/Access Control

Final Cover System: Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in the SMP.

Sub-Slab Depressurization Systems: Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

62045 01450

Vapor Mitigation
Cover System
Fencing/Access Control

Final Cover System: Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in the SMP.

Sub-Slab Depressurization Systems: Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

62045 01550

Vapor Mitigation
Cover System
Fencing/Access Control

Final Cover System: Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in the SMP.

Sub-Slab Depressurization Systems: Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

62045 01570

Vapor Mitigation
Cover System
Fencing/Access Control

Final Cover System: Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in the SMP.

Sub-Slab Depressurization Systems: Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

62045 01580

Vapor Mitigation
Cover System
Fencing/Access Control

Final Cover System: Exposure to remaining contamination in soil/fill at the site is prevented by a demarcation layer and asphalt and porous pavement cover system placed over the site. This cover system is comprised of a geotextile demarcation layer, topped by a minimum of 12 in. of asphalt pavement, porous pavement, or rip-rap. The EWP that appears in the SMP outlines the procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed; and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in the SMP.

Sub-Slab Depressurization Systems: Exposure to indoor air impacted with VOCs within the site buildings is prevented by the two existing SSDSs, which were installed in the site buildings in March 2005. The systems serve to reduce the pressure beneath the building slabs by venting potentially impacted soil vapor outside of the buildings.

Box 5

Periodic Review Report (PRR) Certification Statements

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

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification, including data and material prepared by previous contractors for the current certifying period, if any;

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

YES	NO
☒	☐

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

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

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

   (c) nothing has occurred that would constitute a failure to comply with the Site Management Plan, or equivalent if no Site Management Plan exists.

YES	NO
☒	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and contact the DEC PM regarding the development of a Corrective Measures Work Plan to address these issues.

Signature of Standby Consultant/Contractor

Date

Box 6

IC/EC CERTIFICATIONS

Professional Engineer Signature

I certify that all information in Boxes 2 through 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I DONALD CONAN at EA ENGINEERING, P.C.
print name

269 W JEFFERSON ST

SYRACUSE NY 13202,
(print business address)

am certifying as a Professional Engineer.

Donald Conan
Signature of Professional Engineer

Stamp (Optional)

1-10-19
Date