INTERIM REMEDIAL MEASURES WORK PLAN
FOR
FORMER MANGROVE FEATHER FACTORY SITE
47 BROADWAY, LYNBROOK, NEW YORK

NYSDEC SITE NUMBER: 130251

PREPARED FOR NYSDEC APPROVAL

PREPARED BY

FPM group™

640 JOHNSON AVENUE, SUITE 101
BOHEMIA, NEW YORK 11716

MARCH 2023

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LIST OF ACRONYMS

Acronym	Definition
AST	Aboveground Storage Tank
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
Cis-1,2 DCE	cis-1,2 Dichloroethene
DUSR	Data Usability Summary Report
HASP	Health and Safety Plan
IRM	Interim Remedial Measure
LIRR	Long Island Rail Road
MSL	Mean Sea Level
NCDOH	Nassau County Department of Health
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
P	Potential
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCE	Tetrachloroethylene
PE	Professional Engineer
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonic acid
PG	Professional Geologist
PID	Photoionization Detector
QAPP	Quality Assurance Project Plan
QA/QC	Quality assurance/quality control
QEP	Qualified Environmental Professional
SC	Site Characterization
SCOs	NYSDEC Subpart 375 Soil Cleanup Objectives
SDG	Sample Delivery Group
Site	47 Broadway, Lynbrook, NY
SMP	Site Management Plan
SSDS	Sub-Slab Depressurization System

LIST OF ACRONYMS (Continued)	
Standards	Class GA Ambient Water Quality Standards and Guidance Values
SVI	Soil vapor intrusion
SVOC	Semivolatile organic compound
TCE	Trichloroethene
TCL	Target Compound List
UIC	Underground Injection Control
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
WP	Work Plan

INTERIM REMEDIAL MEASURES WORK PLAN

Prepared for

Facility: Former Mangrove Feather Factory Site
47 Broadway
Lynbrook, New York
NYSDEC P Site # 130251

FPM File No: 1424g-22-03

CERTIFICATION

I, Kevin F. Loyst, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375, and that this Interim Remedial Measures Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

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SECTION 1.0
SITE BACKGROUND AND SUMMARY OF CONDITIONS

1.1 Introduction

This Interim Remedial Measures (IRM) Work Plan (WP) has been prepared to provide the necessary procedures and protocols for removal of impacted soil at the Former Mangrove Feather Factory property, which is identified by the New York State Department of Environmental Conservation (NYSDEC) as Potential (P) Site #130251. P Site #130251 includes several adjoining tax lots located in the Incorporated Village of Lynbrook, Nassau County, New York; the tax lots are collectively referred to as the Site. The Site location is shown in Figure 1.1.1.

A Site Characterization (SC) investigation was performed at the Site in 2022 and included evaluations of groundwater, soil, and soil vapor. Additional evaluations were performed during prior investigations at the Site The SC results have been transmitted to the NYSDEC in a report that included an assessment of all of the Site data. Certain soil conditions, described in detail below, are evident for which an IRM is recommended. This IRM Work Plan describes these conditions and the proposed IRM. Certain soil vapor conditions are also evident for which soil vapor intrusion (SVI) mitigation measures are recommended; these conditions are discussed herein and details for the proposed SVI mitigation measures will be presented in a Site Management Plan (SMP).

1.2 Site Background

Detailed Site background information was provided in the SC Work Plan. Information pertinent to the proposed IRM activities is summarized herein.

1.2.1 General Site Conditions

Site #130251 occupies approximately 0.43 acres of property at 47 Broadway and includes several parcels identified by the following Nassau County Tax Map numbers: Block 519, Lots 119 to 124. A plan of the Site and its vicinity is included as Figure 1.2.1.1 (note: this figure shows the Site development that was present before 2022 demolition). The Site consists of an irregularly-shaped property in the downtown area of the Village of Lynbrook, a suburban area with numerous retail and commercial businesses in the Site proximity. The Site is bordered by Broadway to the southeast, beyond which are a commercial office building and paved parking lots. Station (aka Saperstein) Plaza and Long Island Rail Road (LIRR) tracks are immediately south of the Site, beyond which are commercial businesses and the Sunrise Highway. Commercial businesses formerly adjoined the Site to the northwest; the buildings on these parcels were demolished in 2022 in preparation for redevelopment. A large parking lot adjoins the Site to the northeast, across Langdon Place.

The Site is presently vacant; the building was demolished in 2022 to prepare for redevelopment. Previously the Site was developed with a building formerly used by fabric and shoe manufacturing companies and was most recently occupied by the Mangrove Feather Company, Inc.

Redevelopment is anticipated to commence in 2023 and will include a multi-story residential apartment building with rental units (a restricted residential use). There will be no basement and the majority of the on-grade and second levels of the building will include fully ventilated and open-air garages. There will be a retail space at the southeast portion of the new building and several on-grade habitable spaces, including stairwells and an elevator lobby, will also be present on

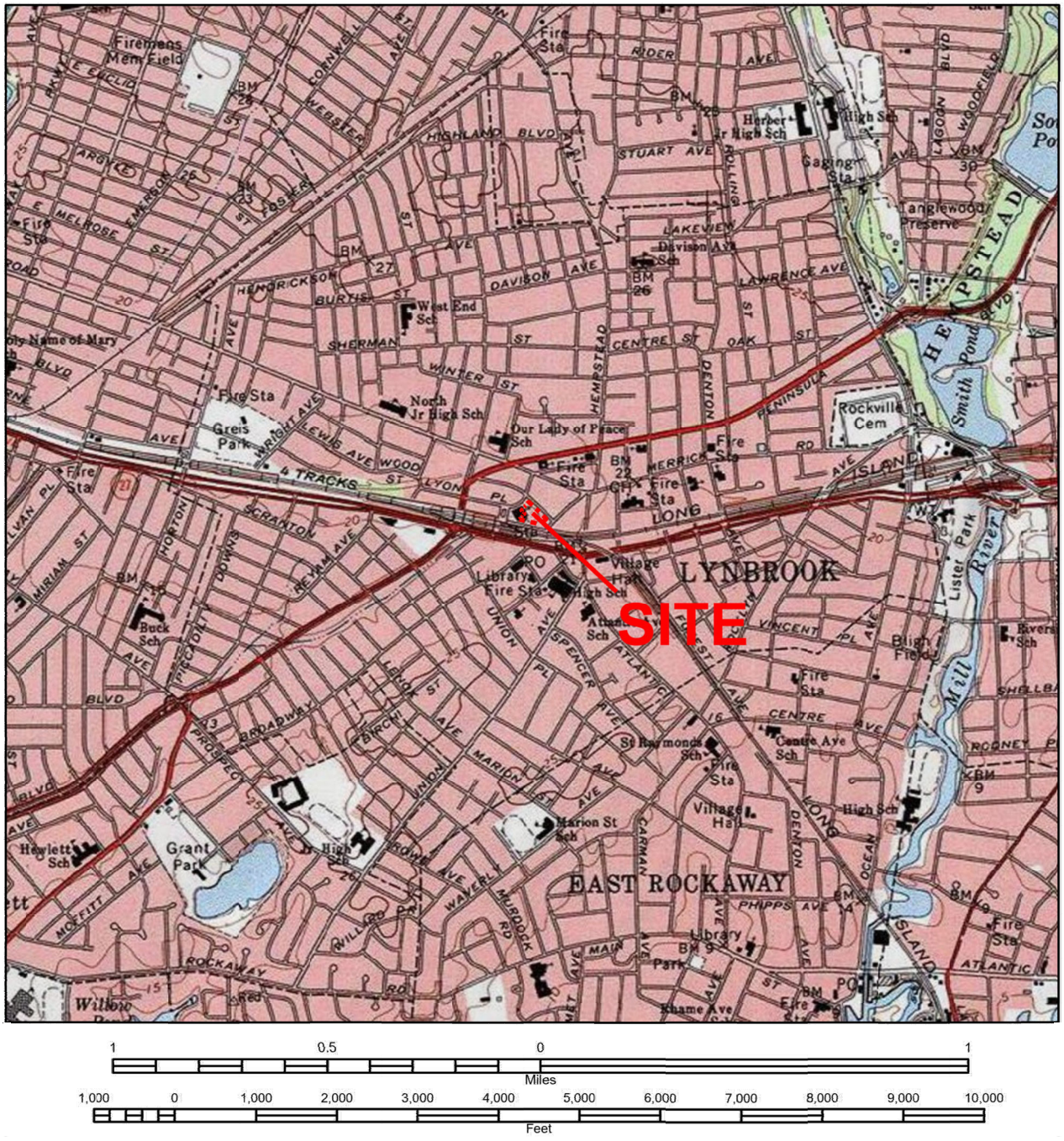

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FIGURE 1.1.1
SITE LOCATION

47 BROADWAY
LYNBROOK, NEW YORK

SOURCE: USGS LYNBROOK, NY QUADRANGLE

Drawn By: B.F.	Checked By: S.D.	Date: 11/10/22

0’ 150’ 300’

APPROXIMATE SCALE

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FIGURE 1.2.1.1
SITE AND VICINITY PLAN

47 BROADWAY
LYNBROOK, NEW YORK

Drawn By: B.F.	Checked By: S.D.	Date: 11/10/22

grade. The new building will include a vapor barrier and sub-slab depressurization systems (SSDSs) beneath the on-grade habitable areas for SVI mitigation.

1.2.2 Site History Summary

The Site was initially developed prior to 1910 with several buildings that included a wagon shed, wagon house, storage, stables, gallery, and second-floor hall located on the central and southern portions of the Site. By 1916 the Site was occupied by Atlantic Knitting Mills, Inc. and onsite operations included knitting, washing, storage, and packing. Over time the Site buildings were enlarged and underground storage tanks (USTs) and aboveground storage tanks (ASTs) were installed to support the onsite operations. A connection to the municipal sewer system was made in 1959, prior to which time an onsite sanitary waste disposal system (underground injection control, or UIC system) was in use.

Multiple knitting, clothing, shoe, and similar manufacturing operations occupied the Site until about 2006, when Site operations ceased. There is no record of any hazardous waste generation, storage, disposal, or release at the Site during Site operations or thereafter. The Site is presently vacant; the former building was demolished in 2022 to prepare for redevelopment. Demolition included removal and remediation as needed of all former USTs, ASTs, and UICs under Nassau County Department of Health (NCDOH) oversight, as discussed in the SC Work Plan and Sections 1 and 2 of the Records Search Report for the Site. Asbestos abatement was also completed.

1.2.3 Site Environmental Setting

The surface topography of the Site and surrounding vicinity was obtained from the USGS Lynbrook, New York Quadrangle (1969). The topographic elevation of the Site is about 19 feet above mean sea level (MSL) and the ground surface slopes gently to the southwest.

The Site is underlain by sand and gravel glacial outwash deposits of the Pleistocene Upper Glacial Formation. The Upper Glacial Formation extends to a depth of about 80 feet below the Site surface (USGS, 1963), below which the Cretaceous Magothy Formation is present. The Magothy Formation consists primarily of sand with interbeds of silt and clay. Although the Upper Glacial Formation and the Magothy Formation are both reported to contain fresh groundwater in the Site vicinity, the groundwater data collected during the SC demonstrate that the Upper Glacial Formation contains brackish water beneath the Site.

The regional groundwater flow direction in the Upper Glacial Aquifer in the Site vicinity (USGS, 2016) is inferred to be generally southerly. However, the Site-specific groundwater flow direction determined during the SC is generally to the southwest. Groundwater is generally found at approximately 10 feet below grade (an elevation of about 10 feet MSL).

There are no surface water bodies on or adjoining the Site. The closest surface water body is Grant Pond, which is approximately one mile to the southwest. The Mill River is just over one mile to the east and Hewlett Bay is approximately two miles to the south. These surface water bodies are separated from the Site by major roadways, the LIRR tracks, and multiple commercial and other uses.

1.2.4 Summary of Subsurface Conditions

Subsurface conditions at the Site based on the SC data and prior investigation results are detailed in the sections below; these sections include Site plans showing the sampled locations and data that exceed applicable regulatory criteria. As the IRM will address soil conditions that exceed

applicable criteria for the planned use of the Site, the tabulated data for soil are included in Appendix A.

- Soil Conditions

  - The Site is generally underlain by 1 to 2.5 feet of fill typically consisting of sand with gravel and fragments of brick, concrete and paving materials; most of the fill likely originated from incidental incorporation of fragments of former building materials into the underlying native soil during the 2022 demolition process. Certain areas of the Site were previously backfilled with clean fill during UST and UIC removals; the clean fill is likely to have been sand that resembles in-situ native soil and may be interpreted as such on the boring logs. No indications suggestive of burial of demolition materials or the presence of historic fill (ash, slag, non-masonry materials, etc.) were observed. Apparently native soil generally consisting of sand with some fines and gravel is present at grade or underlying the fill. No visible indications of potential impacts (staining, odors, or PID readings) were detected in any of the fill or native soils.

  - No volatile organic compounds (VOCs), pesticides, polychlorinated biphenyls (PCBs), or per- and polyfluoroalkyl substances (PFAS) compounds were detected in any of the SC and/or previous soil samples at levels above the restricted residential use soil cleanup objectives (SCOs) or guidance values. No metals were detected in the SC soil samples at levels above the restricted residential use SCOs.

  - Lead was detected above its restricted residential use SCO in the SB-9 soil sample from 5.5 to 6 feet below grade during a prior investigation. Lead was previously detected in both shallow and deeper soil samples in this area during prior investigations. A UST was formerly present in this area and it appears that the lead may be associated with the UST excavation backfill. The IRM will include removal and proper offsite disposal of the lead-impacted soil at SB-9.

  - Several semivolatile organic compounds (SVOCs) were detected in three shallow fill samples during the SC at levels above the restricted residential use SCOs. The detected SVOCs are polycyclic aromatic hydrocarbons (PAHs) typical of asphalt and the sample locations were all within or close to the former asphalt-paved alley. It is likely that these detections resulted from small fragments of asphalt in the samples. Prior soil sampling included testing for SVOCs at seven throughout the Site, with no SVOCs detected above the SCOs. These were native soil samples collected prior to building demolition and the results are supportive of the conclusion that the SVOCs detected during the SC resulted from asphalt fragments from demolition being incorporated into the shallow fill soil. The IRM will include removal and proper offsite disposal of the soil with SVOCs above the restricted residential use SCOs.

Collectively, these soil results are consistent with a property that was historically used for clothing, shoe, and similar manufacturing operations from the early 1900s until 2006, following which the former buildings were demolished and removed from the property in 2022. Backfill is present in former excavation areas associated with historic subsurface structures (USTs and UICs). Historic fill was not identified on the Site. As discussed below, none of the soil conditions appear to impact groundwater quality or soil vapor at the Site.

Figure 1.2.4.1 shows all soil data for metals and SVOCs that exceed the unrestricted use or restricted residential use SCOs. The figure also shows the sampling locations where no SCO exceedances were identified for metals and/or SVOCs. This information was used to assess the

Soil Sample No.	SB-9	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	5.5-6		
Sample Date	2020		
Metals in mg/kg			
Lead	511	63	400
Mercury	0.19	0.18	0.81
Semivolatile Organic Compounds			

Soil Sample No.	B-5	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	0-2		
Sample Date	2018		
Metals in mg/kg			
Lead	78.1	63	400
Semivolatile Organic Compounds			

Soil Sample No.	B-1	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	6-8		
Sample Date	2018		
Metals in mg/kg			
Lead	103	63	400
Semivolatile Organic Compounds			

Sample Location and Depth in Feet Below Grade	T-10 (0-1)	T-10 (2-3)	NYDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Fill	Native		
Sampling Date	11/9/2022			
	Result Q	Result Q		
Metals in milligrams per kilogram (mg/kg)				
	-	-	-	-
Semivolatile Organic Compounds in mg/kg				
	-	NA	-	-

Sample Location and Depth in Feet Below Grade	T-3 (4-6)	T-3 (6-8)	NYDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Native	Native		
Sampling Date	11/9/2022	11/9/2022		
	Result Q	Result Q		
Metals in milligrams per kilogram (mg/kg)				
Lead	82.0 F1 F2	77.4 F1 F2	63	400

Soil Sample No.	SB-11	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	9-9.5		
Sample Date	2020		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	B-4	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	4-6		
Sample Date	2018		
Metals in mg/kg			
Lead	124	63	400
Semivolatile Organic Compounds			

Sample Location and Depth in Feet Below Grade	T-9 (0-1)	T-9 (2-3)	NYDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Fill	Native		
Sampling Date	11/9/2022			
	Result Q	Result Q		
Metals in milligrams per kilogram (mg/kg)				
Lead	201 F2	85.5 F2	63	400
Semivolatile Organic Compounds in mg/kg				
Benzo(a)anthracene	1.3	NA	1	1
Benzo(a)pyrene	1.2 J F1	NA	1	1
Benzo(b)fluoranthene	1.5	NA	1	1
Chrysene	1.1 F1	NA	1	3.9
Indeno(1,2,3-cd)pyrene	0.81 *+J	NA	0.5	0.5

Soil Sample No.	SB-5	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	8-8.5		
Sample Date	2020		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	S-1	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	1-2		
Sample Date	2018		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	B-8	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	4-6		
Sample Date	2018		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	SB-6	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	10.5-11		
Sample Date	2020		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	B-6	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	6-8		
Sample Date	2018		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	SB-7	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	10.5-11		
Sample Date	2020		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	B-7	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	6-8		
Sample Date	2018		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	SB-8	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	10.5-11		
Sample Date	2020		
Metals			
Semivolatile Organic Compounds			

Sample Location and Depth in Feet Below Grade	T-1 (0-1)	NYDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Native		
Sampling Date	11/9/2022		
	Result Q		
Metals in milligrams per kilogram (mg/kg)			
Lead	119 F2	63	400
Zinc	115 F2	109	10000

Soil Sample No.	S-2	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	1-2		
Sample Date	2018		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	S-3	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	1-2		
Sample Date	2018		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	SB-10	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	8-9		
Sample Date	2020		
Metals			
Semivolatile Organic Compounds			

Sample Location and Depth in Feet Below Grade	T-4 (0-1)	NYDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Fill		
Sampling Date	11/9/2022		
	Result Q		
Metals in milligrams per kilogram (mg/kg)			
Lead	117 F2	63	400

Sample Location and Depth in Feet Below Grade	T-11 (0-1)	T-11 (2-3)	NYDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Fill	Fill/Native		
Sampling Date	11/9/2022			
	Result Q	Result Q		
Metals in milligrams per kilogram (mg/kg)				
Lead	147 F2	65.8 F2	63	400
Semivolatile Organic Compounds in mg/kg				
Benzo(a)anthracene	1.1	NA	1	1
Benzo(b)fluoranthene	1.3	NA	1	1
Chrysene	1.1 F1	NA	1	3.9
Indeno(1,2,3-cd)pyrene	0.87 *+J	NA	0.5	0.5

Sample Location and Depth in Feet Below Grade	T-8 (0-1)	T-8 (2-3)	NYDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Fill	Native		
Sampling Date	11/9/2022			
	Result Q	Result Q		
Metals in milligrams per kilogram (mg/kg)				
Cadmium	0.41 J	3.9	2.5	4.3
Lead	140 F2	38.8 F2	63	400
Semivolatile Organic Compounds in mg/kg				
Benzo(b)fluoranthene	1.1	NA	1	1
Indeno(1,2,3-cd)pyrene	0.55 *+J	NA	0.5	0.5

Soil Sample No.	B-2	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	6-8		
Sample Date	2018		
Metals			
Semivolatile Organic Compounds			

Soil Sample No.	B-3	6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives	6 NYCRR Part 375 Restricted Residential Use Soil Cleanup Objectives
Sample Depth (feet)	0-2		
Sample Date	2018		
Metals in mg/kg			
Lead	320	63	400
Semivolatile Organic Compounds			

LEGEND

T-1/S-1/SB-1 ● SOIL BORING

201 YELLOW HIGHLIGHTED VALUES EXCEED UNRESTRICTED USE SCOs

1.3 ORANGE HIGHLIGHTED VALUES EXCEED RESTRICTED RESIDENTIAL USE SCOs

2 ESTIMATED EXTENT OF IRM EXCAVATIONS WITH DEPTH IN FEET

NOTES: ANALYTE GROUPS WITH NO VALUES SHOWN INDICATE SAMPLES WITH NO SCO EXCEEDANCES. BORINGS WITH NO DATA BOXES INDICATE NO SVOC OR METALS DATA AT THOSE LOCATIONS.

N

0’ 30’ 60’

APPROXIMATE SCALE

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FIGURE 1.2.4.1
SUMMARY OF SOIL SAMPLE RESULTS
SVOCs AND METALS
47 BROADWAY
LYNBROOK, NEW YORK

Drawn By: B.F. | Checked By: S.D. | Date: 12/27/22

lateral and vertical extent of the proposed IRM areas, which are also shown on this figure. Removal and proper offsite disposal of the impacted soil is proposed in the IRM areas.

- Groundwater Conditions

Figure 1.2.4.2 shows all groundwater data that exceed the NYSDEC's Class GA Ambient Water Quality Standards or Guidance Values (Standards) or proposed guidance values, as discussed below. The Site-specific groundwater flow direction is generally to the southwest. No IRM work is proposed for groundwater and, as the depth to groundwater is greater than the planned depth of the IRM excavations, it is not anticipated that groundwater will be encountered during the IRM work.

Trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE) were detected at GW-1 during the SC at levels somewhat above their Standards; these VOCs were previously detected in the same area (AQ-1) at similar levels and the results are consistent. Low estimated concentrations (below the Standards) of tetrachloroethene (PCE) and vinyl chloride were also detected at GW-1 during the SC. TCE was also detected at GW-6 and GW-7 during the SC at levels somewhat above its Standard, but lower than at GW-1. Low estimated concentrations of PCE were also noted at GW-6 and GW-7. TCE was previously detected at the SB-7 location (near GW-6) at 23 ug/l; the detection at GW-6 during the SC was somewhat lower (7.8 ug/l). These results are consistent with an offsite source of TCE and its breakdown product cis-1,2-DCE.

Iron, manganese, and sodium were detected in the SC groundwater samples at levels above their Standards. Iron and manganese are often found at elevated concentrations in Long Island groundwater due to natural conditions. Sodium was found in all the groundwater samples at levels indicative of brackish conditions and suggestive of saltwater intrusion. Arsenic, chromium, lead, silver and/or mercury were previously detected in several groundwater samples at levels above their Standards. These data were suspect as the samples were collected using direct push techniques and temporary wells, both of which typically result in elevated turbidity. None of these metals were detected above the Standards in the SC samples, which were collected from properly-developed wells with low-turbidity samples.

No SVOCs, 1,4-dioxane, silvex, or PCBs were detected in any of the SC groundwater samples. None of the prior samples exhibited exceedances of the Standards for SVOCs.

Chlordane, dieldrin, and/or endrin were detected in the SC GW-3 and GW-4 samples at levels above their Standards. These pesticides were historically applied as insecticides and endrin was also used as a rodenticide. Dieldrin and endrin were not detected in any of the soil samples; chlordane was detected in one soil sample at a level below the unrestricted use SCO. These results are indicative of historic application of these pesticides and are not suggestive of a release.

Perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) were detected above their proposed guidance values in each groundwater sample for which PFAS testing was performed during the SC. PFOA and PFOS were not detected in onsite soil above the NYSDEC's guidance values. The distribution of PFOA and PFOS is very similar to the distribution of pesticides in groundwater and suggestive of a relationship between these analytes. As discussed in the SC Report, PFAS is likely to be present in areas where pesticides are identified.

Collectively, these groundwater results are consistent with a former manufacturing property located in a suburban area near the coastline. Sodium, iron and/or manganese are present in groundwater and appear to be associated with natural conditions and saltwater intrusion. Some pesticides and associated PFAS are present and appear to be related to historic offsite pesticide applications as these constituents were not found in the Site soil above unrestricted use SCOs or guidance values. The VOCs detected in three wells are not associated with VOC-impacted soil and likely originate from an offsite source.

Client ID	GW-1	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	11/17/2022	
Dilution Factor	1	
	Result Q	
Volatile Organic Compounds in micrograms per liter (ug/l)		
cis-1,2-Dichloroethene	15	5
Trichloroethene	16	5
Metals in ug/l		
Manganese	5190	300
Sodium	128000 F1 B	20,000
PFAS in nanograms per liter (ng/l)		
PFOS	15.7 F1	2.7
PFOA	7.79 F1	6.7
Semivolatile Organic Compounds in ug/l		
1,4-Dioxane in ug/l		
Pesticides in ug/l		
Herbicide in ug/l		
Polychlorinated Biphenyls in ug/l		

GW Sample No.	AQ-1	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	2018	
Volatile Organic Compounds in ug/l		
cis-1,2-Dichloroethene	9.48	5
Trichloroethane	6.95	5
Metals (filtered)		
Semivolatile Organic Compounds		

LEGEND

GW–1/AQ–1/SB–9 GROUNDWATER SAMPLE

15 YELLOW HIGHLIGHTED VALUES EXCEED NYSDEC STANDARDS

GROUNDWATER FLOW DIRECTION

N

Client ID	GW-7	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	11/17/2022	
Dilution Factor	1	
	Result Q	
Volatile Organic Compounds in micrograms per liter (ug/l)		
Trichloroethene	9.1	5
Metals in ug/l		
Iron	355	300
Sodium	173000 F1 B	20,000

GW Sample No.	SB-9	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	2020	
Volatile Organic Compounds		
Metals in ug/l		
Arsenic	29.5	25
Chromium	242	50
Lead	459	25
Semivolatile Organic Compounds		

Client ID	GW-2	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	11/17/2022	
	Result Q	
Volatile Organic Compounds in micrograms per liter (ug/l)		
Metals in ug/l		
Sodium	181000 F1 B	20,000

GW Sample No.	SB-7	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	2020	
Volatile Organic Compounds in ug/l		
Trichloroethane	23	5
Metals in ug/l		
Arsenic	53	25
Chromium	279	50
Lead	197	25
Semivolatile Organic Compounds		

Client ID	GW-6	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	11/17/2022	
Dilution Factor	1	
	Result Q	
Volatile Organic Compounds in micrograms per liter (ug/l)		
Trichloroethene	7.8	5
Metals in ug/l		
Sodium	155000 F1 B	20,000

GW Sample No.	SB-6	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	2020	
Volatile Organic Compounds		
Metals in ug/l		
Arsenic	31.9	25
Chromium	181	50
Lead	127	25
Semivolatile Organic Compounds		

GW Sample No.	AQ-2	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	2018	
Volatile Organic Compounds		
Metals (filtered) in ug/l		
Chromium	110	50
Semivolatile Organic Compounds		

Client ID	GW-3	GW-39 (duplicate of GW-3)	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	11/17/2022		
	Result Q	Result Q	
Volatile Organic Compounds in micrograms per liter (ug/l)			
Metals in ug/l			
Sodium	142000 F1 B	138000 F1 B	20,000
PFAS in nanograms per liter (ng/l)			
PFOS	106 F1	101 F1	2.7
PFOA	13.7	15	6.7
Semivolatile Organic Compounds in ug/l			
1,4-Dioxane in ug/l			
Pesticides in ug/l			
Chlordane (technical)	0.56 J	0.055 J U	0.05
cis-Chlordane	0.084 J	0.0020 J U	0.05
Dieldrin	1.3	1.5	0.004
Endrin	0.13	0.14	ND
Herbicide in ug/l			
Polychlorinated Biphenyls in ug/l			

Client ID	GW-5	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Lab Sample ID	460-269746-10	
Sampling Date	11/17/2022	
	Result Q	
Volatile Organic Compounds in micrograms per liter (ug/l)		
Metals in ug/l		
Iron	4410	300
Manganese	304	300
Sodium	241000 F1 B	20,000

Client ID	GW-4	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	11/17/2022	
	Result Q	
Volatile Organic Compounds in micrograms per liter (ug/l)		
Metals in ug/l		
Manganese	1490	300
Sodium	173000 F1 B	20,000
PFAS in nanograms per liter (ng/l)		
PFOS	78.1	2.7
PFOA	12.7	6.7
Semivolatile Organic Compounds in ug/l		
1,4-Dioxane in ug/l		
Pesticides in ug/l		
Dieldrin	0.60	0.004
Endrin	0.090	ND
Herbicide in ug/l		
Polychlorinated Biphenyls in ug/l		

GW Sample No.	SB-1	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	2020	
Volatile Organic Compounds		
Metals in ug/l		
Arsenic	113	25
Chromium	608	50
Lead	1,150	25
Mercury	3.6	0.7
Semivolatile Organic Compounds		

GW Sample No.	AQ-3	NYSDEC Class GA Ambient Water Quality Standards and Guidance Values
Sampling Date	2018	
Volatile Organic Compounds		
Metals (filtered) in ug/l		
Chromium	60	50
Silver	180	50
Semivolatile Organic Compounds		

0’ 30’ 60’

APPROXIMATE SCALE

FPM GROUP

FIGURE 1.2.4.2
SUMMARY OF
GROUNDWATER SAMPLE RESULTS
47 BROADWAY
LYNBROOK, NEW YORK

Drawn By: B.F. | Checked By: S.D. | Date: 12/30/22

Two chlorinated VOCs, TCE and cis-1,2-DCE, were detected in groundwater at similar locations on the Site and at similar concentrations during the SC and prior investigations. The highest concentrations were found at GW-1/AQ-1, which is on the upgradient north corner of the Site.

Lower concentrations were found at locations generally downgradient of GW-1/AQ-1. These VOCs were not detected at the other onsite groundwater sample locations, indicating that their distribution is limited. While low and generally estimated concentrations of TCE were found in some of the soil samples, the highest TCE concentration in soil was an order of magnitude below the unrestricted use SCO. These results are consistent with an upgradient offsite source of TCE and its breakdown product cis-1,2-DCE, and are not indicative of an onsite source.

Iron and manganese are present in onsite groundwater samples at levels above their Standards. These metals are often found at elevated concentrations in Long Island groundwater and these detections are likely due to natural conditions. Sodium is present in onsite groundwater at levels indicative of brackish conditions and suggestive of saltwater intrusion.

Chlordane, dieldrin, and/or endrin (pesticides that were historically widely used as insecticides) were detected in onsite groundwater at two locations on the south side of the Site, with the concentrations detected in the upgradient sample adjoining the Site boundary (GW-3) noted to be higher than those in the more downgradient sample (GW-4). PFOS and/or PFOA were also detected at these locations, with a similar distribution of concentrations. Dieldrin and endrin were not detected in any of the soil samples, chlordane was detected in one soil sample at a level below the unrestricted use SCO, and none of the PFOA or PFOS detections in soil exceeded any guidance values. These results are suggestive of an upgradient offsite source of these pesticides and associated PFAS compounds and are not indicative of an onsite release.

- Soil Vapor Conditions

Figure 1.2.4.3 shows all soil vapor data for the VOCs for which the NYSDOH provides guidance. No IRM work is proposed for soil vapor.

TCE and PCE were detected in soil vapor during the SC. Other VOCs, including methylene chloride, carbon tetrachloride, and 1,1,1-TCA were also detected in soil vapor. Prior sub-slab soil vapor, indoor air and ambient air testing found TCE to be present in sub-slab soil vapor at levels for which the NYSDOH Guidance document indicates that mitigation for potential SVI may be needed.

The highest TCE and PCE concentrations were found near the northeast side of the Site (V-3) and near the north corner (upgradient) side of the Site (V-6), which are the areas of the Site where TCE and PCE were found in groundwater. The lowest concentrations of TCE in soil vapor were found near the south corner (downgradient) side of the Site (V-5) and near the west (crossgradient) corner of the Site (V-4). These are areas where no VOCs were detected in groundwater (GW-4/GW-3 and GW-5, respectively). Although low levels of TCE and/or PCE were detected in some of the soil samples, none of the detections exceeded any SCOs. Based on these findings, the TCE and related chlorinated solvents in soil vapor appear to be associated with VOC-impacted groundwater that is migrating onto the Site from an upgradient offsite source.

Mitigation for potential SVI will be performed for the new building that will be constructed onsite. Redevelopment is anticipated to commence in 2023 and will include a multi-story residential apartment building with rental units (a restricted residential use). There will be no basement and the majority of the on-grade and second levels of the building will include fully ventilated and open-air garages. There will be a retail space at the southeast portion of the new building and several on-grade habitable spaces, including stairwells and an elevator lobby, will also be present on grade. The new building will include a vapor barrier and sub-slab depressurization systems

Sample Location	V-6
Sampling Date	11/10/2022
Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	1.1 J
Carbon tetrachloride	18
Methylene Chloride	3.8
Tetrachloroethene	93
Trichloroethene	850 D

Soil Vapor Sample No.	SS-1
Sample Date	2018
Volatile Organic Compounds in ug/m³	
Tetrachloroethene	638
Trichloroethene	9,190

Soil Vapor Sample No.	SS-2
Sample Date	2018
Volatile Organic Compounds in ug/m³	
Methylene Chloride	27.1
Tetrachloroethene	147
Trichloroethene	812

Sample Location	V-3
Sampling Date	11/10/2022
Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	1.8 J
Carbon tetrachloride	3.1
Tetrachloroethene	110
Trichloroethene	1100 D

Sample Location	V-2
Sampling Date	11/10/2022
Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	2.0
Carbon tetrachloride	0.92
Tetrachloroethene	88
Trichloroethene	230 D

Sample Location	V-5
Sampling Date	11/10/2022
Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	0.37 J
Methylene Chloride	1.9
Tetrachloroethene	20
Trichloroethene	4.2

Sample Location	V-4	V-9 (duplicate)
Sampling Date	11/10/2022	
Volatile Organic Compounds in ug/m³		
1,1,1-Trichloroethane	1.3	1.2
Carbon tetrachloride	0.28	0.23
Methylene Chloride	2.6	3.5
Tetrachloroethene	58	49
Trichloroethene	12	10

Sample Location	V-1
Sampling Date	11/10/2022
Volatile Organic Compounds in ug/m³	
1,1,1-Trichloroethane	0.99 J
Carbon tetrachloride	0.45
Methylene Chloride	2.8
Tetrachloroethene	48
Trichloroethene	98

LEGEND

V–1/SS–1 ▲ SOIL VAPOR SAMPLE

NOTE: SS–1 AND SS–2 WERE SUB–SLAB SOIL VAPOR SAMPLES

N

0’ 40’ 80’

APPROXIMATE SCALE

FPM GROUP

FIGURE 1.2.4.3
SUMMARY OF
SOIL VAPOR SAMPLE RESULTS
47 BROADWAY
LYNBROOK, NEW YORK

Drawn By: B.F. | Checked By: S.D. | Date: 12/30/22

(SSDSs) for potential SVI mitigation beneath the on-grade habitable areas. The details for the mitigation measures will be provided in a Site Management Plan (SMP) that will be submitted to the NYSDEC for review and approval following completion of the soil IRM work.

SECTION 2.0
IRM WORK PLAN

2.1 Introduction

Soil impacted by SVOCs and/or by lead at levels above the restricted residential use SCOs has been identified onsite. This IRM WP has been prepared to provide procedures to remove and properly dispose of the soil that is impacted above the restricted residential use SCOs. This IRM WP will be reviewed and approved by the NYSDEC prior to commencement of IRM activities. The completed IRM work will be documented in an IRM Report/Construction Completion Report (CCR).

This IRM WP provides the scope of work and procedures necessary to:

- Conduct removal of impacted soil, including proper offsite transportation and disposal;
- Conduct confirmatory soil sampling to document the condition of the remaining soil in the removal areas;
- Provide for surveying and placing a demarcation barrier in the completed excavations as needed; and
- Document the completed IRM work.

A Health and Safety Plan (HASP) and a Community Air Monitoring Plan (CAMP) have been prepared for the IRM activities at this Site and are included in Appendices B and D, respectively.

2.2 IRM Procedures

2.2.1 General Procedures

All field activities will be overseen by a NYS-licensed professional engineer (PE) or a Qualified Environmental Professional (QEP) as defined in 6 NYCRR §375-1.2(ak) who reports directly to a NYS-licensed PE. All field decisions will be made by the PE or the QEP who reports directly to the NYS-licensed PE.

The designated NYSDEC representative will be notified seven days in advance of the start of IRM activities and will be promptly notified of any unusual or unanticipated conditions that are observed by the PE and/or QEP. The NYSDEC will be provided with an opportunity to obtain splits of any confirmatory samples.

No soil is planned to be imported to the Site. If it becomes necessary to import soil to the Site, any soil proposed to be imported must first be approved for import by the NYSDEC project manager. A Request to Import/Reuse Fill Material form will be filed with the NYSDEC project manager for review and approval prior to soil import and/or material reuse onsite.

Redevelopment of this Site will include additional excavation of soil following completion of the IRM activities, including an initial mass cut to bring the elevation of the entire redevelopment property to approximately 16.5 feet MSL (the current elevation of the entire property is variable, ranging from about 16.6 to 19.2 feet) and a second cut to remove soil in select areas of the redevelopment property for construction of sub-grade foundation elements for the new building to be constructed onsite. Excavation plans for the entire redevelopment project are still in preparation and cannot be provided in this IRM WP. A review of the foundation plans in the IRM excavation areas indicates that additional excavations for construction will be conducted in both areas. The additional excavation activities that are conducted onsite will be conducted under a Site Management Plan (SMP) approved by the NYSDEC. The SMP will include additional

information concerning soil excavation for redevelopment, including excavation plans.

Groundwater is not anticipated to be encountered during the IRM work and no groundwater removal or management will be conducted during the IRM activities. The depth to groundwater in the IRM excavation areas was determined to be between about 9.8 and 10.1 feet below the tops of the well casings (GW-1 and GW-7) during the SC. As the tops of the well casings are somewhat below grade, the depth to groundwater from grade is expected to be about 10 feet or more. As noted below, the deepest IRM excavation is anticipated to be approximately 7 feet below grade, which is about 3 feet above the water table. Even if this excavation is deepened by 2 feet, it is expected to remain above the water table. Excavation into or below the water table will not be conducted during the IRM and no groundwater will be removed or otherwise managed during the IRM.

The IRM work does not require a permit from the Village of Lynbrook; the Village has no permit requirements for excavations of the type to be conducted during the IRM. No permit requirements from other agencies have been identified for this work.

2.2.2 Soil Removal and Disposal

Impacted soil is present above the restricted residential use SCOs in the SB-9 soil sample from 5.5 to 6 feet below grade (lead) and in several shallow (0 to 1-foot) soil samples at T-8, T-9 and T-11 (SVOCs). Figure 1.2.4.1 shows the locations where impacts were identified and the estimated extents of the IRM excavations. The excavation that will be associated with the SB-9 sample is estimated to be approximately 10 feet by 10 feet by 7 feet deep. The excavation that will be associated with the shallow samples at T-8, T-9 and T-11 is estimated to be approximately 60 feet by 25 feet by 2 feet deep. The estimated volume of the soil targeted for removal during the IRM is 140 cubic yards.

The proposed scope of work is as follows:

- The location of the IRM area will be marked in the field by the PE or QEP prior to the start of work;
- The existing chemical analytical data for the targeted soil have been used to obtain waste disposal approval such that the removal can be conducted as a load-and-go operation. Approval for initial waste transport and temporary storage has been obtained for the Dale Transfer Corporation (Dale) facility located in West Babylon, NY; this is the same facility used for temporary storage for waste soil generated during the SC prior to its final disposal at the Conestoga Landfill in Pennsylvania. The waste soil from the IRM will be initially transported to the Dale facility and temporarily stored pending final transport and disposal at either the Clean Earth of Carteret facility in New Jersey or the Conestoga Landfill in Pennsylvania. Both facilities are permitted to accept the soil that will be generated during the IRM;
- Truck entrance and egress will be via the existing Site access gate (former entrance to the Site alley) on Langdon Place. The PE and/or QEP will observe all truck loading, decontamination and egress to confirm that the provisions in this IRM WP are followed. As this egress point is next to the SB-9 excavation area, excavation work in the T-8/T-9/T-11 excavation area will be completed first followed by work on the SB-9 excavation area. None of the trucks will drive over either excavation area during the IRM work. The trucks used for the IRM waste transport will be small dump trucks that are loaded in immediate proximity to the excavation area that is being worked. Any soil that adheres to the truck exteriors will be physically removed in immediate proximity to the excavation and replaced back into the truck or back into the excavation for further removal. The trucks will exit the Site onto Langdon Place and use the approved truck route for transport to the Dale facility.

The egress area will be cleaned of any Site-related materials on a daily basis. The removed materials will be properly disposed offsite.

- An excavator or backhoe will be used to remove the targeted impacted soil, which will be direct-loaded onto appropriately-licensed trucks for offsite transport to the Dale facility. If necessary due to logistical issues, the excavated soil may be stockpiled onsite, pending loading for transport. Any stockpiled soil will be placed on and covered by poly sheeting to prevent incidental migration of the excavated soil. All excavation work will be observed by the PE and/or the QEP under direct supervision by the PE, who may direct additional excavation if indicated based on observed conditions;
- Following removal of the targeted soil, the remaining soil will be examined and screened for organic vapors by the PE or QEP. Following field determination that removal of the targeted soil is complete, confirmation samples will be collected from the excavation. Sample collection and management procedures will be in accordance with the NYSDEC-approved Quality Assurance Project Plan (QAPP) for SC activities at this Site, as detailed in Section 2.2.3 below. Appropriate quality assurance/quality control (QA/QC) samples will also be collected in accordance with the QAPP. The confirmation samples and associated QA/QC samples will be transmitted to a NYSDOH-certified laboratory under chain of custody procedures and analyzed as detailed in Section 2.2.3 below to confirm that the targeted impacted materials were removed. A Data Usability Summary Report (DUSR) will be prepared for each Sample Delivery Group (SDG) of confirmation sample laboratory testing results;
- As the IRM excavation areas are located on a vacant property that is secured with fencing and locked gates, the excavations will be left open pending receipt of the confirmatory sample results. Temporary construction fencing will be placed around the open excavations as needed for safety purposes and the boundaries of each excavation will be staked for identification purposes. Following receipt of confirmation samples demonstrating that removal of the targeted soil is complete, the excavations will remain open for surveying and be left open pending additional soil removal for redevelopment purposes. Additional soil removal will be conducted under the SMP. Import of backfill material is not planned. In the unlikely event that backfill placement becomes necessary, the NYSDEC will be notified and a Request to Import/Reuse Fill Material form will be submitted to the NYSDEC for review and approval;
- The removed soil will be transported offsite and temporarily stored at the Dale facility prior to its final transport and disposal at either the Clean Earth of Carteret facility or Conestoga Landfill. Waste manifests, bills of lading, and weight tickets will be used to document the soil disposal. The PE and/or QEP will observe all loading and trucking operations and document these activities; and
- Following the completion of the soil removal and confirmation that no further removal will be conducted under the IRM, a land survey will be performed by a NYS licensed surveyor to define the boundaries of the excavations and the elevation of the bottom of each excavation. This information will be presented on a site survey, a copy of which will be included in the IRM Report/Construction Completion Report (CCR). A physical demarcation layer (orange plastic construction fencing) will be placed in the bottom of the excavation(s) if soil that exceeds the 6 NYCRR Part 375 SCOs for restricted residential use remains present. This information will be presented in the IRM Report/CCR and appropriate sections of the SMP.

2.2.3 Confirmation Sampling Procedures

Following field determination that removal of the targeted soil is complete, confirmation samples will be collected from the excavation following the sample rationale described below. Sample collection and management procedures will be in accordance with the NYSDEC-approved QAPP for SC activities at this Site, as detailed below. Appropriate QA/QC samples will also be collected in accordance with the QAPP. The confirmation samples and associated QA/QC samples will be transmitted to a NYSDOH-certified laboratory under chain of custody procedures and analyzed as detailed below to confirm that the targeted impacted materials were removed.

- Sample Frequency, Locations and Depths

All confirmation samples will be collected by the PE or QEP using hand-operated soil sampling equipment in accordance with the sampling requirements described in DER-10 Section 5.4(b). Table 2.2.3.1 lists the confirmation sample frequencies, locations, depths, and analytical requirements.

For the excavation at SB-9, which has an estimated perimeter length of 40 feet and a bottom area of 100 square feet, four sidewall samples at a depth of 5.5 to 6 feet (depth of impacted soil) and one bottom sample will be collected. For the excavation at T-8/T-9/T-11, which has an estimated perimeter of 170 feet and a bottom area of 1,500 square feet, six sidewall samples (two on each long side and one on each short side at a depth of one foot) and two bottom samples will be collected. If the perimeters or bottom areas of the IRM excavations vary from the planned dimensions, then the number and locations of confirmatory samples may be adjusted by the PE and/or QEP in accordance with DER-10 Section 5.4(b).

- Quality Assurance/Quality Control

All non-disposable soil sampling equipment (i.e., hand auger, etc.) will be decontaminated by washing in a potable water and Alconox solution and rinsing in potable water prior to use at each location to reduce the potential for cross contamination. All sampling equipment will be either dedicated disposable equipment or will be decontaminated prior to use at each location. The decontamination procedures utilized for all non-disposable sampling equipment will be as follows:

1. The equipment will be scrubbed in a bath of potable water and low-phosphate detergent (Alconox or Liquinox) followed by a potable water rinse;
2. The equipment will be rinsed with distilled water; and
3. The equipment will be allowed to air dry, if feasible.

QA/QC samples will be collected and utilized to evaluate the potential for field or laboratory contamination and to evaluate the laboratory's analytical precision and accuracy. A sampling chart showing the number and types of primary samples, analytical methods, and QA/QC samples is presented on Table 2.2.3.1.

Decontamination procedures will be evaluated using equipment blank samples. These samples consist of aliquots of laboratory-supplied water that are poured over or through the dedicated or decontaminated sampling equipment and then submitted to the laboratory for analysis. An equipment blank sample will be prepared for each day that confirmatory soil sampling is conducted at the Site and will be analyzed for the same analytes as the primary environmental samples collected that day. The equipment blanks will be labeled in a manner to prevent identification by the analytical laboratory.

TABLE 2.2.3.1
IRM SAMPLING MATRIX
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC #130251
LYNBROOK, NEW YORK

Sample Location/Type	Matrix	Sample Depths (feet)	Number and Frequency	Preparation and Analysis	Sample Bottles and Preservation	Holding Time
Confirmatory Soil Samples SB-9 Excavation	Soil	Sidewall: 5.5 to 6 feet below grade Bottom: 7 feet below grade	four sidewalls and one bottom/once	Lead (Method 3050B/6010B)	One 8 oz. CWM glass	Metals: 28 days
Confirmatory Soil Samples T-8/T-9/T-11 Excavation	Soil	Sidewall: 1 foot below grade Bottom: 2 feet below grade	six sidewalls and two bottom/once	BN-TCL SVOCs (Methods 3510C/8270D)	One 8 oz. CWM glass	SVOCs: 7 days until extraction, 40 days after extraction
Equipment blanks	Lab water	-	One per day during confirmatory soil sampling	BN-TCL SVOCs (Methods 3541/8270D)	1-liter amber glass	7 days until extraction, 40 days after extraction.
				Lead (Methods 3050B/6010C)	500 ml plastic w/HNO3	28 days
Blind Duplicates	Soil	Same as parent soil samples	One per each set of primary confirmatory samples	BN-TCL SVOCs or lead (Methods 3510C/8270D, and 3050B/6010B)	Two 8 oz. CWM glass	SVOCs: 7 days until extraction, 40 days after extraction, Metals: 28 days
MS/MSD	Soil	Same as associated primary samples	One per 20 primary confirmatory soil samples	BN-TCL SVOCs, lead (Methods 3510C/8270D, and 3050B/6010B)	Two 8 oz. CWM glass	SVOCs: 7 days until extraction, 40 days after extraction, Metals: 28 days

Notes:

MS/MSD = Matrix spike/matrix spike duplicate

BN = Base-neutral

SVOCs - Semivolatile organic compounds

HNO3 = nitric acid

CWM = clear wide-mouth

Blind duplicate samples are obtained at a frequency of at least one per every 20 environmental samples and will be used to attest to the precision of the laboratory. In the case of this IRM, one blind duplicate sample will be collected in association with the confirmation samples for each excavation area (two blind duplicates). A blind duplicate consists of a separate aliquot of sample collected at the same time, in the same manner, and analyzed for the same parameters as the primary environmental sample. The blind duplicate samples are labeled in a manner such that they cannot be identified by the laboratory. The sample results are compared to those of the primary environmental sample to evaluate laboratory analytical precision.

Matrix spike/matrix spike duplicate (MS/MSD) samples will be collected at a frequency of one per 20 environmental soil samples. The purpose of the MS/MSD samples is to confirm the accuracy and precision of laboratory results based on a particular matrix. The MS/MSD results will be evaluated during the preparation of the data usability summary reports (DUSRs), as discussed below.

All samples will be submitted to a NYSDOH ELAP-certified laboratory. The anticipated analytical laboratory for all samples is Eurofins Environment Testing of Edison, New Jersey, although other properly-qualified laboratories may be used as needed. The analytical data will be provided by the laboratory in electronic format, in accordance with DER-10, Section 1.15. Electronic data deliverables (EDDs) will also be prepared and uploaded into the NYSDEC's environmental information management system.

All samples will be analyzed as noted in Table 2.2.3.1. The analytical methods used for confirmatory soil samples will be as per NYS Analytical Services Protocol (ASP) with Category B deliverables.

2.2.4 IRM Data Evaluation and Reporting

- Daily Field Reports

During the IRM field activities daily field reports will be prepared by the PE and/or QEP and submitted to NYSDEC and NYSDOH Project Managers by the end of each day following the field activity day. Based on the anticipated duration of IRM field activities (one to two days), it is expected that one to two daily field reports will be prepared. Each daily field report will include:

- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the Site;
- References to an alpha-numeric map for Site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);
- A summary of CAMP findings, including excursions;
- An explanation of notable Site conditions; and
- A one-week look ahead.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC of emergencies (accidents, spills), requests for changes to the IRM WP or other sensitive or time-critical information. However, such conditions will also be included in the daily reports. Emergency conditions and changes to the IRM WP will be addressed directly to NYSDEC Project Manager via a personal communication (phone call or email).

- Data Evaluation

Confirmation samples are to be collected at the remedial excavation depth(s) and will be used to verify that the Restricted Residential SCOs for the Site have been achieved. If confirmation sampling indicates that SCOs were not achieved at the stated remedial depth(s), the Responsible Party must notify the Department, submit the sample results, and in consultation with the Department determine if further remedial excavation is necessary. Further excavation for

development will proceed after confirmation samples demonstrate that SCOs for the Site have been achieved.

If the confirmatory sample results indicate that removal of the targeted soil is complete, or if it is decided not to conduct further soil removal under the IRM WP, then the excavations will be surveyed as described above and preparation of the IRM Report/CCR will proceed.

IRM Report/CCR

The IRM activities will be documented in an IRM Report/CCR that will be certified by a NYS-licensed PE in accordance with DER-10 Table 1.5 Item 7. This report will document the IRM work performed and will also summarize prior investigation findings and include copies of IRM monitoring and sampling data, daily field logs, CAMP monitoring data, copies of waste disposal bills of lading, weight tickets and manifests, copies of laboratory reports and associated DUSRs, and any conclusions or recommendations resulting from the work. The report will also summarize all sampling activities completed to date and will include figures showing the areal and vertical extents of the IRM excavations as surveyed by the NYS-licensed surveyor. Although no imported soil or materials placement is contemplated, if any such placement occurs it will be surveyed by a NYS-licensed surveyor and the areal and vertical extents of materials placement will be depicted on a separate figure.

As required, the laboratory data will be uploaded to the NYSDEC in the current electronic data deliverable format.

The IRM Report/CCR will be submitted to the NYSDEC for review and comment; any NYSDEC and/or NYSDOH comments will be addressed.

2.2.5 Schedule

An estimated schedule for IRM activities is provided in Appendix C. It should be noted that this schedule may vary somewhat based on several factors, including access to the work areas, weather conditions, contractor availability, and other factors that are not controlled.

2.2.6 Contingency Measures

Although all the known underground storage tanks (USTs) and UICs have previously been removed, if previously-unidentified USTs, other structures of environmental concern, or contaminant sources are found during the IRM excavations, IRM excavation activities will be suspended until sufficient equipment is mobilized to address the condition. The NYSDEC project manager will be promptly notified of the discovery and the plan to address the condition.

Sampling will be performed on product, sediment and/or surrounding soils, as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of Part 375 analytes unless the Site history and previous sampling results provide sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC project manager for approval prior to sampling. Any USTs will be closed as per NYSDEC regulations and guidance.

Identification of unknown or unexpected contaminated media identified by screening during the IRM work will be promptly communicated by phone within two hours to the 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 IRM Report/CCR.

2.3 Health and Safety and Community Monitoring

A site-specific HASP has been established and is included in Appendix B. The CAMP for the IRM is included in Appendix D. IRM activities will be conducted in accordance with the HASP and CAMP.

APPENDIX A

SITE SOIL DATA

TABLE 1
Volatile Analysis
Soil Samples B-1/S-4, B-2/S-4, B-3/S-1, B-4/S-3, B-5/S-1, B-6/S-4, B-7/S-4, B-8/S-3

Parameter	B-1/S-4	B-2/S-4	B-3/S-1	B-4/S-3	B-5/S-1	B-6/S-4	B-7/S-4	B-8/S-3	UUSCO (1)	PGWSCO (2)	*RUSCO (3)*
Depth	6-8'	6-8'	0-2'	4-6'	0-2'	6-8'	6-8'	4-6'			
1,1,1,2-Tetrachloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,1,1-Trichloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,1,2,2-Tetrachloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,1,2-Trichloro-1,2,2-trichloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,1,2-Trichloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,1-Dichloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,1-Dichloroethene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,1-Dichloropropene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2,3-Trichlorobenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2,3-Trichloropropane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2,4,5-Tetramethylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2,4-Trichlorobenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2,4-Trimethylbenzene	<5.35	<5.26	7.24	<5.36	<5.22	<5.48	<5.33	<5.35	3600	3600	*47000*
1,2-Dibromo-3-chloropropane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2-Dibromomethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2-Dichlorobenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2-Dichloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,2-Dichloropropane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,3,5-Trimethylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,3-Dichlorobenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,3-Dichloropropane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,4-Dichlorobenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,4-Diethylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
1,4-Dioxane	<26.8	<26.3	<27.8	<26.8	<26.1	<27.4	<26.7	<26.8	-	-	-
2,2-Dichloropropane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
2-Chloroethyl Vinyl Ether	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
2-Chlorotoluene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
4-Chlorotoluene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
4-Ethyltoluene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
4-Isopropyltoluene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-

NOTES:

- Results reported in ug/kg.
- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 1 (Cont.)
Volatile Analysis
Soil Samples B-1/S-4, B-2/S-4, B-3/S-1, B-4/S-3, B-5/S-1, B-6/S-4, B-7/S-4, B-8/S-3

Parameter	B-1/S-4	B-2/S-4	B-3/S-1	B-4/S-3	B-5/S-1	B-6/S-4	B-7/S-4	B-8/S-3	UUSCO (1)	PGWSCO (2)	RUSCO (3)
Depth	6-8'	6-8'	0-2'	4-6'	0-2'	6-8'	6-8'	4-6'			
4-Methyl-2-Pentanone	<10.7	<10.5	<11.1	<10.7	<10.4	<11.0	<10.7	<10.7	-	-	-
Acetone	<21.4	<21.0	<22.2	<21.4	<20.9	<21.9	<21.3	<21.4	-	-	-
Acrolein	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Acrylonitrile	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Benzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Bromobenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Bromochloromethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Bromodichloromethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Bromoform	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Bromomethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Carbon Disulfide	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Carbon Tetrachloride	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Chlorobenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Chlorodifluoromethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Chloroethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Chloroform	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Chloromethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Cis-1,2-Dichloroethene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Cis-1,3-Dichloropropene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Dibromochloromethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Dibromomethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Dichlorodifluoromethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Ethylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Hexachlorobutadiene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Isopropylbenzene (Cumene)	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
M,p-Xylenes	<10.7	<10.5	<11.1	<10.7	<10.4	<11.0	<10.7	<10.7	-	-	-
Methyl Acetate	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Methyl Butyl Ketone (2-Hexanone)	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Methyl Ethyl Ketone (2-Butanone)	<10.7	<10.5	<11.1	<10.7	<10.4	<11.0	<10.7	<10.7	-	-	-

NOTES:

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- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 1 (Cont.)
Volatile Analysis
Soil Samples B-1/S-4, B-2/S-4, B-3/S-1, B-4/S-3, B-5/S-1, B-6/S-4, B-7/S-4, B-8/S-3

Parameter	B-1/S-4	B-2/S-4	B-3/S-1	B-4/S-3	B-5/S-1	B-6/S-4	B-7/S-4	B-8/S-3	UUSCO (1)	PGWSCO (2)	RUSCO (3)
Depth	6-8'	6-8'	0-2'	4-6'	0-2'	6-8'	6-8'	4-6'			
Methylene Chloride	7.29	<5.26	7.35	14.4	11.0	18.3	<5.33	<5.35	50	50	51000
Methyl-tert-Butyl-Ether	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Naphthalene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
n-Butylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
n-Propylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
o-Xylene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Sec-Butylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Styrene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Tert-Butyl alcohol	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Tert-Butylbenzene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Tetrachloroethene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Toluene	<5.35	<5.26	41.6	<5.36	<5.22	<5.48	<5.33	<5.35	700	700	10000
Trans-1,2-Dichloroethene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Trans-1,3-Dichloropropene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Trichloroethene	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Trichlorofluoromethane	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Vinyl Acetate	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-
Vinyl Chloride	<5.35	<5.26	<5.55	<5.36	<5.22	<5.48	<5.33	<5.35	-	-	-

NOTES:

- Results reported in ug/kg.
- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 2
Semi Volatile Analysis
Soil Samples B-1/S-4, B-2/S-4, B-3/S-1, B-4/S-3, B-5/S-1, B-6/S-4, B-7/S-4, B-8/S-3

Parameter	B-1/S-4	B-2/S-4	B-3/S-1	B-4/S-3	B-5/S-1	B-6/S-4	B-7/S-4	B-8/S-3	UUSCO (1)	PGWSCO (2)	*RUSCO (3)*
Depth	6-8'	6-8'	0-2'	4-6'	0-2'	6-8'	6-8'	4-6'			
1,2,4-Trichlorobenzene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
1,2-Dichlorobenzene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
1,3-Dichlorobenzene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
1,4-Dichlorobenzene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
2,2'-Oxybis(1-chloropropane)	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
2,4-Dinitrotoluene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
2,6-Dinitrotoluene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
2-Chloronaphthalene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
3,3'Dichlorobenzidine	<326	<316	<323	<320	<313	<318	<319	<322	-	-	-
4-Bromophenyl phenyl ether	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
4-Chlorophenyl phenyl ether	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Acenaphthene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Acenaphthylene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Anthracene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Benzo(a)anthracene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Benzo(a)pyrene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Benzo(b)fluoaranthene	<326	<316	<323	<320	<313	<318	<319	<322	-	-	-
Benzo(g,h,i)perylene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Benzo(k)fluoranthene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Bis(2-Chloroethoxy)methane	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Bis(2-Chloroethyl)ether	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Bis(2-Ethylhexyl)phthalate	<163	<158	268	<160	<156	<159	<160	<161	N/A	435000	*50000*
Butyl benzyl Phthalate	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Chrysene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Dibenzo(a,h)anthracene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Diethyl phthalate	<163	<158	926	<160	<156	<159	<160	<161	N/A	7100	*100000*
Dimethyl phthalate	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Di-n-butyl phthalate	<326	<316	<323	<320	<313	<318	<319	<322	-	-	-
Di-n-octyl phthalate	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Fluoranthene	249	<158	<162	<160	<156	<159	<160	<161	100000	1000000	*100000*

NOTES:

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- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 2 (Cont.)
Semi Volatile Analysis
Soil Samples B-1/S-4, B-2/S-4, B-3/S-1, B-4/S-3, B-5/S-1, B-6/S-4, B-7/S-4, B-8/S-3

Parameter	B-1/S-4	B-2/S-4	B-3/S-1	B-4/S-3	B-5/S-1	B-6/S-4	B-7/S-4	B-8/S-3	UUSCO (1)	PGWSCO (2)	*RUSCO (3)*
Depth	**6-8'**	**6-8'**	**0-2'**	**4-6'**	**0-2'**	**6-8'**	**6-8'**	**4-6'**			
Fluorene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Hexachlorobenzene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Hexachlorobutadiene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Hexachlorocyclopentadiene	<326	<316	<323	<320	<313	<318	<319	<322	-	-	-
Hexachloroethane	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Indeno(1,2,3-cd)pyrene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Isophorone	<326	<316	<323	<320	<313	<318	<319	<322	-	-	-
Naphthalene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Nitrobenzene	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
N-Nitroso-di-n-propylamine	<163	<158	<162	<160	<156	<159	<160	<161	-	-	-
Phenanthrene	<163	<158	194	<160	<156	<159	<160	<161	100000	1000000	*10000*
Pyrene	216	<158	<162	<160	<156	<159	<160	<161	100000	1000000	*10000*

NOTES:

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- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 3
Total Metals Analysis
Soil Samples B-1/S-4, B-2/S-4, B-3/S-1, B-4/S-3, B-5/S-1, B-6/S-4, B-7/S-4, B-8/S-3

Parameter	B-1/S-4	B-2/S-4	B-3/S-1	B-4/S-3	B-5/S-1	B-6/S-4	B-7/S-4	B-8/S-3	UUSCO (1)	PGWSCO (2)	*RUSCO (3)*
Depth	6-8'	6-8'	0-2'	4-6'	0-2'	6-8'	6-8'	4-6'			
Arsenic	2.78	<1.67	4.35	1.88	2.60	<1.67	<1.74	<1.71	13	16	*16*
Barium	36.4	11.4	38.4	30.7	32.5	14.7	22.4	13.7	350	820	*350*
Cadmium	<1.76	<1.65	<1.79	<1.75	<1.71	<1.65	<1.74	<1.71	-	-	-
Chromium	9.02	9.29	16.5	7.65	8.01	6.42	8.76	6.80	30	N/A	*36*
Lead	103	2.76	320	124	78.1	1.97	2.01	2.63	63	450	*400*
Selenium	<1.76	<1.67	<1.79	<1.75	<1.71	<1.67	<1.74	<1.71	-	-	-
Silver	<1.76	<1.67	<1.79	<1.75	<1.71	<1.67	<1.74	<1.71	-	-	-
Mercury	0.02	<0.02	0.06	0.02	0.14	<0.02	<0.02	<0.02	0.18	0.73	*0.81*

NOTES:

- Results reported in mg/kg.
- N/A = Not Available.
- (1) UUSCO — Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- (2) PGWSCO — Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- *(3) RUSCO* — Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE S3
TCLP Lead Analysis
Soil Samples B-1/S-4, B-3/S-1, B-4/S-3, B-5/S-1

Parameter	B-1/S-4	B-3/S-1	B-4/S-3	B-5/S-1	TCLP Concentration Limit
Depth	6-8'	0-2'	4-6'	0-2'	
Lead	0.40	1.89	<0.05	0.06	5.0

NOTES:

- Results reported in mg/L.

TABLE 8
Volatile Analysis
Soil Samples S-1, S-2, S-3

Parameter	S-1	S-2	S-3	UUSCO (1)	PGWSCO (2)	RUSCO (3)
Depth	1-2'	1-2'	1-2'			
1,1,1,2-Tetrachloroethane	<5.31	<5.47	<5.57	-	-	-
1,1,1-Trichloroethane	<5.31	<5.47	<5.57	-	-	-
1,1,2,2-Tetrachloroethane	<5.31	<5.47	<5.57	-	-	-
1,1,2-Trichloro-1,2,2-trichloroethane	<5.31	<5.47	<5.57	-	-	-
1,1,2-Trichloroethane	<5.31	<5.47	<5.57	-	-	-
1,1-Dichloroethane	<5.31	<5.47	<5.57	-	-	-
1,1-Dichloroethene	<5.31	<5.47	<5.57	-	-	-
1,1-Dichloropropene	<5.31	<5.47	<5.57	-	-	-
1,2,3-Trichlorobenzene	<5.31	<5.47	<5.57	-	-	-
1,2,3-Trichloropropane	<5.31	<5.47	<5.57	-	-	-
1,2,4,5-Tetramethylbenzene	<5.31	<5.47	<5.57	-	-	-
1,2,4-Trichlorobenzene	<5.31	<5.47	<5.57	-	-	-
1,2,4-Trimethylbenzene	<5.31	<5.47	<5.57	-	-	-
1,2-Dibromo-3-chloropropane	<5.31	<5.47	<5.57	-	-	-
1,2-Dibromomethane	<5.31	<5.47	<5.57	-	-	-
1,2-Dichlorobenzene	<5.31	<5.47	<5.57	-	-	-
1,2-Dichloroethane	<5.31	<5.47	<5.57	-	-	-
1,2-Dichloropropane	<5.31	<5.47	<5.57	-	-	-
1,3,5-Trimethylbenzene	<5.31	<5.47	<5.57	-	-	-
1,3-Dichlorobenzene	<5.31	<5.47	<5.57	-	-	-
1,3-Dichloropropane	<5.31	<5.47	<5.57	-	-	-
1,4-Dichlorobenzene	<5.31	<5.47	<5.57	-	-	-
1,4-Diethylbenzene	<5.31	<5.47	<5.57	-	-	-
1,4-Dioxane	<26.5	<27.3	<27.9	-	-	-
2,2-Dichloropropane	<5.31	<5.47	<5.57	-	-	-
2-Chlorotoluene	<5.31	<5.47	<5.57	-	-	-
4-Chlorotoluene	<5.31	<5.47	<5.57	-	-	-
4-Ethyltoluene	<5.31	<5.47	<5.57	-	-	-
4-Isopropyltoluene	<5.31	<5.47	<5.57	-	-	-
4-Methyl-2-Pentanone	<10.6	<10.9	<11.1	-	-	-

NOTES:

- Results reported in ug/kg.
- N/A = Not Available.
- (1) UUSCO Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- (2) PGWSCO Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- *(3) RUSCO* Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 8 (Cont.)
Volatile Analysis
Soil Samples S-1, S-2, S-3

Parameter	S-1	S-2	S-3	UUSCO (1)	PGWSCO (2)	RUSCO (3)
Depth	1-2'	1-2'	1-2'			
Acetone	56.3	63.5	<22.3	50	50	100000
Acrylonitrile	<5.31	<5.47	<5.57	-	-	-
Benzene	<5.31	<5.47	<5.57	-	-	-
Bromobenzene	<5.31	<5.47	<5.57	-	-	-
Bromochloromethane	<5.31	<5.47	<5.57	-	-	-
Bromodichloromethane	<5.31	<5.47	<5.57	-	-	-
Bromoform	<5.31	<5.47	<5.57	-	-	-
Bromomethane	<5.31	<5.47	<5.57	-	-	-
Carbon Disulfide	<5.31	<5.47	<5.57	-	-	-
Carbon Tetrachloride	<5.31	<5.47	<5.57	-	-	-
Chlorobenzene	<5.31	<5.47	<5.57	-	-	-
Chlorodifluoromethane	<5.31	<5.47	<5.57	-	-	-
Chloroethane	<5.31	<5.47	<5.57	-	-	-
Chloroform	<5.31	<5.47	<5.57	-	-	-
Chloromethane	<5.31	<5.47	<5.57	-	-	-
Cis-1,2-Dichloroethene	<5.31	<5.47	<5.57	-	-	-
Cis-1,3-Dichloropropene	<5.31	<5.47	<5.57	-	-	-
Dibromochloromethane	<5.31	<5.47	<5.57	-	-	-
Dibromomethane	<5.31	<5.47	<5.57	-	-	-
Dichlorodifluoromethane	<5.31	<5.47	<5.57	-	-	-
Ethylbenzene	<5.31	<5.47	<5.57	-	-	-
Hexachlorobutadiene	<5.31	<5.47	<5.57	-	-	-
Isopropylbenzene (Cumene)	<5.31	<5.47	<5.57	-	-	-
M,p-Xylenes	<10.6	<10.9	<11.1	-	-	-
Methyl Acetate	<5.31	<5.47	<5.57	-	-	-
Methyl Butyl Ketone (2-Hexanone)	<5.31	<5.47	<5.57	-	-	-
Methyl Ethyl Ketone (2-Butanone)	<10.6	<10.9	<11.1	-	-	-
Methylene Chloride	<5.31	8.41	<5.57	50	50	51000
Methyl-tert-Butyl Ether	<5.31	<5.47	<5.57	-	-	-

NOTES:

- Results reported in ug/kg.
- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 8 (Cont.)
Volatile Analysis
Soil Samples S-1, S-2, S-3

Parameter	S-1	S-2	S-3	UUSCO (1)	PGWSCO (2)	*RUSCO (3)*
Depth	1-2'	1-2'	1-2'			
Naphthalene	<5.31	<5.47	<5.57	-	-	-
n-Butylbenzene	<5.31	<5.47	<5.57	-	-	-
n-Propylbenzene	<5.31	<5.47	<5.57	-	-	-
o-Xylene	<5.31	<5.47	<5.57	-	-	-
Sec-Butylbenzene	<5.31	<5.47	<5.57	-	-	-
Styrene	<5.31	<5.47	<5.57	-	-	-
Tert-Butyl alcohol	<5.31	<5.47	<5.57	-	-	-
Tert-Butylbenzene	<5.31	<5.47	<5.57	-	-	-
Tetrachloroethene	<5.31	<5.47	<5.57	-	-	-
Toluene	<5.31	<5.47	<5.57	-	-	-
Trans-1,2-Dichloroethene	<5.31	<5.47	<5.57	-	-	-
Trans-1,3-Dichloropropene	<5.31	<5.47	<5.57	-	-	-
Trichloroethene	<5.31	<5.47	<5.57	-	-	-
Trichlorofluoromethane	<5.31	<5.47	<5.57	-	-	-
Vinyl Chloride	<5.31	<5.47	<5.57	-	-	-

NOTES:

- Results reported in ug/kg.
- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 9
Semi Volatile Analysis
Soil Samples S-1, S-2, S-3

Parameter	S-1	S-2	S-3	UUSCO (1)	PGWSCO (2)	RUSCO (3)
Depth	1-2'	1-2'	1-2'			
1,2,4-Trichlorobenzene	<159	<163	<166	-	-	-
1,2-Dichlorobenzene	<159	<163	<166	-	-	-
1,3-Dichlorobenzene	<159	<163	<166	-	-	-
1,4-Dichlorobenzene	<159	<163	<166	-	-	-
2,2'-Oxybis(1-chloropropane)	<159	<163	<166	-	-	-
2,4-Dinitrotoluene	<159	<163	<166	-	-	-
2,6-Dinitrotoluene	<159	<163	<166	-	-	-
2-Chloronaphthalene	<159	<163	<166	-	-	-
3,3'Dichlorobenzidine	<318	<327	<333	-	-	-
4-Bromophenyl phenyl ether	<159	<163	<166	-	-	-
4-Chlorophenyl phenyl ether	<159	<163	<166	-	-	-
Acenaphthene	<159	<163	<166	-	-	-
Acenaphthylene	<159	<163	<166	-	-	-
Anthracene	<159	<163	<166	-	-	-
Benzo(a)anthracene	<159	<163	<166	-	-	-
Benzo(a)pyrene	<159	<163	<166	-	-	-
Benzo(b)fluoaranthene	<318	<327	<333	-	-	-
Benzo(g,h,i)perylene	<159	<163	<166	-	-	-
Benzo(k)fluoranthene	<159	<163	<166	-	-	-
Bis(2-Chloroethoxy)methane	<159	<163	<166	-	-	-
Bis(2-Chloroethyl)ether	<159	<163	<166	-	-	-
Bis(2-Ethylhexyl)phthalate	<159	<163	<166	-	-	-
Butyl benzyl Phthalate	<159	<163	<166	-	-	-
Chrysene	<159	<163	<166	-	-	-
Dibenzo(a,h)anthracene	<159	<163	<166	-	-	-
Diethyl phthalate	<159	<163	<166	-	-	-
Dimethyl phthalate	<159	<163	<166	-	-	-
Di-n-butyl phthalate	<318	<327	<333	-	-	-
Di-n-octyl phthalate	<159	<163	<166	-	-	-
Fluoranthene	<159	<163	<166	-	-	-

NOTES:

- Results reported in ug/kg.
- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 9 (Cont.)
Semi Volatile Analysis
Soil Samples S-1, S-2, S-3

Parameter	S-1	S-2	S-3	UUSCO (1)	PGWSCO (2)	*RUSCO (3)*
Depth	1-2'	1-2'	1-2'			
Fluorene	<159	<163	<166	-	-	-
Hexachlorobenzene	<159	<163	<166	-	-	-
Hexachlorobutadiene	<159	<163	<166	-	-	-
Hexachlorocyclopentadiene	<318	<327	<333	-	-	-
Hexachloroethane	<159	<163	<166	-	-	-
Indeno(1,2,3-cd)pyrene	<159	<163	<166	-	-	-
Isophorone	<318	<327	<333	-	-	-
Naphthalene	<159	<163	<166	-	-	-
Nitrobenzene	<159	<163	<166	-	-	-
N-Nitroso-di-n-propylamine	<159	<163	<166	-	-	-
Phenanthrene	<159	<163	<166	-	-	-
Pyrene	<159	<163	<166	-	-	-

NOTES:

- Results reported in ug/kg
- N/A = Not Available
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

TABLE 10
Total Metals Analysis
Soil Samples S-1, S-2, S-3

Parameter	S-1	S-2	S-3	UUSCO (1)	PGWSCO (2)	*RUSCO (3)*
Depth	**1-2'**	**1-2'**	**1-2'**			
Arsenic	1.75	3.05	2.78	**13**	**16**	***16***
Barium	13.4	22.9	27.8	**350**	**820**	***350***
Cadmium	<1.70	<1.74	<1.75	-	-	-
Chromium	6.75	11.4	9.59	**30**	**N/A**	***36***
Lead	10.4	7.40	29.3	**63**	**450**	***400***
Selenium	<1.70	<1.74	<1.75	-	-	-
Silver	<1.70	<1.74	<1.75	-	-	-
Mercury	0.02	<0.02	0.03	**0.18**	**0.73**	***0.81***

NOTES:

- Results reported in mg/kg.
- N/A = Not Available.
- **(1) UUSCO** Exceeds Unrestricted Use Soil Cleanup Objectives (UUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- **(2) PGWSCO** Exceeds Protection of Groundwater Soil Cleanup Objectives (PGWSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.
- ***(3) RUSCO*** Exceeds Residential Use Soil Cleanup Objectives (RUSCO) from NYSDEC Subpart 375.6: Remedial Program Soil Cleanup Objectives.

Table 1

47 Broadway, Lynbrook, New York

Soil Analytical Results Summary

Field Sample ID	NYDEC 375-6 Soil Cleanup Obj UnRestricted Use	NYDEC 375-6 Soil Cleanup Obj Restricted Use Residential	NYDEC 375-6 Soil Cleanup Obj Restricted Use Restricted Resid	NYDEC 375-6 Soil Cleanup Obj Restricted Use Commercial	NYDEC 375-6 Soil Cleanup Obj Restricted Use Industrial	NYDEC 375-6 Soil Cleanup Obj Restricted Use Protection of EC	NYDEC 375-6 Soil Cleanup Obj Restricted Use Protection of GW	SB01	SB02	SB03	SB04	SB-05(8-8.5)	SB-06(10.5-11)	SB-07(10.5-11)	SB-08(10.5-11)	SB-09(5.5-6)	SB-10(8-9)	SB-11(9-9.5)
Lab Sample ID								460-224303-1	460-224303-2	460-224303-3	460-224303-4	460-224910-1	460-224910-2	460-224910-3	460-224910-4	460-224910-7	460-224910-8	460-224910-9
Sampling Date								12/6/2020	12/6/2020	12/6/2020	12/6/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/15/2020	12/15/2020	12/15/2020
Matrix								Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Units								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
								Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
VOCs																		
1,1,1-Trichloroethane	0.68	100	100	500	1000	NS	0.68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.27	19	26	240	480	NS	0.27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.33	100	100	500	1000	NS	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dibromo-3-Chloropropane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	1.1	100	100	500	1000	NS	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.02	2.3	3.1	30	60	10	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	2.4	17	49	280	560	NS	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	1.8	9.8	13	130	250	20	1.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dioxane	0.1	9.8	13	130	250	0.1	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	0.12	100	100	500	1000	100	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	0.05	100	100	500	1000	2.2	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	0.06	2.9	4.8	44	89	70	0.06	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	0.76	1.4	2.4	22	44	NS	0.76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	1.1	100	100	500	1000	40	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobromomethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorodibromomethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.37	10	49	350	700	12	0.37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	0.25	59	100	500	1000	NS	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyclohexane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorobromomethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dichlorodifluoromethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	1	30	41	390	780	NS	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylene Dibromide	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl acetate	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	0.93	62	100	500	1000	NS	0.93	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene Chloride	0.05	51	100	500	1000	12	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m-Xylene & p-Xylene	NS	NS	NS	NS	NS	NS	NS	ND	ND	0.00023 J	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	1.3	5.5	19	150	300	2	1.3	ND	ND	ND	ND	ND	ND	ND	ND	0.0096	ND	ND
Toluene	0.7	100	100	500	1000	36	0.7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	0.19	100	100	500	1000	NS	0.19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	0.47	10	21	200	400	2	0.47	ND	ND	ND	ND	ND	ND	0.0023	ND	0.0021	ND	ND
Trichlorofluoromethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	0.02	0.21	0.9	13	27	NS	0.02	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Conc	NS	NS	NS	NS	NS	NS	NS	0.0	0.0	0.00023	0.0	0.0	0.0	0.0023	0.0	0.0117	0.0	0.0
Total Estimated Conc. (TICs)	NS	NS	NS	NS	NS	NS	NS	0.0*T	0.0*T	0.0*T	0.0*T							

Table 1

47 Broadway, Lynbrook, New York

Soil Analytical Results Summary

Field Sample ID	NYDEC 375-6 Soil Cleanup Obj UnRestricted Use	NYDEC 375-6 Soil Cleanup Obj Restricted Use Residential	NYDEC 375-6 Soil Cleanup Obj Restricted Use Restricted Resid	NYDEC 375-6 Soil Cleanup Obj Restricted Use Commercial	NYDEC 375-6 Soil Cleanup Obj Restricted Use Industrial	NYDEC 375-6 Soil Cleanup Obj Restricted Use Protection of EC	NYDEC 375-6 Soil Cleanup Obj Restricted Use Protection of GW	SB01	SB02	SB03	SB04	SB-05(8-8.5)	SB-06(10.5-11)	SB-07(10.5-11)	SB-08(10.5-11)	SB-09(5.5-6)	SB-10(8-9)	SB-11(9-9.5)
Lab Sample ID								460-224303-1	460-224303-2	460-224303-3	460-224303-4	460-224910-1	460-224910-2	460-224910-3	460-224910-4	460-224910-7	460-224910-8	460-224910-9
Sampling Date								12/6/2020	12/6/2020	12/6/2020	12/6/2020	12/14/2020	12/14/2020	12/14/2020	12/14/2020	12/15/2020	12/15/2020	12/15/2020
Matrix								Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Units								mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
								Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
SVOCs																		
1,1'-Biphenyl	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetrachlorobenzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,2'-oxybis[1-chloropropane]	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,3,4,6-Tetrachlorophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dichlorophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	0.028 J	ND	ND
2-Methylphenol	0.33	100	100	500	1000	NS	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methylphenol	0.33	34	100	500	1000	NS	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	0.061 J	ND	ND	ND	ND	ND	ND
Acenaphthene	20	100	100	500	1000	20	98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	100	100	100	500	1000	NS	107	ND	ND	ND	ND	ND	ND	ND	ND	0.035 J	ND	ND
Acetophenone	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	100	100	100	500	1000	NS	1000	ND	ND	ND	ND	ND	ND	ND	ND	0.055 J	ND	ND
Atrazine	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzaldehyde	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo[a]anthracene	1	1	1	5.6	11	NS	1	ND	ND	ND	ND	ND	ND	0.024 J	0.021 J	0.17	ND	0.015 J
Benzo[a]pyrene	1	1	1	1	1.1	2.6	22	ND	ND	ND	ND	ND	ND	ND	ND	0.28	0.014 J	ND
Benzo[b]fluoranthene	1	1	1	5.6	11	NS	1.7	ND	ND	ND	ND	ND	ND	ND	ND	0.41	0.014 J	ND
Benzo[g,h,i]perylene	100	100	100	500	1000	NS	1000	ND	ND	ND	ND	ND	ND	ND	ND	0.17 J	ND	ND
Benzo[k]fluoranthene	0.8	1	3.9	56	110	NS	1.7	ND	ND	ND	ND	ND	ND	ND	ND	0.14	ND	ND
Bis(2-chloroethoxy)methane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	0.20 J	ND	ND	ND	ND	ND
Butyl benzyl phthalate	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Caprolactam	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbazole	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	0.043 J	ND	ND
Chrysene	1	1	3.9	56	110	NS	1	ND	ND	ND	ND	ND	ND	0.019 J	0.014 J	0.26 J	ND	0.011 J
Dibenz(a,h)anthracene	0.33	0.33	0.33	0.56	1.1	NS	1000	ND	ND	ND	ND	ND	ND	ND	ND	0.037	ND	ND
Dibenzofuran	7	14	59	350	1000	NS	210	ND	ND	ND	ND	ND	ND	ND	ND	0.031 J	ND	ND
Diethyl phthalate	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	0.031 J	ND	ND	ND	ND
Dimethyl phthalate	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-butyl phthalate	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	100	100	100	500	1000	NS	1000	ND	ND	ND	ND	ND	ND	ND	0.030 J	0.44	ND	ND
Fluorene	30	100	100	500	1000	30	386	ND	ND	ND	ND	0.0083 J	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	0.33	0.33	1.2	6	12	NS	3.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobutadiene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexachloroethane	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno[1,2,3-cd]pyrene	0.5	0.5	0.5	5.6	11	NS	8.2	ND	ND	ND	ND	ND	ND	ND	ND	0.20	ND	ND
Isophorone	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	12	100	100	500	1000	NS	12	ND	ND	ND	ND	ND	ND	ND	ND	0.027 J	ND	ND
Nitrobenzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodi-n-propylamine	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.8	2.4	6.7	6.7	55	0.8	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	100	100	100	500	1000	NS	1000	ND	ND	ND	ND	0.025 J	ND	0.028 J	0.019 J	0.27 J	ND	0.015 J
Phenol	0.33	100	100	500	1000	30	0.33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	100	100	100	500	1000	NS	1000	ND	ND	ND	ND	ND	ND	0.021 J	0.029 J	0.40	ND	0.019 J
Total Conc	NS	NS	NS	NS	NS	NS	NS	0.0	0.0	0.0	0.0	0.0943	0.2	0.123	0.113	2.996	0.028	0.06
Total Estimated Conc. (TICs)	NS	NS	NS	NS	NS	NS	NS	0.36	0.31	0.29	0.56	1.19	0.32	0.46	0.4	5.96	8.66	0.45
Metals																		
Arsenic	13	16	16	16	16	13	16	1.3	0.66 J	1.3	0.64 J	1.1	1.2	0.46 J	0.96 J	1.7	1.2	1.1
Barium	350	350	400	400	10000	433	820	11.0	7.8	9.6	10.6	12.5	11.4 F1	14.8	9.2	26.3	16.5	11.1
Cadmium	2.5	2.5	4.3	9.3	60	4	7.5	ND	ND	ND	ND	ND	ND	ND	ND	0.24 J	ND	ND
Chromium	NS	NS	NS	NS	NS	NS	NS	5.3	4.0	4.7	3.9	5.6	4.7	6.3	4.3	8.7	11.7	5.6
Lead	63	400	400	1000	3900	63	450	5.8	1.4	2.4	1.3	2.8	3.0	1.3	2.5	511	25.0	2.6
Selenium	3.9	36	180	1500	6800	3.9	4	0.15 J	ND	ND	ND	ND	ND	ND	ND	0.33 J	ND	ND
Silver	2	36	180	1500	6800	2	8.3	ND	ND	ND	ND	ND	ND	ND	ND	0.31 J	ND	ND
Mercury	0.18	0.81	0.81	2.8	5.7	0.18	0.73	0.0084 J	ND	ND	ND	ND	ND	ND	ND	0.19	ND	ND

Notes:

ND: Not Detected

NS: No Standard

J : Estimated Value

Highlighted Concentrations exceed a standard

F1 : MS and/or MSD recovery exceeds control limits.

TABLE 5.1.1
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below Grade	T-1 (0-1)			T-1 (2-3)			T-2 (0-1)			T-2 (2-3)			T-3 (0-1)			T-3 (2-3)			T-33 (duplicate of T-3, 2-3 feet)			T-3 (4-6)			T-3 (6-8)			T-3 (8-10)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	**Native**			**Native**			**Fill**			**Fill/Native**			**Fill**			**Native**			**Native**			**Native**			**Native**			**Native**				
Lab Sample ID	460-269233-11			460-269233-12			460-269234-1			460-269234-2			460-269234-3			460-269234-4			460-269234-8			460-269234-5			460-269234-6			460-269234-7				
Sampling Date	11/9/2022																															
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Metals in milligrams per kilogram (mg/kg)																																
Aluminum	6000		4.4	NR			7740		4.3	2970		4.2	3660	F1	4.4	2690	F1	4.2	4870	F1	4.5	NR			NR			NR			-	-
Antimony	0.66	J	0.12	NR			0.19	J	0.11	0.11	U	0.11	0.94		0.12	0.57	J	0.11	0.52	J	0.12	NR			NR			NR			-	-
Arsenic	2.0		0.083	NR			2.3		0.081	1.3		0.079	2.7		0.083	1.9		0.079	2.3		0.084	NR			NR			NR			13	16
Barium	96.2		0.12	NR			16.5		0.11	8.8		0.11	35.0	F1	0.12	31.9	F1	0.11	52.3	F1	0.12	NR			NR			NR			350	400
Beryllium	0.20	F2 J	0.046	NR			0.24	J	0.045	0.16	J	0.044	0.17	J	0.046	0.13	J	0.044	0.20	J	0.046	NR			NR			NR			7.2	72
Cadmium	0.33	J	0.091	NR			0.088	U	0.088	0.086	U	0.086	0.22	J	0.091	0.16	J	0.087	0.16	J	0.092	NR			NR			NR			2.5	4.3
Calcium	817	F2 F1	14.3	NR			916	F1F2	13.9	297	F1F2	13.5	5500	F1F2	14.3	5380	F2 F1	13.6	6770	F2 F1	14.4	NR			NR			NR			-	-
Chromium (total)	12.3	F2	0.73	NR			10.2		0.71	6.2	F1F2	0.69	11.6	F1F2	0.73	7.4	F2 F1	0.70	8.3	F2 F1	0.74	NR			NR			NR			30	180
Chromium (III)	NR			NR			NR			NR			NR			NR			NR			NR			NR			NR			30	180
Chromium (VI)	NR			NR			NR			NR			NR			NR			NR			NR			NR			NR			1	110
Cobalt	2.4	F2	0.12	NR			3.5		0.12	2.4		0.11	3.3	F1	0.12	2.0	F1	0.11	2.5	F1	0.12	NR			NR			NR			-	-
Copper	16.8	F2	0.30	NR			4.4		0.29	4.2		0.28	12.8		0.30	12.1		0.28	12.1		0.30	NR			NR			NR			50	270
Iron	7830	F2	16.3	NR			8680		15.8	6410		15.4	13000	F1F2	16.3	5870	F1	15.5	7850	F1	16.4	NR			NR			NR			-	-
Lead	**119**	F2	0.16	NR			6.5		0.16	3.5		0.15	54.8	F1F2	0.16	47.1	F2 F1	0.15	49.3	F2 F1	0.16	**82.0**	F2 F1	0.15	**77.4**	F2 F1	0.17	1.2	F2 F1	0.17	63	400
Magnesium	1480	F2	8.3	NR			862		8.0	612		7.8	1200	F1F2	8.2	1250	F2 F1	7.8	1450	F2 F1	8.3	NR			NR			NR			-	-
Manganese	70.9		0.33	NR			74.5		0.32	66.3		0.31	118		0.33	87.3		0.31	95.1		0.33	NR			NR			NR			1600	2000
Nickel	12.5		0.38	NR			5.8		0.37	5.0		0.36	8.0	F1F2	0.38	5.0	F1	0.36	5.6	F2 F1	0.38	NR			NR			NR			30	310
Potassium	306	F2	13.1	NR			414		12.7	282		12.4	498		13.1	273		12.4	388		13.2	NR			NR			NR			-	-
Selenium	0.23	J	0.10	NR			0.17	J	0.10	0.10	J	0.098	0.14	J	0.10	0.098	U	0.098	0.15	J	0.10	NR			NR			NR			3.9	180
Silver	0.072	U	0.072	NR			0.070	U	0.070	0.068	U	0.068	0.072	U	0.072	0.068	U	0.068	0.072	U	0.072	NR			NR			NR			2	180
Sodium	59.9	J	37.0	NR			61.3	J	35.8	34.9	U	34.9	56.3	J	36.9	69.0	J	35.1	132		37.1	NR			NR			NR			-	-
Thallium	0.059	J	0.033	NR			0.070	J	0.032	0.044	J	0.031	0.059	J	0.033	0.038	J	0.031	0.048	J	0.033	NR			NR			NR			-	-
Vanadium	11.5		0.17	NR			14.1		0.16	7.9		0.16	11.4		0.17	9.1		0.16	11.4		0.17	NR			NR			NR			-	-
Zinc	**115**	F2	2.5	NR			17.0		2.4	11.7		2.3	52.5		2.5	55.6		2.3	58.3		2.5	NR			NR			NR			109	10000
Mercury	0.061		0.0081	0.095		0.0078	0.034	F1	0.0079	0.019	F1	0.0074	0.067	F1	0.0080	0.073	F1	0.0077	0.065	F1	0.0077	NR			NR			NR			0.18	0.81
Cyanide, Total	NR			NR			NR			NR			NR			NR			NR			NR			NR			NR			27	27

NR: Not Analyzed
Yellow Highlighted Concentrations shown in bold type face exceed NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives
F1 : MS and/or MSD recovery exceeds control limits.
F2 : MS/MSD RPD exceeds control limits
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below Grade	T-4 (0-1)			T-4 (2-3)			T-5 (0-1)			T-55 (duplicate of T-5, 0 to 1 foot)			T-5 (2-3)			T-6 (0-1)			T-6 (2-3)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	**Fill**			**Native**			**Native**			**Native**			**Native**			**Native**			**Native**				
Lab Sample ID	460-269233-17			460-269233-18			460-269233-19			460-269233-20			460-269233-21			460-269233-2			460-269233-3				
Sampling Date	11/9/2022																						
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Metals in milligrams per kilogram (mg/kg)																							
Aluminum	7350		4.4	4380		4.3	7180		4.8	6930		4.6	3650		4.5	2770		4.1	2440		4.4	-	-
Antimony	0.32	J	0.12	0.12	U	0.12	0.13	U	0.13	0.12	U	0.12	0.12	U	0.12	0.11	U	0.11	0.12	U	0.12	-	-
Arsenic	4.0		0.083	1.6		0.081	2.3		0.089	2.1		0.087	1.3		0.084	1.1		0.077	1.6		0.083	13	16
Barium	62.0		0.12	12.6		0.11	23.2		0.13	18.4		0.12	9.2		0.12	7.3		0.11	8.8		0.12	350	400
Beryllium	0.26	F2 J	0.046	0.19	F2 J	0.045	0.25	F2 J	0.049	0.23	F2 J	0.048	0.16	F2 J	0.047	0.13	F2 J	0.043	0.20	F2 J	0.046	7.2	72
Cadmium	0.90		0.091	0.089	U	0.089	0.098	U	0.098	0.095	U	0.095	0.092	U	0.092	0.084	U	0.084	0.091	U	0.091	2.5	4.3
Calcium	10000	F2 F1	14.3	500	F2 F1	14.0	663	F2 F1	15.3	710	F2 F1	14.9	202	F2 F1	14.5	401	F2 F1	13.2	305	F2 F1	14.2	-	-
Chromium	11.8	F2	0.74	7.3	F2	0.72	9.1	F2	0.79	8.5	F2	0.76	6.1	F2	0.74	6.7	F2	0.68	6.9	F2	0.73	30	180
Chromium (III)	NR			NR			9.1		2.0	8.5		2.0	NR			NR			NR			30	180
Chromium (VI)	NR			NR			0.89	U	0.89	0.87	U	0.87	NR			NR			NR			1	110
Cobalt	2.8	F2	0.12	2.6	F2	0.12	2.3	F2	0.13	2.2	F2	0.12	3.3	F2	0.12	2.2	F2	0.11	3.1	F2	0.12	-	-
Copper	31.4	F2	0.30	4.9	F2	0.29	4.7	F2	0.32	4.4	F2	0.31	3.8	F2	0.30	3.2	F2	0.28	5.2	F2	0.30	50	270
Iron	9900	F1	16.4	7470	F1	15.9	8320	F1	17.5	8150	F1	17.0	6730	F1	16.5	5050	F1	15.1	8160	F1	16.2	-	-
Lead	**117**	F2	0.16	4.8	F2	0.16	23.7	F2	0.17	18.9	F2	0.17	2.4	F2	0.16	4.5	F2	0.15	2.7	F2	0.16	63	400
Magnesium	1130	F2	8.3	799	F2	8.0	744	F2	8.8	725	F2	8.6	590	F2	8.3	519	F2	7.6	581	F2	8.2	-	-
Manganese	96.4		0.33	99.8		0.32	92.4		0.35	80.9		0.34	70.2		0.33	72.8		0.30	160		0.32	1600	2000
Nickel	6.4	F2	0.38	4.9	F2	0.37	4.8	F2	0.41	4.7	F2	0.40	4.6	F2	0.38	4.7	F2	0.35	5.7	F2	0.38	30	310
Potassium	632		13.1	487		12.8	354		14.0	336		13.6	292		13.2	243		12.1	361		13.0	-	-
Selenium	0.33	J	0.10	0.19	J	0.10	0.27	J	0.11	0.32	J	0.11	0.13	J	0.10	0.096	U	0.096	0.13	J	0.10	3.9	180
Silver	0.072	U	0.072	0.070	U	0.070	0.077	U	0.077	0.075	U	0.075	0.073	U	0.073	0.067	U	0.067	0.071	U	0.071	2	180
Sodium	153		37.0	57.3	J	36.0	56.9	J	39.6	56.1	J	38.5	50.6	J	37.4	34.2	U	34.2	36.6	U	36.6	-	-
Thallium	0.16	J	0.033	0.056	J	0.032	0.066	J	0.035	0.064	J	0.035	0.045	J	0.034	0.031	U	0.031	0.042	J	0.033	-	-
Vanadium	14.3		0.17	10.5		0.16	13.6		0.18	13.0		0.17	8.2		0.17	7.3		0.15	9.9		0.17	-	-
Zinc	80.1	F2	2.5	10	F2	2.4	13.8	F2	2.6	14.0	F2	2.6	7.5	F2	2.5	6.9	F2	2.3	7.6	F2	2.4	109	10000
Mercury	0.076		0.0080	0.037		0.0079	0.052		0.0079	0.056		0.0084	0.024		0.0073	0.012	J	0.0079	0.0073	U	0.0073	0.18	0.81
Cyanide, Total	0.076	F1 F2	0.0080	NR			0.14	F1 F2 U	0.14	1.7	F1 F2	0.14	NR			NR			NR			27	27

NR: Not Analyzed

Yellow Highlighted Concentrations shown in bold type face exceed NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives

F1 : MS and/or MSD recovery exceeds control limits.

F2 : MS/MSD RPD exceeds control limits

J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

U : Indicates the analyte was analyzed for but not detected.

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below Grade	T-7 (0-1)			T-7 (2-3)			T-8 (0-1)			T-8 (2-3)			T-9 (0-1)			T-9 (2-3)			T-10 (0-1)			T-10 (2-3)			T-11 (0-1)			T-11 (2-3)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	**Native**			**Native**			**Fill**			**Native**			**Fill**			**Native**			**Fill**			**Native**			**Fill**			**Fill/Native**				
Lab Sample ID	460-269233-13			460-269233-14			460-269233-15			460-269233-16			460-269233-8			460-269233-9			460-269233-4			460-269233-5			460-269233-6			460-269233-7				
Sampling Date	11/9/2022																															
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Metals in milligrams per kilogram (mg/kg)																																
Aluminum	4430		4.7	3980		4.5	6200		4.4	5170		4.7	5700		4.4	6480		4.5	4410		4.4	2600		4.5	6150		4.8	6000		4.3	-	-
Antimony	0.13	U	0.13	0.12	U	0.12	0.61	J	0.12	0.17	J	0.12	0.53	J	0.12	0.23	J	0.12	0.12	U	0.12	0.12	U	0.12	0.59	J	0.13	0.12	J	0.11	-	-
Arsenic	1.6		0.089	1.6		0.085	4.7		0.083	2.0		0.088	4.3		0.083	3.5		0.084	1.6		0.083	1.1		0.084	5.6		0.091	2.1		0.081	13	16
Barium	15.9	F2 F1	0.12	11.6		0.12	71.3		0.12	31.3		0.12	86.8		0.12	37.6		0.12	10.9		0.12	9.2		0.12	68.5		0.13	29.1		0.11	350	400
Beryllium	0.28	J F2 F1	0.049	0.27	F2 J	0.047	0.28	F2 J	0.046	0.22	F2 J	0.049	0.24	F2 J	0.046	0.23	F2 J	0.046	0.18	F2 J	0.046	0.15	F2 J	0.047	0.29	F2 J	0.050	0.20	F2 J	0.045	7.2	72
Cadmium	0.097	U	0.097	0.093	U	0.093	0.41	J	0.091	**3.9**		0.096	0.41	J	0.091	0.14	J	0.092	0.092	U	0.092	0.093	U	0.093	0.42	J	0.099	0.089	U	0.089	2.5	4.3
Calcium	729	F2 F1	15.2	320	F2 F1	14.6	28000	F2 F1	14.3	3100	F2 F1	15.1	28600	F2 F1	14.3	6430	F2 F1	14.4	298	F2 F1	14.3	145	F2 F1	14.5	33600	F2 F1	15.6	5860	F2 F1	13.9	-	-
Chromium	8.9	F2 F1	0.78	8.9	F2	0.75	14.1	F2	0.73	9.0	F2	0.78	20.1	F2	0.74	10.5	F2	0.74	6.7	F2	0.74	6.0	F2	0.74	16.1	F2	0.80	8.7	F2	0.71	30	180
Chromium (III)	8.9		2.0	NR			14.1		2.0	NR			20.1		2.0	NR			6.7		2.0	NR			16.1		2.0	NR			30	180
Chromium (VI)	0.88	U	0.88	NR			0.89	U	0.89	NR			0.87	U	0.87	NR	U		0.87	U	0.87	NR			0.93	U	0.93	NR			1	110
Cobalt	3.6	F2 F1	0.13	3.1	F2	0.12	3.4	F2	0.12	2.8	F2	0.13	3.4	F2	0.12	2.8	F2	0.12	3.3	F2	0.12	3.4	F2	0.12	3.2	F2	0.13	2.6	F2	0.12	-	-
Copper	6.5	F2 F1	0.32	6.5	F2	0.30	18.9	F2	0.30	11.2	F2	0.31	23.0	F2	0.30	9.8	F2	0.30	4.1	F2	0.30	4.6	F2	0.30	22.3	F2	0.32	5.9	F2	0.29	50	270
Iron	7960	F1	17.4	8560	F1	16.7	10800	F1	16.3	8520	F1	17.2	11000	F1	16.4	8800	F1	16.4	6670	F1	16.4	6190	F1	16.6	9640	F1	17.8	7630	F1	15.9	-	-
Lead	4.3	F2 F1	0.17	3.1	F2	0.17	**140**	F2	0.16	38.8	F2	0.17	**201**	F2	0.16	**85.5**	F2	0.16	3.1	F2	0.16	2.2	F2	0.16	**147**	F2	0.18	**65.8**	F2	0.16	63	400
Magnesium	1000	F2 F1	8.8	700	F2	8.4	3050	F2	8.2	912	F2	8.7	5760	F2	8.3	1170	F2	8.3	618	F2	8.3	617	F2	8.4	3180	F2	9.0	950	F2	8.0	-	-
Manganese	146	F1	0.35	108		0.33	154		0.32	84.3		0.34	168		0.33	101		0.33	105		0.33	101		0.33	148		0.35	80.6		0.32	1600	2000
Nickel	6.0	F2 F1	0.40	6.1	F2	0.39	8.5	F2	0.38	5.8	F2	0.40	10.6	F2	0.38	5.9	F2	0.38	6.1	F2	0.38	5.5	F2	0.39	10.0	F2	0.41	5.8	F2	0.37	30	310
Potassium	543		13.9	417		13.4	609		13.0	381		13.8	580		13.1	404		13.2	299		13.1	397		13.3	647		14.3	364		12.7	-	-
Selenium	0.11	U	0.11	0.13	J	0.11	0.26	J	0.10	0.20	J	0.11	0.25	J	0.10	0.31	J	0.10	0.19	J	0.10	0.10	U	0.10	0.20	J	0.11	0.28	J	0.10	3.9	180
Silver	0.076	U	0.076	0.073	U	0.073	0.072	U	0.072	0.076	U	0.076	0.072	U	0.072	0.072	U	0.072	0.072	U	0.072	0.073	U	0.073	0.085	J	0.078	0.070	U	0.070	2	180
Sodium	46.7	J	39.3	37.7	U	37.7	252		36.8	72.9	J	39.0	167		37.0	91.8		37.2	41.9	J	37.0	37.5	U	37.5	264		40.2	133		35.9	-	-
Thallium	0.064	J	0.035	0.052	J	0.034	0.066	J	0.033	0.063	J	0.035	0.082	J	0.033	0.065	J	0.033	0.050	J	0.033	0.047	J	0.034	0.061	J	0.036	0.056	J	0.032	-	-
Vanadium	13.2		0.18	11.4		0.17	19.6		0.17	12.0		0.18	16.9		0.17	12.9		0.17	9.1		0.17	7.4		0.17	14.4		0.18	11.5		0.16	-	-
Zinc	12.8	F2 F1	2.6	9.1	F2	2.5	103	F2	2.5	54.8	F2	2.6	104	F2	2.5	38.5	F2	2.5	12.1	F2	2.5	8.6	F2	2.5	98.5	F2	2.7	28.3		2.4	109	10000
Mercury	0.0083	J	0.0078	0.033		0.0081	0.11		0.0084	0.052		0.0075	0.077		0.0084	0.068		0.0083	0.018		0.0075	0.0081	U	0.0081	0.083		0.0085	0.045		0.0078	0.18	0.81
Cyanide, Total	0.13	U F1	0.13	NR			0.22	F1 F2 J	0.14	NR			0.27	F1 F2	0.12	NR			0.13	F1 F2 U	0.13	NR			0.38	F1 F2	0.12	NR			27	27

NR: Not Analyzed
Yellow Highlighted Concentrations shown in bold type face exceed NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives
F1 : MS and/or MSD recovery exceeds control limits.
F2 : MS/MSD RPD exceeds control limits
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U : Indicates the analyte was analyzed for but not detected.

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below	T-1 (0-1)			T-1 (2-3)			T-2 (0-1)			T-2 (2-3)			T-3 (0-1)			T-3 (2-3)			T-33 (duplicate of T-3, 2-3 feet)			T-4 (0-1)			T-4 (2-3)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	**Native**			**Native**			**Fill**			**Fill/Native**			**Fill**			**Native**			**Native**			**Fill**			**Native**				
Lab Sample ID	460-269233-11			460-269233-12			460-269234-1			460-269234-2			460-269234-3			460-269234-4			460-269234-8			460-269233-17			460-269233-18				
Sampling Date	11/9/2022																												
Dilution Factor	1			1			1			1			1			1			1			1			1				
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Volatile Organic Compounds in milligrams per kilogram (mg/kg)																													
1,1,1-Trichloroethane	0.00019	U *+	0.00019	0.00021	U *+	0.00021	0.00020	U *+	0.00020	0.00022	U	0.00022	0.00022	U	0.00022	0.00020	U	0.00020	0.00020	U	0.00020	0.00020	U	0.00020	0.00020	U	0.00020	0.68	100
1,1-Dichloroethane	0.00017	U	0.00017	0.00019	U	0.00019	0.00017	U	0.00017	0.00019	U	0.00019	0.00019	U	0.00019	0.00018	U	0.00018	0.00018	U	0.00018	0.00018	U	0.00018	0.00018	U	0.00018	0.27	26
1,1-Dichloroethene	0.00019	U	0.00019	0.00020	U	0.00020	0.00019	U	0.00019	0.00021	U	0.00021	0.00021	U	0.00021	0.00020	U	0.00020	0.00019	U	0.00019	0.00019	U	0.00019	0.00020	U	0.00020	0.33	100
1,2,4-Trimethylbenzene	0.00020	U	0.00020	0.00022	U	0.00022	0.00021	F1U	0.00021	0.00023	U *-	0.00023	0.00023	U *-	0.00023	0.00021	F1U *-	0.00021	0.00021	U *-	0.00021	0.00021	U	0.00021	0.00022	U	0.00022	3.6	52
1,2-Dichlorobenzene	0.00030	U	0.00030	0.00033	U	0.00033	0.00030	F1U	0.00030	0.00034	U	0.00034	0.00033	U	0.00033	0.00031	F1U	0.00031	0.00031	U	0.00031	0.00031	U	0.00031	0.00032	U	0.00032	1.1	100
1,2-Dichloroethane	0.00024	U	0.00024	0.00027	U	0.00027	0.00025	U	0.00025	0.00027	U	0.00027	0.00027	U	0.00027	0.00026	U	0.00026	0.00025	U	0.00025	0.00025	U	0.00025	0.00026	U	0.00026	0.02	3.1
1,3,5-Trimethylbenzene	0.00026	U	0.00026	0.00028	U	0.00028	0.00026	F1U	0.00026	0.00029	U	0.00029	0.00029	U	0.00029	0.00027	F1U	0.00027	0.00027	U	0.00027	0.00027	U	0.00027	0.00028	U	0.00028	8.4	52
1,3-Dichlorobenzene	0.00030	U	0.00030	0.00033	U	0.00033	0.00031	F1U	0.00031	0.00034	U	0.00034	0.00034	U	0.00034	0.00032	F1U	0.00032	0.00031	U	0.00031	0.00031	U	0.00031	0.00032	U	0.00032	2.4	49
1,4-Dichlorobenzene	0.00019	U	0.00019	0.00020	U	0.00020	0.00019	F1U	0.00019	0.00021	U	0.00021	0.00021	U	0.00021	0.00020	F1U	0.00020	0.00019	U	0.00019	0.00019	U	0.00019	0.00020	U	0.00020	1.8	13
2-Butanone (MEK)	0.00030	U	0.00030	0.00033	U	0.00033	0.00031	U	0.00031	0.00034	U	0.00034	0.00034	U	0.00034	0.00032	U	0.00032	0.00032	U	0.00032	0.00031	U	0.00031	0.00032	U	0.00032	0.12	100
Acetone	0.0047	U	0.0047	0.0052	U	0.0052	0.0048	U	0.0048	0.0053	U	0.0053	0.0053	U	0.0053	0.0050	U	0.0050	0.0049	U	0.0049	0.0079		0.0049	0.0050	U	0.0050	0.05	100
Benzene	0.00021	U	0.00021	0.00023	U	0.00023	0.00022	U	0.00022	0.00024	U	0.00024	0.00024	U	0.00024	0.00022	U	0.00022	0.00022	U	0.00022	0.00022	U	0.00022	0.00023	U	0.00023	0.06	4.8
Carbon tetrachloride	0.00032	U *+	0.00032	0.00035	U *+	0.00035	0.00033	F1U *+	0.00033	0.00036	U *+	0.00036	0.00036	U *+	0.00036	0.00034	F1U *+	0.00034	0.00033	U *+	0.00033	0.00033	U *+	0.00033	0.00034	U *+	0.00034	0.76	2.4
Chlorobenzene	0.00015	U	0.00015	0.00016	U	0.00016	0.00015	F1U	0.00015	0.00016	U	0.00016	0.00016	U	0.00016	0.00015	F1U	0.00015	0.00015	U	0.00015	0.00015	U	0.00015	0.00016	U	0.00016	1.1	100
Chloroform	0.00080	U	0.00080	0.00088	U	0.00088	0.00082	U	0.00082	0.00090	U	0.00090	0.00090	U	0.00090	0.00085	U	0.00085	0.00083	U	0.00083	0.00083	U	0.00083	0.00085	U	0.00085	0.37	49
cis-1,2-Dichloroethene	0.00029	U	0.00029	0.00032	U	0.00032	0.00030	U	0.00030	0.00033	U	0.00033	0.00033	U	0.00033	0.00031	U	0.00031	0.00031	U	0.00031	0.00030	U	0.00030	0.00031	U	0.00031	0.25	100
Ethylbenzene	0.00016	U	0.00016	0.00018	U	0.00018	0.00017	F1U	0.00017	0.00018	U	0.00018	0.00018	U	0.00018	0.00017	F1U	0.00017	0.00017	U	0.00017	0.00017	U	0.00017	0.00017	U	0.00017	1	41
Methyl tert-butyl ether	0.00042	U	0.00042	0.00046	U	0.00046	0.00043	U	0.00043	0.00048	U	0.00048	0.00047	U	0.00047	0.00045	U	0.00045	0.00044	U	0.00044	0.00044	U	0.00044	0.00045	U	0.00045	0.93	100
Methylene Chloride	0.0020		0.00094	0.0035		0.0010	0.0016	J	0.00097	0.0014	J	0.0011	0.0029		0.0011	0.0024		0.0010	0.0022		0.00098	0.0035		0.00098	0.0024		0.0010	0.05	100
n-Butylbenzene	0.00024	U	0.00024	0.00027	U	0.00027	0.00025	F1U	0.00025	0.00027	U	0.00027	0.00027	U	0.00027	0.00026	F1U	0.00026	0.00025	U	0.00025	0.00025	U	0.00025	0.00026	U	0.00026	12	100
N-Propylbenzene	0.00014	U	0.00014	0.00016	U	0.00016	0.00015	F1U	0.00015	0.00016	U	0.00016	0.00016	U	0.00016	0.00015	F1U	0.00015	0.00015	U	0.00015	0.00015	U	0.00015	0.00015	U	0.00015	3.9	100
sec-Butylbenzene	0.00024	U	0.00024	0.00026	U	0.00026	0.00024	F1U	0.00024	0.00027	U	0.00027	0.00027	U	0.00027	0.00025	F1U	0.00025	0.00025	U	0.00025	0.00025	U	0.00025	0.00025	U	0.00025	11	100
tert-Butylbenzene	0.00023	U *-	0.00023	0.00025	U *-	0.00025	0.00023	F1U *-	0.00023	0.00026	U *-	0.00026	0.00026	U *-	0.00026	0.00024	F1U *-	0.00024	0.00024	U *-	0.00024	0.00024	U *-	0.00024	0.00024	U *-	0.00024	5.9	100
Tetrachloroethene	0.00025	U *+	0.00025	0.00034	J *+	0.00028	0.00026	U *+	0.00026	0.00028	U *+	0.00028	0.00041	J *+	0.00028	0.00038	J *+	0.00027	0.00028	J *+	0.00026	0.00026	U	0.00026	0.00027	U	0.00027	1.3	19
Toluene	0.00020	J	0.00019	0.00021	U	0.00021	0.00020	U	0.00020	0.00022	U	0.00022	0.00022	U	0.00022	0.00020	U	0.00020	0.00020	U	0.00020	0.00027	J	0.00020	0.00031	J	0.00021	0.7	100
trans-1,2-Dichloroethene	0.00020	U	0.00020	0.00022	U	0.00022	0.00021	U	0.00021	0.00023	U	0.00023	0.00023	U	0.00023	0.00021	U	0.00021	0.00021	U	0.00021	0.00021	U	0.00021	0.00022	U	0.00022	0.19	100
Trichloroethene	0.00026	U	0.00026	0.00029	U	0.00029	0.00027	U	0.00027	0.00030	U	0.00030	0.00030	U	0.00030	0.00028	U	0.00028	0.00028	U	0.00028	0.00027	U	0.00027	0.00028	U	0.00028	0.47	21
Vinyl chloride	0.00045	U	0.00045	0.00049	U	0.00049	0.00046	U	0.00046	0.00051	U	0.00051	0.00051	U	0.00051	0.00048	U	0.00048	0.00047	U	0.00047	0.00047	U	0.00047	0.00048	U	0.00048	0.02	0.9
Xylenes, Total	0.00014	U	0.00014	0.00016	U	0.00016	0.00015	F1U	0.00015	0.00016	U	0.00016	0.00016	U	0.00016	0.00015	F1U	0.00015	0.00015	U	0.00015	0.00015	U	0.00015	0.00015	U	0.00015	0.26	100
Total VOCs	0.0022			0.00384			0.0016			0.0014			0.00331			0.00278			0.00248			0.01167			0.00271			-	-
VOC Tentatively-Identified Compounds																													
	Result	Q	RT mm:ss													Result	Q	RT mm:ss											
Naphthalene	NR																											-	-
Unknown	NR																											-	-
Unknown	NR																											-	-
Naphthalene, 2-methyl-	NR																											-	-
Naphthalene, 1-methyl-	NR																											-	-
Unknown	0.0055	J	13:39																									-	-
Unknown	NR															0.0052	J	01:49										-	-
Total Estimated Conc. (TICs)	0.0055			0.0*T			0.0*T			0.0*T			0.0*T			0.0052			0.0*T			0.0*T			0.0*T			-	-

*T There are no TICs reported for the sample
Yellow Highlighted Concentrations shown in bold type face exceed NYSDEC 375-6 Unrestricted Use Soil Cleanup Objectives
*- : LCS and/or LCSD is outside acceptance limits, low biased.
*+ : LCS and/or LCSD is outside acceptance limits, high biased.
F1 : MS and/or MSD recovery exceeds control limits.
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U : Indicates the analyte was analyzed for but not detected.
RT mm:ss Retention Time in mm:ss format
J : Indicates an Estimated Value for TICs

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below	T-5 (0-1)			T-55 (duplicate of T-5, 0 to 1 foot)			T-5 (2-3)			T-6 (0-1)			T-6 (2-3)			T-7 (0-1)			T-7 (2-3)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	**Native**			**Native**			**Native**			**Native**			**Native**			**Native**			**Native**				
Lab Sample ID	460-269233-19			460-269233-20			460-269233-21			460-269233-2			460-269233-3			460-269233-13			460-269233-14				
Sampling Date	11/9/2022																						
Dilution Factor	1			1			1			1			1			1			1				
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Volatile Organic Compounds in milligrams per kilogram (mg/kg)																							
1,1,1-Trichloroethane	0.00025	U *+	0.00025	0.00021	U *+	0.00021	0.00022	U	0.00022	0.00019	U	0.00019	0.00022	U	0.00022	0.00019	U	0.00019	0.00026	U	0.00026	0.68	100
1,1-Dichloroethane	0.00022	U	0.00022	0.00018	U	0.00018	0.00020	U	0.00020	0.00017	U	0.00017	0.00019	U	0.00019	0.00017	U	0.00017	0.00023	U	0.00023	0.27	26
1,1-Dichloroethene	0.00024	U	0.00024	0.00020	U	0.00020	0.00021	U	0.00021	0.00018	U	0.00018	0.00021	U	0.00021	0.00019	U	0.00019	0.00025	U	0.00025	0.33	100
1,2,4-Trimethylbenzene	0.00026	U	0.00026	0.00022	U	0.00022	0.00023	U	0.00023	0.00020	U	0.00020	0.00023	U	0.00023	0.00020	U F1	0.00020	0.00027	U	0.00027	3.6	52
1,2-Dichlorobenzene	0.00038	U	0.00038	0.00032	U	0.00032	0.00034	U	0.00034	0.00029	U	0.00029	0.00033	U	0.00033	0.00030	U F1	0.00030	0.00040	U	0.00040	1.1	100
1,2-Dichloroethane	0.00031	U	0.00031	0.00026	U	0.00026	0.00028	U	0.00028	0.00024	U	0.00024	0.00027	U	0.00027	0.00024	U	0.00024	0.00033	U	0.00033	0.02	3.1
1,3,5-Trimethylbenzene	0.00033	U	0.00033	0.00028	U	0.00028	0.00030	U	0.00030	0.00025	U	0.00025	0.00029	U	0.00029	0.00026	U F1	0.00026	0.00035	U	0.00035	8.4	52
1,3-Dichlorobenzene	0.00039	U	0.00039	0.00032	U	0.00032	0.00035	U	0.00035	0.00029	U	0.00029	0.00034	U	0.00034	0.00030	U F1	0.00030	0.00040	U	0.00040	2.4	49
1,4-Dichlorobenzene	0.00024	U	0.00024	0.00020	U	0.00020	0.00021	U	0.00021	0.00018	U	0.00018	0.00021	U	0.00021	0.00019	U F1	0.00019	0.00025	U	0.00025	1.8	13
2-Butanone (MEK)	0.00039	U	0.00039	0.00033	U	0.00033	0.00035	U	0.00035	0.00030	U	0.00030	0.00034	U	0.00034	0.00030	U F1	0.00030	0.00040	U	0.00040	0.12	100
Acetone	0.0061	U	0.0061	0.0051	U	0.0051	0.0054	U	0.0054	0.0046	U	0.0046	0.0053	U	0.0053	0.0047	U	0.0047	0.0063	U	0.0063	0.05	100
Benzene	0.00027	U	0.00027	0.00023	U	0.00023	0.00024	U	0.00024	0.00021	U	0.00021	0.00024	U	0.00024	0.00021	U	0.00021	0.00028	U	0.00028	0.06	4.8
Carbon tetrachloride	0.00041	U *+	0.00041	0.00034	U *+	0.00034	0.00037	U *+	0.00037	0.00031	U *+	0.00031	0.00036	U *+	0.00036	0.00032	F1 *+	0.00032	0.00043	U *+	0.00043	0.76	2.4
Chlorobenzene	0.00019	U	0.00019	0.00016	U	0.00016	0.00017	U	0.00017	0.00014	U	0.00014	0.00016	U	0.00016	0.00015	U F1	0.00015	0.00019	U	0.00019	1.1	100
Chloroform	0.001	U	0.0010	0.00086	U	0.00086	0.00092	U	0.00092	0.00078	U	0.00078	0.00090	U	0.00090	0.00080	U	0.00080	0.0011	U	0.0011	0.37	49
cis-1,2-Dichloroethene	0.00038	U	0.00038	0.00032	U	0.00032	0.00034	U	0.00034	0.00029	U	0.00029	0.00033	U	0.00033	0.00030	U	0.00030	0.00039	U	0.00039	0.25	100
Ethylbenzene	0.00021	U	0.00021	0.00018	U	0.00018	0.00019	U	0.00019	0.00016	U	0.00016	0.00018	U	0.00018	0.00016	U F1	0.00016	0.00022	U	0.00022	1	41
Methyl tert-butyl ether	0.00054	U	0.00054	0.00045	U	0.00045	0.00048	U	0.00048	0.00041	U	0.00041	0.00047	U	0.00047	0.00042	U	0.00042	0.00056	U	0.00056	0.93	100
Methylene Chloride	0.0044		0.0012	0.0042		0.0010	0.0016	J	0.0011	0.0031		0.00092	0.0036		0.0011	0.0032	F1	0.00095	0.0053		0.0013	0.05	100
n-Butylbenzene	0.00031	U	0.00031	0.00026	U	0.00026	0.00028	U	0.00028	0.00024	U	0.00024	0.00027	U	0.00027	0.00024	U F1	0.00024	0.00032	U	0.00032	12	100
N-Propylbenzene	0.00019	U	0.00019	0.00016	U	0.00016	0.00017	U	0.00017	0.00014	U	0.00014	0.00016	U	0.00016	0.00014	U F1	0.00014	0.00019	U	0.00019	3.9	100
sec-Butylbenzene	0.00031	U	0.00031	0.00026	U	0.00026	0.00027	U	0.00027	0.00023	U	0.00023	0.00027	U	0.00027	0.00024	U F1	0.00024	0.00032	U	0.00032	11	100
tert-Butylbenzene	0.00029	U *-	0.00029	0.00024	U *-	0.00024	0.00026	U *-	0.00026	0.00022	U	0.00022	0.00026	U	0.00026	0.00023	F1 *-	0.00023	0.00030	U *-	0.00030	5.9	100
Tetrachloroethene	0.00040	J *+	0.00032	0.00027	J *+	0.00027	0.00029	U	0.00029	0.00024	U *+	0.00024	0.00028	U *+	0.00028	0.00025	U	0.00025	0.00034	U	0.00034	1.3	19
Toluene	0.00025	U	0.00025	0.00023	J	0.00021	0.00022	U	0.00022	0.00019	U	0.00019	0.00022	U	0.00022	0.00019	U F1	0.00019	0.00026	U	0.00026	0.7	100
trans-1,2-Dichloroethene	0.00026	U	0.00026	0.00022	U	0.00022	0.00023	U	0.00023	0.00020	U	0.00020	0.00023	U	0.00023	0.00020	U	0.00020	0.00027	U	0.00027	0.19	100
Trichloroethene	0.00093	J	0.00034	0.00072	J	0.00028	0.00030	U	0.00030	0.00059	J	0.00026	0.00030	U	0.00030	0.00027	U	0.00027	0.00035	U	0.00035	0.47	21
Vinyl chloride	0.00058	U	0.00058	0.00048	U	0.00048	0.00052	U	0.00052	0.00044	U	0.00044	0.00051	U	0.00051	0.00045	U	0.00045	0.00060	U	0.00060	0.02	0.9
Xylenes, Total	0.00018	U	0.00018	0.00015	U	0.00015	0.00016	U	0.00016	0.00014	U	0.00014	0.00016	U	0.00016	0.00014	U F1	0.00014	0.00019	U	0.00019	0.26	100
Total VOCs	0.00573			0.00542			0.0016			0.00369			0.0036			0.0032			0.0053			-	-
VOC Tentatively-Identified Compounds																							
Naphthalene															NR							-	-
Unknown															NR							-	-
Unknown															NR							-	-
Naphthalene, 2-methyl-															NR							-	-
Naphthalene, 1-methyl-															NR							-	-
Unknown															0.0062	J	13:39					-	-
Unknown															NR							-	-
Total Estimated Conc. (TICs)	0.0*T			0.0*T			0.0*T			0.0*T			0.0*T			0.0*T			0.0*T			-	-

*T There are no TICs reported for the sample
Yellow Highlighted Concentrations shown in bold type face exceed NYSDEC 375-6 Unrestricted Use Soil Cleanup Objectives
*- : LCS and/or LCSD is outside acceptance limits, low biased.
*+ : LCS and/or LCSD is outside acceptance limits, high biased.
F1 : MS and/or MSD recovery exceeds control limits.
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U : Indicates the analyte was analyzed for but not detected.
RT mm:ss Retention Time in mm:ss format
J : Indicates an Estimated Value for TICs

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below	T-8 (0-1)			T-8 (2-3)			T-9 (0-1)			T-9 (2-3)			T-10 (0-1)			T-10 (2-3)			T-11 (0-1)			T-11 (2-3)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	**Fill**			**Native**			**Fill**			**Native**			**Fill**			**Native**			**Fill**			**Fill/Native**				
Lab Sample ID	460-269233-15			460-269233-16			460-269233-8			460-269233-9			460-269233-4			460-269233-5			460-269233-6			460-269233-7				
Sampling Date	11/9/2022																									
Dilution Factor	1			1			1			1			1			1			1			1				
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Volatile Organic Compounds in milligrams per kilogram (mg/kg)																										
1,1,1-Trichloroethane	0.00023	U *+	0.00023	0.00021	U *+	0.00021	0.00020	U	0.00020	0.00021	U	0.00021	0.00011	U	0.00011	0.00023	U	0.00023	0.00022	U	0.00022	0.00020	U	0.00020	0.68	100
1,1-Dichloroethane	0.00020	U	0.00020	0.00019	U	0.00019	0.00018	U	0.00018	0.00018	U	0.00018	0.000095	U	0.000095	0.00020	U	0.00020	0.00019	U	0.00019	0.00017	U	0.00017	0.27	26
1,1-Dichloroethene	0.00022	U	0.00022	0.00021	U	0.00021	0.00020	U	0.00020	0.00020	U	0.00020	0.00010	U	0.00010	0.00022	U	0.00022	0.00021	U	0.00021	0.00019	U	0.00019	0.33	100
1,2,4-Trimethylbenzene	0.00024	U	0.00024	0.00023	U	0.00023	0.00022	U	0.00022	0.00022	U	0.00022	0.00011	U	0.00011	0.00024	U	0.00024	0.00023	U	0.00023	0.00021	U	0.00021	3.6	52
1,2-Dichlorobenzene	0.00035	U	0.00035	0.00033	U	0.00033	0.00032	U	0.00032	0.00032	U	0.00032	0.00017	U	0.00017	0.00035	U	0.00035	0.00034	U	0.00034	0.00031	U	0.00031	1.1	100
1,2-Dichloroethane	0.00029	U	0.00029	0.00027	U	0.00027	0.00026	U	0.00026	0.00026	U	0.00026	0.00014	U	0.00014	0.00029	U	0.00029	0.00028	U	0.00028	0.00025	U	0.00025	0.02	3.1
1,3,5-Trimethylbenzene	0.00031	U	0.00031	0.00029	U	0.00029	0.00028	U	0.00028	0.00028	U	0.00028	0.00014	U	0.00014	0.00031	U	0.00031	0.00030	U	0.00030	0.00027	U	0.00027	8.4	52
1,3-Dichlorobenzene	0.00036	U	0.00036	0.00033	U	0.00033	0.00032	U	0.00032	0.00032	U	0.00032	0.00017	U	0.00017	0.00036	U	0.00036	0.00035	U	0.00035	0.00031	U	0.00031	2.4	49
1,4-Dichlorobenzene	0.00022	U	0.00022	0.00021	U	0.00021	0.00020	U	0.00020	0.00038	J	0.00020	0.00010	U	0.00010	0.00022	U	0.00022	0.00021	U	0.00021	0.00056	J	0.00019	1.8	13
2-Butanone (MEK)	0.00036	U	0.00036	0.00034	U	0.00034	0.00032	U	0.00032	0.00033	U	0.00033	0.00017	U	0.00017	0.00036	U	0.00036	0.00035	U	0.00035	0.00031	U	0.00031	0.12	100
Acetone	0.016		0.0056	0.0096		0.0052	0.010		0.0050	**0.060**		0.0051	0.0026	U	0.0026	0.0056	U	0.0056	0.011		0.0054	0.0063		0.0048	0.05	100
Benzene	0.00025	U	0.00025	0.00024	U	0.00024	0.00023	U	0.00023	0.00023	U	0.00023	0.00012	U	0.00012	0.00025	U	0.00025	0.00024	U	0.00024	0.00022	U	0.00022	0.06	4.8
Carbon tetrachloride	0.00038	U *+	0.00038	0.00035	U *+	0.00035	0.00034	U *+	0.00034	0.00034	U *+	0.00034	0.00018	U *+	0.00018	0.00038	U *+	0.00038	0.00037	U *+	0.00037	0.00033	U *+	0.00033	0.76	2.4
Chlorobenzene	0.00017	U	0.00017	0.00016	U	0.00016	0.00016	U	0.00016	0.00016	U	0.00016	0.000081	U	0.000081	0.00017	U	0.00017	0.00017	U	0.00017	0.00015	U	0.00015	1.1	100
Chloroform	0.00095	U	0.00095	0.00089	U	0.00089	0.00085	U	0.00085	0.00086	U	0.00086	0.00045	U	0.00045	0.00095	U	0.00095	0.00092	U	0.00092	0.00082	U	0.00082	0.37	49
cis-1,2-Dichloroethene	0.00035	U	0.00035	0.00033	U	0.00033	0.00031	U	0.00031	0.00032	U	0.00032	0.00016	U	0.00016	0.00035	U	0.00035	0.00034	U	0.00034	0.00030	U	0.00030	0.25	100
Ethylbenzene	0.00019	U	0.00019	0.00018	U	0.00018	0.00017	U	0.00017	0.00018	U	0.00018	0.000091	U	0.000091	0.00020	U	0.00020	0.00019	U	0.00019	0.00017	U	0.00017	1	41
Methyl tert-butyl ether	0.00050	U	0.00050	0.00047	U	0.00047	0.00045	U	0.00045	0.00045	U	0.00045	0.00024	U	0.00024	0.00050	U	0.00050	0.00048	U	0.00048	0.00043	U	0.00043	0.93	100
Methylene Chloride	0.0022		0.0011	0.0043		0.0011	0.0028		0.0010	0.0017	J	0.0010	0.0011		0.00053	0.0034		0.0011	0.0015	J	0.0011	0.0036		0.00097	0.05	100
n-Butylbenzene	0.00029	U	0.00029	0.00027	U	0.00027	0.00026	U	0.00026	0.00026	U	0.00026	0.00013	U	0.00013	0.00029	U	0.00029	0.00028	U	0.00028	0.00025	U	0.00025	12	100
N-Propylbenzene	0.00017	U	0.00017	0.00016	U	0.00016	0.00015	U	0.00015	0.00015	U	0.00015	0.000080	U	0.000080	0.00017	U	0.00017	0.00017	U	0.00017	0.00015	U	0.00015	3.9	100
sec-Butylbenzene	0.00028	U	0.00028	0.00026	U	0.00026	0.00025	U	0.00025	0.00025	U	0.00025	0.00013	U	0.00013	0.00028	U	0.00028	0.00027	U	0.00027	0.00024	U	0.00024	11	100
tert-Butylbenzene	0.00027	U *-	0.00027	0.00025	U *-	0.00025	0.00024	U	0.00024	0.00024	U	0.00024	0.00013	U	0.00013	0.00027	U	0.00027	0.00026	U	0.00026	0.00023	U	0.00023	5.9	100
Tetrachloroethene	0.0011	*+	0.00030	0.00028	U *+	0.00028	0.00027	U *+	0.00027	0.0010	*+	0.00027	0.00028	J *+	0.00014	0.00030	U *+	0.00030	0.00047	J *+	0.00029	0.00052	J *+	0.00026	1.3	19
Toluene	0.00023	U	0.00023	0.00021	U	0.00021	0.00021	U	0.00021	0.00021	J	0.00021	0.00011	U	0.00011	0.00034	J	0.00023	0.00022	U	0.00022	0.00020	U	0.00020	0.7	100
trans-1,2-Dichloroethene	0.00024	U	0.00024	0.00023	U	0.00023	0.00022	U	0.00022	0.00022	U	0.00022	0.00011	U	0.00011	0.00024	U	0.00024	0.00023	U	0.00023	0.00021	U	0.00021	0.19	100
Trichloroethene	0.012		0.00031	0.00054	J	0.00029	0.0014		0.00028	0.0040		0.00028	0.0023		0.00015	0.00032	U	0.00032	0.0020		0.00030	0.0021		0.00027	0.47	21
Vinyl chloride	0.00053	U	0.00053	0.00050	U	0.00050	0.00048	U	0.00048	0.00048	U	0.00048	0.00025	U	0.00025	0.00054	U	0.00054	0.00052	U	0.00052	0.00046	U	0.00046	0.02	0.9
Xylenes, Total	0.00017	U	0.00017	0.00016	U	0.00016	0.00015	U	0.00015	0.00021	J	0.00015	0.000080	U	0.000080	0.00017	U	0.00017	0.00016	U	0.00016	0.00015	U	0.00015	0.26	100
Total VOCs	0.0313			0.01444			0.0142			0.0675			0.00368			0.00374			0.01497			0.01308			-	-
VOC Tentatively-Identified Compounds																										
	Result	Q	RT mm:ss	Result	Q	RT mm:ss	Result	Q	RT mm:ss										Result	Q	RT mm:ss					
Naphthalene	0.016	J N	12:45	NR			0.0044	J N	12:45										NR						-	-
Unknown	0.0063	J	13:09	NR			NR												NR						-	-
Unknown	0.0055	J	13:24	NR			NR												NR						-	-
Naphthalene, 2-methyl-	0.012	J N	13:32	NR			NR												0.0048	J N	13:32				-	-
Naphthalene, 1-methyl-	0.0068	J N	13:39	NR			NR												0.0070	J N	13:39				-	-
Unknown	NR			0.0062	J	13:39	NR												NR						-	-
Unknown	0.0076	J	14:02	NR			NR												NR						-	-
Total Estimated Conc. (TICs)	0.0542			0.0062			0.0044			0.0*T			0.0*T			0.0*T			0.0118			0.0*T			-	-

*T There are no TICs reported for the sample
Yellow Highlighted Concentrations shown in bold type face exceed NYSDEC 375-6 Unrestricted Use Soil Cleanup Objectives
*- : LCS and/or LCSD is outside acceptance limits, low biased.
*+ : LCS and/or LCSD is outside acceptance limits, high biased.
F1 : MS and/or MSD recovery exceeds control limits.
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U : Indicates the analyte was analyzed for but not detected.
RT mm:ss Retention Time in mm:ss format
J : Indicates an Estimated Value for TICs

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Loction and Depth in Feet Below Grade	T-5 (0-1)			T-55 (duplicate of T-5, 0 to 1 foot)			T-7 (0-1)			T-8 (0-1)			T-9 (0-1)			T-10 (0-1)			T-11 (0-1)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	Native			Native			Native			Fill			Fill			Fill			Fill				
Lab Sample ID	460-269233-19			460-269233-20			460-269233-13			460-269233-15			460-269233-8			460-269233-4			460-269233-6				
Sampling Date	11/9/2022																						
Dilution Factor	1			1			1			1			1			1			1				
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Semivolatile Organic Compounds in milligrams per kilogram (mg/kg)																							
1,4-Dioxane	0.031	U	0.031	0.030	U	0.030	0.030	U	0.030	0.031	U	0.031	0.030	U	0.030	0.030	U	0.030	0.032	U	0.032	0.1	13
2-Methylphenol	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.014	U F1	0.014	0.33	100
3 & 4 Methylphenol	0.022	U F1	0.022	0.022	U F1	0.022	0.021	U F1	0.021	0.022	U F1	0.022	0.022	U F1	0.022	0.021	U F1	0.021	0.023	U F1	0.023	-	-
Acenaphthene	0.010	U	0.010	0.0099	U	0.0099	0.0098	U	0.0098	0.19	J	0.0099	0.23	J	0.0098	0.0097	U	0.0097	0.11	J	0.010	20	100
Acenaphthylene	0.010	U	0.010	0.0099	U	0.0099	0.0098	U	0.0098	0.092	J	0.010	0.14	J	0.0099	0.0097	U	0.0097	0.10	J	0.010	100	100
Anthracene	0.011	U F1	0.011	0.011	U F1	0.011	0.010	U F1	0.010	0.45	U F1	0.011	0.56	U F1	0.011	0.010	U F1	0.010	0.51	J F!	0.011	100	100
Benzo[a]anthracene	0.024	J	0.012	0.027	J	0.012	0.016	J	0.012	0.98		0.012	**1.3**		0.012	0.012	U	0.012	**1.1**		0.013	1	1
Benzo[a]pyrene	0.020	J F1	0.0095	0.019	J F1	0.0093	0.0092	U F1	0.0092	0.85	J F1	0.0093	**1.2**	J F1	0.0092	0.0091	U	0.0091	1.0	J	0.0097	1	1
Benzo[b]fluoranthene	0.027	J	0.0092	0.025	J	0.0090	0.0089	U	0.0089	**1.1**		0.0090	**1.5**		0.0089	0.0088	U	0.0088	**1.3**		0.0094	1	1
Benzo[g,h,i]perylene	0.010	U	0.010	0.010	U	0.010	0.010	U	0.010	0.42		0.010	0.60		0.010	0.010	U	0.010	0.67	J	0.011	100	100
Benzo[k]fluoranthene	0.0087	J	0.0070	0.011	J	0.0068	0.0067	U	0.0067	0.35	J	0.0068	0.55	J	0.0068	0.0067	U	0.0067	0.47	J	0.0071	0.8	3.9
Chrysene	0.024	J F1	0.0060	0.021	J F1	0.0059	0.013	J F1	0.0058	0.86	F1	0.0059	**1.1**	F1	0.0058	0.0058	U F1	0.0058	**1.1**	F1	0.0061	1	3.9
Dibenz(a,h)anthracene	0.015	U	0.015	0.015	U	0.015	0.015	U	0.015	0.13		0.015	0.20		0.015	0.015	U	0.015	0.19		0.016	0.33	0.33
Dibenzofuran	0.012	U	0.012	0.012	U	0.012	0.011	U	0.011	0.14	J	0.012	0.17	J	0.012	0.011	U	0.011	0.11	J	0.012	7	59
Fluoranthene	0.035	J	0.012	0.035	J	0.012	0.012	U	0.012	2.0		0.012	2.6		0.012	0.012	U	0.012	2.1		0.013	100	100
Fluorene	0.010	U	0.010	0.010	U	0.010	0.010	U	0.010	0.21	J	0.010	0.27	J	0.010	0.010	U	0.010	0.14	J	0.011	30	100
Hexachlorobenzene	0.017	U	0.017	0.017	U	0.017	0.016	U	0.016	0.017	U	0.017	0.016	U	0.016	0.016	U	0.016	0.017	U	0.017	0.33	1.2
Indeno[1,2,3-cd]pyrene	0.014	U *+	0.014	0.014	U *+	0.014	0.013	U *+	0.013	**0.55**	*+ J	0.014	**0.81**	*+ J	0.013	0.013	U *+	0.013	**0.87**	J *+	0.014	0.5	0.5
Naphthalene	0.0061	U F1	0.0061	0.0060	U F1	0.0060	0.0059	U F1	0.0059	0.084	*+ J	0.0060	0.12	*+ J	0.0060	0.0059	U F1	0.0059	0.059	J F1	0.0063	12	100
Pentachlorophenol	0.073	U	0.073	0.071	U	0.071	0.070	U	0.070	0.072	U	0.072	0.071	U	0.071	0.070	U	0.070	0.074	U	0.074	0.8	6.7
Phenanthrene	0.028	J F1	0.0062	0.023	J F1	0.0061	0.0060	U F1	0.0060	2.0	F1	0.0061	2.4	F1	0.0061	0.0060	U F1	0.0060	1.7	F1	0.0064	100	100
Phenol	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.013	U F1	0.013	0.33	100
Pyrene	0.041	J	0.0088	0.041	J	0.0087	0.0085	U	0.0085	2.0		0.0087	2.6		0.0086	0.0085	U	0.0085	2.2		0.0090	100	100
Total Conc SVOCs	0.2077			0.202			0.029			12.406			16.35						13.729			-	-
Semivolatile Organic Compounds - Tentatively-Idenfitied Compounds in milligrams per kilogram (mg/kg)																							
	Result	Q	RT mm:ss	Result	Q	RT mm:ss	Result	Q	RT mm:ss	Result	Q	RT mm:ss	Result	Q	RT mm:ss	Result	Q	RT mm:ss	Result	Q	RT mm:ss		
Aldol condensation product	0.77	A J	02:48	NR			1.2	A J	02:48	1.3	A J	02:48	NR			NR			8.4	A J	02:48	-	-
Unknown	NR			NR			NR			NR			3.3	J	02:48	NR			NR			-	-
Aldol condensation product	NR			0.85	A J	02:49	NR			NR			NR			0.83	A J	02:49	NR			-	-
Tridecane	NR			NR			NR			NR			NR			NR			0.71	J N	08:10	-	-
Unknown	NR			NR			NR			0.43	J	08:10	NR			NR			NR			-	-
Dodecane, 3-methyl-	NR			NR			NR			NR			NR			NR			0.36	J N	08:36	-	-
Dibenzothiophene	NR			NR			NR			0.30	J N	08:37	0.29	J N	08:37	NR			NR			-	-
Pentadecane	NR			NR			NR			NR			NR			NR			0.32	J N	08:37	-	-
Anthracene, 1-methyl-	NR			NR			NR			0.36	J N	09:12	NR			NR			NR			-	-
Phenanthrene, 1-methyl-	NR			NR			NR			NR			NR			NR			0.36	J N	09:12	-	-
Phenanthrene, 2-methyl-	NR			NR			NR			NR			0.36	J N	09:12	NR			NR			-	-
Anthracene, 2-methyl-	NR			NR			NR			NR			0.29	J N	09:13	NR			NR			-	-
Phenanthrene, 2-methyl-	NR			NR			NR			0.34	J N	09:13	NR			NR			NR			-	-
Unknown	NR			NR			NR			0.67	J	09:18	0.65	J	09:18	NR			0.32	J	09:18	-	-
Phenanthrene, 3,6-dimethyl-	NR			NR			NR			NR			NR			NR			0.45	J N	09:40	-	-
9,10-Dimethylanthracene	NR			NR			NR			NR			NR			NR			0.35	J N	09:44	-	-
Phenanthrene, 3,6-dimethyl-	NR			NR			NR			0.29	J N	09:44	NR			NR			NR			-	-
Heptadecane	NR			NR			NR			NR			NR			NR			0.34	J N	09:47	-	-
Unknown	NR			NR			NR			NR			NR			NR			0.33	J	10:02	-	-
Unknown	NR			NR			NR			NR			NR			NR			0.32	J	10:53	-	-
Unknown	NR			NR			NR			NR			NR			NR			0.43	J	11:08	-	-
Cyclohexadecane, 1,2-diethyl-	NR			NR			NR			NR			NR			NR			0.57	J N	11:40	-	-
Unknown	NR			NR			NR			NR			NR			NR			0.46	J	12:08	-	-
Unknown	NR			NR			NR			NR			NR			NR			0.76	J	13:02	-	-
Benzo[e]pyrene	NR			NR			NR			0.45	J N	13:11	0.69	J N	13:11	NR			0.69	J N	13:11	-	-
Unknown	NR			NR			NR			NR			0.33	J	13:23	NR			NR			-	-
Unknown	NR			NR			NR			NR			0.32	J	13:38	NR			NR			-	-
Unknown	NR			NR			NR			NR			NR			NR			1.8	J	13:57	-	-
Unknown	NR			NR			NR			0.40	J	14:06	0.48	J	14:06	NR			NR			-	-
Unknown	NR			NR			NR			NR			NR			NR			0.53	J	14:40	-	-
Cyclodecacyclododecene, 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,	NR			NR			NR			NR			NR			NR			0.44	J N	15:43	-	-
Unknown	NR			NR			NR			NR			0.37	J	15:44	NR			NR			-	-
Unknown	NR			NR			NR			NR			0.49	J	15:52	NR			NR			-	-
Unknown	NR			NR			NR			NR			NR			NR			0.33	J	16:57	-	-
Total SVOC TICs	0.77			0.85			1.2			4.54			7.57			0.83			18.27			-	-

Yellow Highlighted Concentrations shown in bold type face exceed NYSDECUnrestricted Use Soil Cleanup Objectives.
Orange Highlighted Concentrations shown in bold type face exceed NYSDEC Restricted Residential Use Soil Cleanup Objectives.
*+ : LCS and/or LCSD is outside acceptance limits, high biased.
F1 : MS and/or MSD recovery exceeds control limits.
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U : Indicates the analyte was analyzed for but not detected.

NR: Not Analyzed
RT mm:ss Retention Time in mm:ss format
A : The tentatively identified compound is a suspected aldol-condensation product.
J : Indicates an Estimated Value for TICs
N : This flag indicates the presumptive evidence of a compound.

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below Grade	T-5 (0-1)			T-55 (duplicate of T-5, 0 to 1 foot)			T-7 (0-1)			T-8 (0-1)			T-9 (0-1)			T-10 (0-1)			T-11 (0-1)			NYSDEC 375-6 Soil Cleanup Objectives, Unrestricted Use	NYSDEC 375-6 Soil Cleanup Objectives, Restricted Residential Use
Soil Type	**Native**			**Native**			**Native**			**Fill**			**Fill**			**Fill**			**Fill**				
Lab Sample ID	460-269233-19			460-269233-20			460-269233-13			460-269233-15			460-269233-8			460-269233-4			460-269233-6				
Sampling Date	11/9/2022																						
Dilution Factor	1			1			1			1			1			1			1				
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
Pesticides in milligrams per kilogram (mg/kg)																							
4,4'-DDD	0.0012	U	0.0012	0.0012	U	0.0012	0.0012	U	0.0012	0.0012	U	0.0012	0.0012	U	0.0012	0.0012	U	0.0012	0.0012	U	0.0012	0.0033	13
4,4'-DDE	0.00085	U	0.00085	0.00083	U	0.00083	0.00082	U	0.00082	**0.010**		0.00083	0.00082	U	0.00082	**0.0095**		0.00081	0.00087	U	0.00087	0.0033	8.9
4,4'-DDT	0.0013	U	0.0013	0.0013	U	0.0013	0.0013	U	0.0013	**0.0081**	p	0.0013	0.0013	U	0.0013	**0.0061**	J p	0.0013	**0.022**		0.0013	0.0033	7.9
Aldrin	0.0011	U	0.0011	0.0011	U	0.0011	0.0010	U	0.0010	0.0011	U	0.0011	0.0010	U	0.0010	0.0010	U	0.0010	0.0011	U	0.0011	0.005	0.097
alpha-BHC	0.00073	U	0.00073	0.00071	U	0.00071	0.00070	U	0.00070	0.00071	U	0.00071	0.00071	U	0.00071	0.00070	U	0.00070	0.00074	U	0.00074	0.02	0.48
beta-BHC	0.00080	U	0.00080	0.00079	U	0.00079	0.00078	U	0.00078	0.00079	U	0.00079	0.00078	U	0.00078	0.00077	U	0.00077	0.00082	U	0.00082	0.036	0.36
Chlordane (technical)	0.017	U	0.017	0.017	U	0.017	0.017	U	0.017	0.017	U	0.017	0.017	U	0.017	0.017	U	0.017	0.018	U	0.018	-	-
cis-Chlordane	0.0011	U	0.0011	0.0011	U	0.0011	0.0011	U	0.0011	0.0011	U	0.0011	0.0011	U	0.0011	0.012		0.0011	0.0012	U	0.0012	0.094	4.2
delta-BHC	0.00044	U	0.00044	0.00043	U	0.00043	0.00042	U	0.00042	0.00043	U	0.00043	0.00043	U	0.00043	0.00042	U	0.00042	0.00045	U	0.00045	0.04	100
Dieldrin	0.00093	U	0.00093	0.00091	U	0.00091	0.00090	U	0.00090	0.00091	U	0.00091	0.00090	U	0.00090	0.00089	U	0.00089	0.00095	U	0.00095	0.005	0.2
Endosulfan I	0.0011	U	0.0011	0.0011	U	0.0011	0.0011	U	0.0011	0.0011	U	0.0011	0.0011	U	0.0011	0.0010	U	0.0010	0.0011	U	0.0011	2.4	24
Endosulfan II	0.0018	U	0.0018	0.0018	U	0.0018	0.0018	U	0.0018	0.0018	U	0.0018	0.0018	U	0.0018	0.0018	U	0.0018	0.0019	U	0.0019	2.4	24
Endosulfan sulfate	0.00090	U	0.00090	0.00088	U	0.00088	0.00087	U	0.00087	0.00088	U	0.00088	0.00087	U	0.00087	0.00086	U	0.00086	0.00092	U	0.00092	2.4	24
Endrin	0.0010	U	0.0010	0.0010	U	0.0010	0.00099	U	0.00099	0.0010	U	0.0010	0.0010	U	0.0010	0.00098	U	0.00098	0.0011	U	0.0011	0.014	11
Endrin aldehyde	0.0017	U	0.0017	0.0017	U	0.0017	0.0016	U	0.0016	0.0017	U	0.0017	0.0016	U	0.0016	0.0016	U	0.0016	0.0017	U	0.0017	-	-
Endrin ketone	0.0014	U	0.0014	0.0014	U	0.0014	0.0013	U	0.0013	0.0014	U	0.0014	0.0014	U	0.0014	0.0013	U	0.0013	0.0014	U	0.0014	-	-
gamma-BHC (Lindane)	0.00066	U	0.00066	0.00065	U	0.00065	0.00064	U	0.00064	0.00065	U	0.00065	0.00064	U	0.00064	0.00064	U	0.00064	0.00068	U	0.00068	0.1	1.3
Heptachlor	0.00085	U	0.00085	0.00083	U	0.00083	0.00082	U	0.00082	0.00083	U	0.00083	0.00082	U	0.00082	0.00081	U	0.00081	0.00087	U	0.00087	0.042	2.1
Heptachlor epoxide	0.0011	U	0.0011	0.0011	U	0.0011	0.0010	U	0.0010	0.0011	U	0.0011	0.0010	U	0.0010	0.0010	U	0.0010	0.0011	U	0.0011	-	-
Methoxychlor	0.0016	U	0.0016	0.0016	U	0.0016	0.0016	U	0.0016	0.0016	U	0.0016	0.0016	U	0.0016	0.0016	U	0.0016	0.0017	U	0.0017	-	-
Toxaphene	0.026	U	0.026	0.025	U	0.025	0.025	U	0.025	0.025	U	0.025	0.025	U	0.025	0.025	U	0.025	0.027	U	0.027	-	-
Herbicides in milligrams per kilogram (mg/kg)																							
Silvex (2,4,5-TP)	0.0037	U	0.0037	0.0036	U	0.0036	0.0036	U	0.0036	0.0037	U	0.0037	0.0036	U	0.0036	0.0036	U	0.0036	0.0038	U	0.0038	3.8	100
PCBs in milligrams per kilogram (mg/kg)																							
Aroclor 1016	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Aroclor 1221	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Aroclor 1232	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Aroclor 1242	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.20		0.019	0.018	U	0.018	0.25		0.018	0.11		0.019	-	-
Aroclor 1248	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Aroclor 1254	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Aroclor 1260	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Aroclor 1268	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Aroclor-1262	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	0.019	U	0.019	0.018	U	0.018	0.018	U	0.018	0.019	U	0.019	-	-
Total PCBs	0.019	U	0.019	0.019	U	0.019	0.018	U	0.018	**0.20**		0.019	0.018	U	0.018	**0.25**		0.018	**0.11**		0.019	0.1	1

Yellow Highlighted Concentrations shown in bold type face exceed NYSDEC Unrestricted Use Soil Cleanup Objectives.
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
p : The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
U : Indicates the analyte was analyzed for but not detected.

TABLE 5.1.1 (Continued)
SOIL CHEMICAL ANALYTICAL DATA
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC SITE #130251
47 BROADWAY, LYNBROOK, NEW YORK

Sample Location and Depth in Feet Below Grade	T-5 (0-1)			T-55 (duplicate of T-5, 0			T-7 (0-1)			T-8 (0-1)			T-9 (0-1)			T-10 (0-1)			T-11 (0-1)			NYSDEC Guidance Values, Unrestricted Use	NYSDEC Guidance Values, Restricted Residential Use
Soil Type	Native			Native			Native			Fill			Fill			Fill			Fill				
Lab Sample ID	460-269231-3			460-269231-4			460-269231-1			460-269231-2			460-269231-7			460-269231-5			460-269231-6				
Sampling Date	11/9/2022																						
Dilution Factor	1			1			1			1			1			1			1				
	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL	Result	Q	MDL		
PFAS by Method 1633 in micrograms per kilogram (ug/kg)																							
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.22	U	0.22	-	-
1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2)	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.38	U	0.38	-	-
1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2)	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.22	U	0.22	-	-
1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2)	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.37	U	0.37	0.38	U	0.38	-	-
2-(N-ethylperfluoro-1-octanesulfonamido) ethanol	0.53	U	0.53	0.53	U	0.53	0.53	U	0.53	0.53	U	0.53	0.53	U	0.53	0.52	U	0.52	0.54	U	0.54	-	-
2-(N-methylperfluoro-1-octanesulfonamido) ethanol	0.53	U	0.53	0.53	U	0.53	0.53	U	0.53	0.53	U	0.53	0.53	U	0.53	0.52	U	0.52	0.54	U	0.54	-	-
3:3 FTCA	0.27	U	0.27	0.27	U	0.27	0.26	U	0.26	0.27	U	0.27	0.26	U	0.26	0.26	U	0.26	0.27	U	0.27	-	-
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.22	U	0.22	-	-
5:3 FTCA	1.07	U	1.07	1.07	U	1.07	1.06	U	1.06	1.07	U	1.07	1.06	U	1.06	1.04	U	1.04	1.08	U	1.08	-	-
7:3 FTCA	1.07	U	1.07	1.07	U	1.07	1.06	U	1.06	1.07	U	1.07	1.06	U	1.06	1.04	U	1.04	1.08	U	1.08	-	-
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.21	U	0.21	0.22	U	0.22	-	-
HFPO-DA	0.054	U	0.054	0.055	U	0.055	0.054	U	0.054	0.054	U	0.054	0.054	U	0.054	0.053	U	0.053	0.055	U	0.055	-	-
NEtFOSAA	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	**0.13**	**J I**	0.053	0.053	U	0.053	0.052	U	0.052	**0.18**	**J I**	0.054	-	-
N-ethylperfluoro-1-octanesulfonamide	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
NMeFOSA	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
NMeFOSAA	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	**0.094**	**J I**	0.053	0.052	U	0.052	**0.075**	**J**	0.054	-	-
Perfluorobutanesulfonic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	**0.39**		0.053	**0.061**	**J**	0.053	0.052	U	0.052	**0.29**		0.054	-	-
Perfluorobutanoic acid	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.10	U	0.10	0.11	U	0.11	-	-
Perfluorodecanesulfonic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorodecanoic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	**0.070**	**J**	0.053	**0.090**	**J**	0.053	0.052	U	0.052	**0.089**	**J**	0.054	-	-
Perfluorododecanesulfonic acid (PFDoS)	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorododecanoic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluoroheptanesulfonic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluoroheptanoic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	**0.057**	**J**	0.053	**0.061**	**J I**	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorohexanesulfonic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorohexanoic acid	0.063	U	0.063	0.063	U	0.063	0.062	U	0.062	0.063	U	0.063	0.062	U	0.062	0.062	U	0.062	0.064	U	0.064	-	-
Perfluorononanesulfonic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorononanoic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	**0.056**	**J I**	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorooctanesulfonamide	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorooctanesulfonic acid (PFOS)	0.054	U	0.054	0.055	U	0.055	**0.12**	**J**	0.054	**0.43**		0.054	**0.33**		0.054	0.053	U	0.053	**0.53**		0.055	0.66	33
Perfluorooctanoic acid (PFOA)	0.054	U	0.054	0.055	U	0.055	**0.058**	**J**	0.054	**0.21**		0.054	**0.13**	**J**	0.054	0.053	U	0.053	**0.19**	**J**	0.055	0.88	44
Perfluoropentanesulfonic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluoropentanoic acid	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.10	U	0.10	0.11	U	0.11	-	-
Perfluorotetradecanoic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluorotridecanoic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
Perfluoroundecanoic acid	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.053	U	0.053	0.052	U	0.052	0.054	U	0.054	-	-
PFECA A	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.10	U	0.10	0.11	U	0.11	-	-
PFECA B	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	-	-
PFECA F	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.10	U	0.10	0.11	U	0.11	-	-
PFEESA	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.11	U	0.11	0.10	U	0.10	0.11	U	0.11	-	-

Notes:
Detections are noted in **Bold type**.
NYSDEC Guidance Values, November 2022.
I : Value is EMPC (estimated maximum possible concentration).
J : Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U : Indicates the analyte was analyzed for but not detected.
- = Not established.

APPENDIX B

HEALTH AND SAFETY PLAN

FPM

APPENDIX B
HEALTH AND SAFETY PLAN

This worker Health and Safety Plan (HASP) has been prepared by FPM Group, Ltd. (FPM) for New York State Department of Environmental Conservation (NYSDEC) Potential (P) Site #130251, identified as the Former Mangrove Feather Factory Site located at 47 Broadway, Lynbrook, Nassau County, New York (Site). This HASP is part of the Interim Remedial Measures (IRM) Work Plan and includes measures for the protection of worker health and safety during IRM activities. A Community Air Monitoring Plan (CAMP) is also included to address potential issues that may affect the Site community during onsite activities.

B.1 Worker Health and Safety Plan

B.1.1 Introduction

This HASP has been written for compliance with "OSHA Hazardous Waste Operations Standards (29 CFR 1910.120)", the guidance documents, "Standard Operating Safety Guidelines (Office of Solid Waste and Emergency Response, 1992)" and the "Occupational Safety and Health Guidance Manual for Hazardous Waste Activities" (U.S. Department of Health and Human Services, 1985).

B.1.2 Scope and Applicability of the HASP

This HASP is designed to be applicable to locations where soil excavations, soil sampling, and related activities are performed at the Site by all parties that either perform or witness the activities. This HASP may also be modified or amended to meet specific needs of the proposed work.

This HASP will detail the Site safety procedures, Site background, and safety monitoring. Contractors will be required to adopt this HASP in full or to follow an FPM-approved HASP. The Health and Safety Officer (HSO) will be present at the Site to inspect the implementation of the HASP; however, it is the sole responsibility of the contractor(s) to comply with the HASP.

The HASP has been formulated as a guide to complement professional judgment and experience. The appropriateness of the information presented should always be evaluated with respect to unforeseen Site conditions that may arise.

B.1.3 Site Work Zone and Visitors

The Site work zone (a.k.a. exclusion zone) during the performance of the soil excavation and sampling activities will be a 30-foot radius about the work location. This work zone may be extended if, in the judgment of the HSO, Site conditions warrant a larger work zone.

No visitors will be permitted within the work zone without the consent of the HSO. All visitors will be required to be familiar with, and comply with, the HASP. The HSO will deny access to those whose presence within the work zone is unnecessary or those who are deemed by the HSO to be in non-compliance with the HASP.

All Site workers, including the contractors, will be required to have 40-hour hazardous material training (eight-hour refresher courses annually), respirator fit test certification, and current medical surveillance as stated in 29 CFR 1910.120.

The HSO will also give an on-Site health and safety discussion to all Site personnel, including the contractors, prior to initiating the Site work. Workers not in attendance during the health and safety talk will be required to have the discussion with the HSO prior to entering the work zone.

Emergency telephone numbers and directions to the nearest emergency medical care facility are shown in Table B.1.3.1 and will be kept at the Site in the possession of the HSO and will be available to all Site workers and visitors.

B.1.4 Key Personnel/Alternates

The Project Manager for this project is Ben Cancemi, PG. The Quality Assurance Officer (QAO) will be Stephanie Davis, PG. The Field Services Manager will be Chris DiSclafani, who will also act as the HSO. An Assistant Project Manager and Assistant HSO may be designated for the field activities.

B.1.5 Site Background

Based on the Site history and previous analyses of samples, the known chemicals present in the Site soil include semivolatile organic compounds (SVOCs) and metals. Volatile organic compounds (VOCs), certain pesticides, and per- and polyfluoroalkyl substances (PFAS) are present in groundwater, and VOCs are present in soil vapor at the Site. IRM activities will include soil excavation and collection of soil samples. Exposure to onsite groundwater is not anticipated during the IRM activities. Exposure to soil vapor may occur incidental to soil excavation and sampling.

B.1.6 Task/Operation Health and Safety Analysis

This section presents health and safety analyses for the soil excavation and sampling tasks. In general, FPM will employ one to two persons at the Site. No soil excavations or other intrusive IRM operations will be conducted by contractors without the presence of an FPM representative onsite. If the HSO is not present on the Site, the Assistant HSO will implement the HASP. Levels of personal protection mentioned in this section are defined in Section B.1.9.

Excavation Safety Analysis

Excavation of impacted soil will occur during the IRM activities. Excavation, stockpiling, loading, and other activities associated with soil excavation will be performed by an excavation contractor with oversight by an environmental professional.

Excavation will involve the use of heavy equipment. Safety concerns include risk of injury due to being struck by equipment, being trapped between moving equipment parts, being struck by dropped materials, and hearing damage due to equipment noise. All personnel will take precautions against these risks when working in the vicinity of heavy equipment by being aware of equipment locations and movement, by wearing steel-toed boots and hard hats, and by using hearing protection if necessary. Site personnel who have not previously worked in the vicinity of heavy equipment will be paired with an experienced person for at least one day to familiarize themselves with heavy equipment operations and safety procedures. All mobile equipment will be equipped with audible alarms to indicate when the equipment is being operated in reverse.

Excavation procedures will result in open excavations at the Site. To minimize risks associated with open excavations, inactive excavations will be either closed or barricaded with construction fencing or other devices to minimize hazards. At the close of each working day, any excavations that are open will be secured. Excavations will be backfilled or graded as needed for safety following the completion of excavation activities.

TABLE B.1.3.1
EMERGENCY TELEPHONE NUMBERS AND
DIRECTIONS TO CITYMD URGENT CARE

Police..... 911
Ambulance..... 911
Poison Control Center..... 212-689-9014
CityMD Urgent Care 516-764-2273

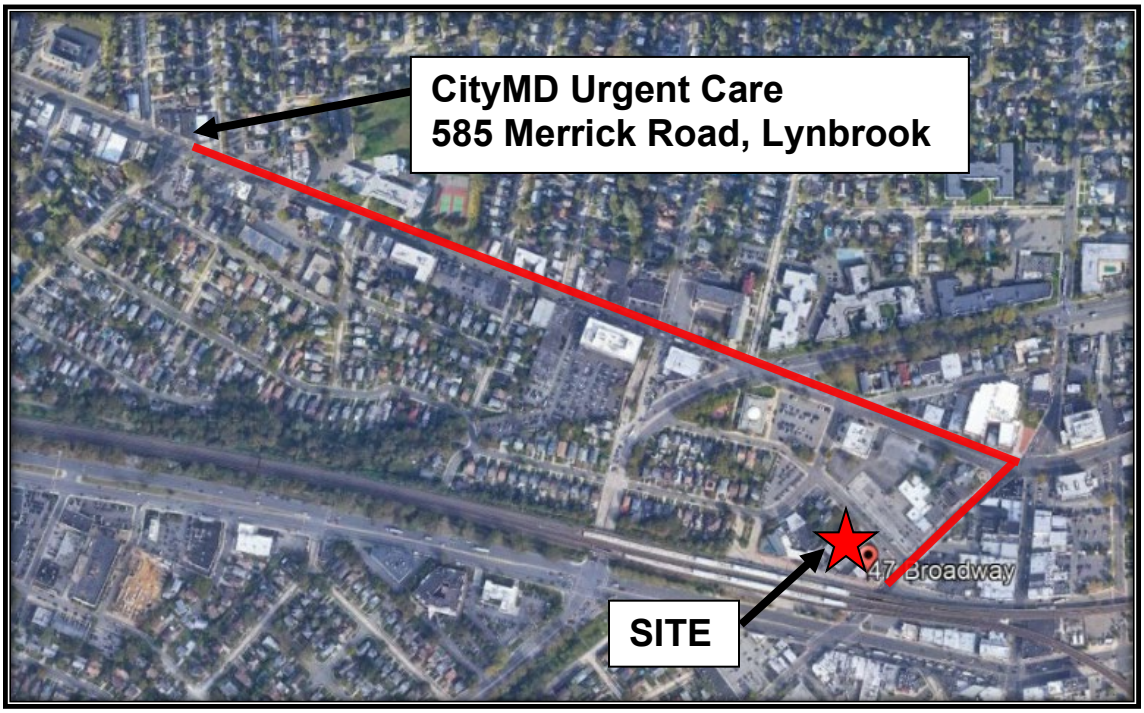
FPM Contact Personnel (631-737-6200)

Ben Cancemi, PG, Project Manager ..... Cell # 516-383-7106
Chris DiSclafani, Field Services Manager ..... Cell #631-935-2193
Stephanie Davis, PG, QAO..... Cell # 516-381-3400

Directions to the CityMD Urgent Care Facility

585 Merrick Road, Lynbrook
Tel: 516-764-2273

Exit the east side of the Site and turn left onto Broadway. Travel northeast on Broadway for about two blocks to the intersection with Merrick Road. Stay to the left and turn left onto Merrick Road. Travel about 0.65 miles northwest on Merrick Road to the CityMD Urgent Care facility, on the right at 585 Merrick Road in Lynbrook.



Excavation activities may result in exposure to subsurface soil vapors. During these activities, a calibrated PID with a 10.6 ev bulb will be used by the HSO to screen vapors in the work zone. The PID will be "zeroed" by exposing it to ambient air prior to excavation activities and the upper range will be calibrated using calibration gas of 98 to 100 ppm isobutylene. Background concentrations will then be established in the work zone prior to the commencement of excavation activities and recorded in the HSO's field book. Level C PPE will be donned if steady-state concentrations exceed five ppm above background. Steady-state readings, for this purpose, will be defined as readings exceeding five ppm above background for a minimum of ten seconds. Level C personal protection may include full-face air-purifying respirators with dust and organic vapor cartridges (PPE is described in greater detail in Section B.1.9). All FPM and contractor personnel must be properly trained and fit-tested prior to donning respirators. If, at any time, PID readings exceed steady-state levels greater than 50 ppm above background or any conditions exist which the HSO determines will require Level B personal protective equipment, all work at the Site will cease immediately and all personnel will evacuate the work zone. Evacuation will occur in the upwind direction if discernable. Level B conditions are not anticipated to be encountered; however, if Level B conditions arise, no Site work will be performed by environmental professionals or contractors. A complete re-evaluation of the operation will be performed and this HASP will be modified.

To minimize the potential for dust inhalation at the Site, during excavations the HSO will assess wind, vegetation, and soil moisture conditions and, if deemed necessary by the HSO, the affected area(s) will be wetted with potable water to suppress dust. If this measure is determined to be ineffective, the HSO may decide to upgrade personal protection to Level C respiratory protection to include respirators with dust cartridges. If extremely windy and dusty conditions exist, the HSO may choose to implement additional dust suppression measures or to postpone the excavation until such time as conditions improve.

All site personnel will be required to wear chemical-resistant nitrile gloves when the potential for dermal contact with Site soil is possible. Dermal contact with soil and equipment that has been in contact with soil will be avoided. Gloves will be periodically examined and will be discarded and replaced if indications of wear or deterioration are noted.

All excavations will be inspected and documented daily by the HSO prior to the commencement of work activities. Evidence of cave-ins, sloughing, or surface cracks of excavations will result in the cessation of work until the necessary corrective measures/precautions are undertaken to protect workers.

Although minimal risks are associated with shallow open excavations, the work area will be secured with fencing and other devices to limit access. Any excavations that exceed five feet in depth will be additionally barricaded with construction fencing or other devices at the close of each working day to minimize their hazards. There will be no personnel entry into excavations exceeding five feet in depth unless the excavation is properly shored or the sides are laid back to a slope of not more than 1 on 1. A stairway, ladder, ramp, or other safe means of egress will be placed in excavations that are four feet or more in depth so as to require no more than 25 feet of lateral travel for workers. Workers will not work in excavations with accumulated water.

Materials or equipment that could affect the stability of excavations or fall into excavations shall be placed at least five feet from the edges of open excavations.

Soil Sampling Safety Analysis

Soil sampling will be conducted by environmental professionals during the IRM activities. All personnel will be required to wear chemical-resistant nitrile gloves when the potential for dermal contact with soil is possible, including handling sampling equipment.

As the depth to groundwater is approximately 10 feet below grade and excavations are unlikely to extend to this depth, it is unlikely that groundwater will be encountered during post-excavation soil sampling.

Nevertheless, dermal contact with soil or groundwater and equipment that has been in contact with soil or groundwater will be avoided.

To minimize the potential for dust inhalation during soil sampling activities, the HSO will assess wind and soil moisture conditions and, if it is deemed necessary by the HSO, the affected area will be wetted with potable water. If this measure is determined to be ineffective, the HSO may decide to upgrade personal protection to Level C respiratory protection to include respirators with dust cartridges. If extremely dusty conditions exist that cannot be successfully controlled by dust suppression with potable water, then the HSO may choose to postpone intrusive activities until such time as conditions improve.

Organic vapor concentrations will be monitored in the sampling work zone by utilizing a Photovac MicroTIP PID or equivalent. The PID will be "zeroed" by exposing the PID to ambient (outdoor) air prior to sampling activities and the upper range of calibration will be established by calibrating at 98 to 100 parts per million (ppm) of isobutylene. Background organic vapor concentrations will then be established in the work zone prior to sampling activities and recorded in the HSO field book. Upon commencement of sampling activities, PID readings will be obtained in the workers' breathing zone. All readings and observations will be recorded in the HSO field book. Steady-state PID readings greater than five ppm in the worker's breathing zone will require upgrading to Level C personal protective equipment. Steady-state readings, for this purpose, will be defined as readings exceeding five ppm above background for a minimum of ten seconds at points approximately one foot above and then around the borehole opening. These points will define the worker's breathing zone. Level C personal protection will be implemented including full-face air-purifying respirators with dust and organic vapor cartridges (personal protective equipment will be described in greater detail in Section B.1.9). All FPM personnel and contractors must be properly trained and fit tested prior to donning respirators.

If PID readings exceed steady-state levels greater than 50 ppm above background or any conditions exist for which the HSO determines require Level B personal protective equipment, all work at the Site will cease immediately and all personnel will evacuate the work zone. Evacuation will occur in the upwind direction if discernible. Specific evacuation routes will be discussed prior to commencement of work at each location based on work location and wind direction and an evacuation meeting place will be determined. Level B conditions are not anticipated to be encountered; however, if level B conditions arise, no Site work will be performed by FPM or contractors and a complete evaluation of the operation will be performed and this HASP will be modified.

Other Safety Considerations

- Noise

During operations that may generate potentially harmful levels of noise, the HSO will monitor noise levels with a Realistic^{tm} hand-held sound level meter. Noise levels will be monitored in decibels (dBs) in the A-weighted, slow-response mode. Noise level readings which exceed the 29 CFR 1910.95 permissible noise exposure limits will require hearing protection (see Table B.1.6.1 for Permissible Noise Exposures).

Hearing protection will be available to all Site workers and will be required for exceedances of noise exposure limits. The hearing protection will consist of foam, expansion-fit earplugs (or other approved hearing protection) with a noise reduction rating of at least 29 dB. Hearing protection must alleviate worker exposure to noise to an eight-hour time-weighted average of 85 dB or below. If the hearing protection is inadequate, work will cease until a higher level of hearing protection can be incorporated.

TABLE B.1.6.1
PERMISSIBLE NOISE EXPOSURES*

Duration Per Day Hours	Sound Level dBA Slow Response
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
½	110

Notes:

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: $C_1/T_1+C_2/T_2+.....C_n/T_n$ exceeds unity, then, the mixed exposure should be considered to exceed the limit value. C_n indicates the total time of exposure at a specified noise level, and T_n indicates the total time of exposure permitted at that level.

Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

*Standards derived from 29 CFR 1910.95

- Slip/Trip/Fall Preventative Measures

To reduce the potential for slipping, tripping, or falling, the work zone will be kept clear of unnecessary equipment. In addition, all workers will be required to wear work boots with adequate tread to reduce the potential for slipping (work boots must be leather or chemical-resistant and contain steel toes and steel shanks).

- Insects

Potential insect problems include but are not limited to stinging insects such as bees, wasps, and hornets, and ticks. Prior to commencement of work, each work area will be surveyed for nests and hives to reduce the possibility of disturbing stinging insects. In addition, each Site worker will be asked to disclose any allergies related to insect stings or bites. The worker will be requested to keep his or her anti-allergy medicine onsite.

Tick species native to Long Island consist of the pinhead-sized deer tick and the much-larger dog tick. Ticks are unlikely to exist at the Site due to a paucity of suitable habitat. All Site workers will be advised to avoid walking through vegetated areas and will be advised to check for ticks on clothing periodically.

- Potential Electrical and Other Utility Hazards

Potential electric hazards consist mainly of overhead and underground power lines. Other utilities that may present hazards include telephone lines, gas lines, sewer lines, water lines, and other overhead or underground utilities. Prior to commencement of work at the Site, all locations will be inspected with

respect to overhead lines. Intrusive work involving heavy equipment will not be performed when the horizontal distance between the equipment and overhead wires is less than 30 feet.

Underground potential utility hazards will be minimized by contacting the One-Call service to provide markouts of the utilities beneath adjoining public streets.

- Heat/Cold Stress

Heat stress may become a concern especially if protective clothing is donned that will decrease natural ventilation. To assist in reducing heat stress, an adequate supply of water or other liquids will be staged on the Site and personnel will be encouraged to rehydrate at least every two hours even if not thirsty. In addition, a shady rest area will be designated to provide shelter during sunny or warm days and Site workers will break for at least 10 minutes every two hours in the rest area, and, in very hot weather, workers wearing protective clothing may be rotated.

Indications of heat stress range from mild (fatigue, irritability, anxiety, or decreased concentration, dexterity, or movement) to fatal. Medical help will be obtained for serious conditions.

Heat-related problems are:

- Heat rash: caused by continuous exposure to heat and humid air and aggravated by chafing clothes. Decreases ability to tolerate heat.
- Heat cramps: caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle spasm and pain in the extremities and abdomen.
- Heat exhaustion: caused by increased stress on various organs to meet increased demands to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness and lassitude.
- Heat stroke: the most severe form of heat stress. Can be fatal. Medical help must be obtained immediately. Body must be cooled immediately to prevent severe injury and/or death. Signs: red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

Cold exposure is a concern if work is conducted during cold weather, marginally cold weather during precipitation periods, or moderate to high wind periods. To assist in reducing cold exposure the following measures will be taken when cold exposure concerns are present:

- All personnel will be required to wear adequate and appropriate clothing. This will include head gear to prevent the high percentage loss of heat that occurs in this area (thermal liners for hard hats if hard hats are required).
- A readily-available warm shelter will be identified near the work zone.
- Work and rest periods will be scheduled to account for the current temperature and wind velocity conditions.
- Work patterns and the physical condition of workers will be monitored and personnel will be rotated, as necessary.
- Indications of cold exposure include shivering, dizziness, numbness, confusion, weakness, impaired judgment, impaired vision, and drowsiness. Medical help will be obtained for serious conditions if they occur.

Cold exposure-related problems are:

- Frost bite: Ice crystal formation in body tissues. The restricted blood flow to the injured part results in local tissue destruction.

- Hypothermia: Severe exposure to cold temperature resulting in the body losing heat at a rate faster than the body can generate heat. The stages of hypothermia are shivering, apathy, loss of consciousness, decreasing pulse and breathing rate, and death.

The Buddy System

All activities in contaminated or potentially contaminated areas will be conducted by pairing off the Site workers in groups of two (or three if necessary). Each person (buddy) will be able to provide his or her partner with assistance, observe his or her partner for signs of chemical, cold, or heat exposure, periodically check the integrity of his or her partner's protective clothing, and notify the HSO or others if emergency help is needed. The buddy system will be instituted at the beginning of each work day. If new workers arrive on Site, a buddy will be chosen prior to the new worker entering the work zone.

Site Communications

Two sets of communication systems will be established at the Site: internal communication among personnel onsite, and external communication between onsite and offsite personnel. Internal communication will be used to alert team members to emergencies, pass along safety information such as heat stress check, protective clothing check, etc, communicate changes in the work to be accomplished, and maintain Site control. Due to ambient noise, verbal communications may be difficult at times. The HSO will carry a whistle (and compressed air horn if respirators are donned) to signal Site workers. A single whistle blast will be the signal to immediately evacuate the work zone through the access control point. This signal will be discussed with all Site workers prior to commencement of work.

An external communication system between onsite and offsite personnel will be established to coordinate emergency response, report to the Project Manager, and maintain contact with essential off-Site personnel. A cellphone will be available at all times to the HSO. In addition, onsite workers' cellphones will be identified prior to the commencement of onsite operations.

General Safe Work Practices

Standing orders applicable during Site operations are as follows:

- No smoking, eating, drinking, or application of cosmetics in the work zone.
- No matches or lighters in the work zone.
- All Site workers will enter/exit work zone through the Site access point.
- Any signs of contamination, radioactivity, explosivity, or unusual conditions will require evacuating the Site immediately and reporting the information to the HSO.
- Loose-fitting clothing and loose long hair will be prohibited in the work zone during heavy equipment operations.
- A signal person will direct the backing of work vehicles.
- Equipment operators will be instructed to check equipment for abnormalities such as oozing liquids, frayed cables, unusual odors, etc.

B.1.7 Personnel Training Requirements

All FPM personnel and contractor personnel will receive adequate training prior to entering the Site. FPM and contractor personnel will, at a minimum, have completed OSHA-approved, 40-hour hazardous materials Site safety training and OSHA-approved, eight-hour safety refresher course within one year

prior to commencing field work. In addition, each worker must have a minimum of three days field experience under the direct supervision of a trained, experienced supervisor.

Prior to Site field work, the HSO will conduct an in-house review of the project with respect to health and safety with all FPM personnel who will be involved with field work at the Site. The review will include discussions of signs and symptoms of chemical exposure and heat/cold stress that indicate potential medical emergencies. In addition, review of PPE will be conducted to include the proper use of air-purifying respirators.

B.1.8 Medical Surveillance Program

All remedial workers at the Site must participate in a medical surveillance program in accordance with 29 CFR 1910.120. A medical examination and consultation must have been performed within the last twelve months to be eligible for field work.

The content of the examination and consultation will include a medical and work history with special emphasis on symptoms related to the handling of hazardous substances, health hazards, and fitness for duty including the ability to wear required personal protective equipment under conditions (i.e., temperature extremes) that may be expected at the work Site.

All medical examinations and procedures shall be performed by, or under the supervision of, a licensed physician. The Physician shall furnish a written opinion containing:

- The results of the medical examination and tests;
- The physician's opinion as to whether the employee has any detected medical conditions which would place the worker at increased risk of material impairment of the employee's health from work in hazardous waste operations;
- The physician's recommended limitations upon the worker assigned to the work; and
- A statement that the worker has been informed by the physician of the results of the medical examination and any further examination or treatment.
- An accurate record of the medical surveillance will be retained. The record will consist of at least the following information:
- The name and social security number of the employee;
- The physician's written opinions, recommended limitations, and results of examinations and tests; and
- Any worker medical complaints related to exposure to hazardous substances.

B.1.9 Personal Protective Equipment

General Considerations

The two basic objectives of the personal protective equipment (PPE) are to protect the wearer from safety and health hazards, and to prevent the wearer from incorrect use and/or malfunction of the PPE.

Potential Site hazards have been discussed previously in Section B.1.6. The duration of Site activities is estimated to be periods of several days. All work is expected to be performed during daylight hours and workdays, in general, are expected to be eight to ten hours in duration. Any work performed beyond daylight hours will require the permission of the HSO. This decision will be based on the adequacy of artificial illumination and the type and necessity of the task being performed.

Personal protection levels for the Site activities, based on past investigations at the Site, are anticipated to be Level D with the possibility of upgrading to Level C. The equipment included for each level of protection is provided as follows:

Level C Protection

Level C personnel protective equipment includes:

- Air-purifying respirator, full-face
- Chemical-resistant clothing includes: Tyvek^{tm} (spunbonded olefin fibers) for particulate and limited splash protection or Saranex^{tm} (plastic film-laminated Tyvek) for permeation resistance to solvents.
- Coveralls*, or
- Long cotton underwear*
- Gloves (outer), chemical-resistant
- Gloves (inner), chemical-resistant
- Boots (outer), leather or chemical-resistant, steel toe and shank
- Boot covers (outer), chemical-resistant (disposable)*
- Hard hat (face shield)*
- Escape mask*
- 2-way radio communications (inherently safe)*

(*) optional

Meeting all these criteria permits use of Level C protection:

- Oxygen concentrations are not less than 19.5% by volume.
- Measured air concentrations of identified substances will be reduced by the respirator below the substance's threshold limit value (TLV).
- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect any body area left unprotected by chemical-resistant clothing.
- Job functions do not require self-contained breathing apparatus.
- Direct readings are below 50 ppm on the PID.

Level D Protection

Personnel protective equipment:

- Coveralls
- Gloves*
- Boots/shoes, leather or chemical-resistant, steel toe and shank
- Safety glasses or chemical splash goggles*
- Hard hat (face shield*)
- Escape mask*

(*) optional

Meeting any of these criteria allows use of Level D protection:

- No contaminant levels above 5 ppm organic vapors or dusty conditions are present.
- Work functions preclude splashes, immersion, or the reasonable potential for unexpected inhalation of any chemicals above the TLV.

Additional Considerations for Selecting Levels of Protection

Other factors that will be considered in selecting the appropriate level of protection are heat and physical stress. The use of protective clothing and respirators increases physical stress, in particular, heat stress on the wearer. Chemical protective clothing greatly reduces natural ventilation and diminishes the body's ability to regulate its temperature. Even in moderate ambient temperatures, the diminished capacity of the body to dissipate heat can result in one or more heat-related problems.

All chemical protective garments can be a contributing factor to heat stress. Greater susceptibility to heat stress occurs when protective clothing requires the use of a tightly-fitted hood against the respirator face piece, or when gloves or boots are taped to the suit. As more body area is covered, less cooling takes place, increasing the probability of heat stress.

Wearing protective equipment also increases the risk of accidents. It is heavy, cumbersome, decreases dexterity, agility, interferes with vision, and is fatiguing to wear. These factors all increase physical stress and the potential for accidents. In particular, the necessity of selecting a level of protection will be balanced against the increased probability of heat stress and accidents.

Donning and Doffing Ensembles

- Donning an Ensemble

A routine will be established and practiced periodically for donning a Level C ensemble. Assistance may be provided for donning and doffing since these operations are difficult to perform alone. Table B.1.9.1 lists sample procedures for donning a Level C ensemble. These procedures should be modified depending on the type of suit and/or when extra gloves and/or boots are used.

- Doffing an Ensemble

Exact procedures for removing Level C ensembles must be established and followed to prevent contaminant migration from the work area and transfer of contaminants to the wearer's body, the doffing assistant, and others. Doffing procedures are provided in Table B.1.9.2. These procedures should be performed only after decontamination of the suited worker. They require a suitably attired assistant. Throughout the procedures, both worker and assistant should avoid any direct contact with the outside surface of the suit.

Respirator Fit Testing

The fit or integrity of the facepiece-to-face seal of a respirator affects its performance. Most facepieces fit only a certain percentage of the population; thus, each facepiece must be tested on the potential wearer to ensure a tight seal. Facial features such as scars, hollow temples, very prominent cheekbones, deep skin creases, dentures or missing teeth, and the chewing of gum and tobacco may interfere with the respirator-to-face seal. A respirator shall not be worn when such conditions prevent a good seal. The worker's diligence in observing these factors shall be evaluated by periodic checks. Fit testing will comply with 29 CFR 1910.1025 regulations.

TABLE B.1.9.1
SAMPLE LEVEL C DONNING PROCEDURES

1. Inspect the clothing and respiratory equipment before donning (see Inspection in subsection C.1.7).
2. Adjust hard hat or headpiece if worn, to fit user's head.
3. Standing or sitting, step into the legs of the suit; ensure proper placement of the feet within the suit; then gather the suit around the waist.
4. Put on chemical-resistant safety boots over the feet of the suit. Tape the leg cuff over the tops of the boots.
5. Don the respirator and adjust it to be secure, but comfortable.
6. Perform negative and positive respirator facepiece seal test procedures.
   - To conduct a negative pressure test, close the inlet part with the palm of the hand or squeeze the breathing tube so it does not pass air, and gently inhale for about 10 seconds. Any inward rushing of air indicates a poor fit. Note that a leaking facepiece may be drawn tightly to the face to form a good seal, giving a false indication of adequate fit.
   - To conduct a positive pressure test, gently exhale while covering the exhalation valve to ensure that a positive pressure can be built up. Failure to build a positive pressure indicates a poor fit.
7. Depending on type of suit:
   - Put on inner gloves (surgical gloves).
   - Additional overgloves, worn over attached suit gloves, may be donned later.
8. Put on hard hat
9. Have assistant observe the wearer for a period of time to ensure that the wearer is comfortable, psychologically stable, and that the equipment is functioning properly.

TABLE B.1.9.2

DOFFING PROCEDURES

1. Remove any extraneous or disposable clothing, boot covers, outer gloves, and tape.
2. Remove respirator by loosening straps and pulling straps over the top of the head and move mask away from head. Do not pull mask over the top of the head.
3. Remove arms, one at a time, from suit, avoiding any contact between the outside surface of the suit and wearer's body and lay the suit out flat behind the wearer. Leave internal gloves on, if any.
4. Sitting, if possible, remove both legs from the suit.
5. After suit is removed, remove internal gloves by rolling them off the hand, inside out.

Inspection

The PPE inspection program will entail five different inspections:

- Inspection and operational testing of equipment received from the factory or distributor;
- Inspection of equipment as it is issued to workers;
- Inspection after use;
- Periodic inspection of stored equipment; and
- Periodic inspection when a question arises concerning the appropriateness of the selected equipment, or when problems with similar equipment arise.

The inspection checklist is provided in Table B.1.9.3. Records will be kept of all inspection procedures. Individual identification numbers will be assigned to all reusable pieces of equipment and records should be maintained by that number. At a minimum, each inspection should record the ID number, date, inspector, and any unusual conditions or findings. Periodic review of these records may indicate an item or type of item with excessive maintenance costs or a particularly high level of down-time.

Storage

Clothing and respirators will be stored properly to prevent damage or malfunction due to exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures, and impact. Storage procedures are as follows:

- Clothing: Potentially-contaminated clothing will be stored in a well-ventilated area separate from street clothing, with good air flow around each item, if possible. Different types and materials of clothing and gloves will be stored separately to prevent issuing the wrong materials by mistake, and protective clothing will be folded or hung in accordance with manufacturer's recommendations.
- Respirators: After each use air-purifying respirators will be dismantled, washed, and placed in sealed plastic bags.

PPE Maintenance

Specialized PPE maintenance will be performed only by the factory or an authorized repair person. Routine maintenance, such as cleaning, will be performed by the personnel to whom the equipment is assigned. Respirators will be cleaned at the end of each day with alcohol pads or, preferably, by washing with warm soapy water.

Decontamination Methods

All personnel, clothing, equipment, and samples leaving the work zone area of the Site must be decontaminated to remove any harmful chemicals that may have adhered to them. Decontamination methods either (1) physically remove contaminants (2) inactivate contaminants by chemical detoxification or disinfection/sterilization, or (3) remove contaminants by a combination of both physical and chemical means. In many cases, gross contamination can be removed by physical means involving dislodging/displacement, rinsing, wiping off, and evaporation. Contaminants that can be removed by physical means include dust, vapors, and volatile liquids. All reusable equipment will be decontaminated by rinsing in a bath of detergent and water (respirators, gloves to be reused). Monitoring equipment will be decontaminated by wiping with paper towels and water. All used PPE to be discarded will be disposed offsite as solid waste.

The effectiveness of the decontamination will be evaluated near the beginning of Site activities and will be modified if determined to be ineffective. Visual observation will be used for this purpose. The HSO

will inspect decontaminated materials for discoloration, stains, corrosive effects, visible dirt, or other signs of possible residual contamination.

TABLE C.1.9.3

PPE INSPECTION CHECKLIST

CLOTHING

Before use:

- Determine that the clothing material is correct for the specified task at hand.
- Visually inspect for imperfect seams, non-uniform coatings, tears, and/or malfunctioning closures.
- Hold up to light and check for pinholes.
- Flex product and observe for cracks or other signs of deterioration.
- If the product has been used previously, inspect inside and out for signs of chemical attack, including discoloration, swelling, and/or stiffness.

During the work task, periodically inspect for:

- Evidence of chemical attack such as discoloration, swelling, stiffening, and softening. Keep in mind, however, that chemical permeation can occur without any visible effects.
- Indication of physical damage, including closure failure, tears, punctures, and/or seam discontinuities.

GLOVES

Before use:

- Pressurize glove to check for pinholes. Either blow into glove, then roll gauntlet toward fingers, or inflate glove and hold under water. In either case, no air should escape.

AIR-PURIFYING RESPIRATORS

- Inspect air-purifying respirators before each use to be sure they have been adequately cleaned.
- Check material conditions for signs of pliability, deterioration, and/or distortion.
- Examine cartridges to ensure that they are the proper type for the intended use, the expiration date has not been passed, and they have not been opened or used previously.
- Check faceshields and lenses for cracks, crazing, and/or fogginess.
- Air-purifying respirators will be stored individually in resealable plastic bags.

B.2 Community Air Monitoring Plan

This Community Air Monitoring Plan (CAMP) will be implemented at the Site by FPM during the IRM activities, including soil excavation and sampling and associated activities. Due to the nature of the VOCs in soil vapor at the Site, there is a potential for organic vapor emissions as these activities occur. In addition, there is the potential for dust to be associated with intrusive activities. To address these concerns, organic vapor monitoring and dust monitoring will be performed.

Any CAMP monitoring results that exceed the action levels described below will be reported (or notice provided by another arrangement acceptable to the NYSDEC) when identified if a NYSDEC representative is present at the Site or within two hours by phone call or email to the NYSDEC Project manager when no NYSDEC representative is onsite. Exceedances of the CAMP action levels will also be summarized in the monthly progress reports, including the duration of the exceedance(s) and any response actions taken.

B.2.1 Organic Vapor Monitoring

Under the CAMP, organic vapor concentrations will be monitored at the boundaries of the work zone. It will be the responsibility of the HSO to implement the plan and to ensure that proper action is taken in the event that any of the established action levels are exceeded.

To monitor organic vapors, a PID capable of calculating 15-minute running average concentrations will be used and maintained in good operating condition. Calibration of the PID will be performed according to manufacturer's instructions. Background levels of organic vapors will be measured at the work zone boundary prior to beginning work and upwind of the work area periodically using a PID. Monitoring may be performed more frequently at the discretion of the HSO. Organic vapors will be monitored continuously at the downwind perimeter of the work area during ground intrusive activities.

PID readings will be recorded in the field logbook for both background and work area perimeter. Logbook recordings will include the time, location, and PID readings observed. Downwind perimeter levels will be recorded in the log whenever the level reaches 5 ppm above the background along with the action(s) taken to mitigate the level. If the level of organic vapors exceeds 5 ppm above the background at the downwind perimeter of the work area, work activities will be halted and monitoring continued. The vapor emission response plan will then be implemented.

B.2.1.1 Vapor Emission Response Plan

The vapor emission response plan includes the following trigger levels and responses:

- Greater than 5 ppm at perimeter:

  In the event the level of organic vapors exceeds 5 ppm above the background at the downwind perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level then decreases to below 5 ppm above background, work activities can resume but organic vapor readings will be obtained more frequently as directed by the HSO.

- 5 ppm to 25 ppm at perimeter and less than 5 ppm at the work zone boundary:

  If the level of organic vapors is greater than 5 ppm but less than 25 ppm over background at the downwind perimeter of the work area, activities will be halted, the source of the vapors will be identified and corrective actions will be taken. Monitoring will be continued and activities will resume if the organic vapor concentration at half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background. More frequent intervals of monitoring will be performed as directed by the HSO.

- Above 25 ppm at perimeter:

  If the level of organic vapors is above 25 ppm at the perimeter of the work area, activities will be shut

down. Should such a shutdown be necessary, downwind air monitoring will continue as directed by the HSO to confirm that organic vapor concentrations decrease. Actions will be taken to abate the source of vapor emissions and activities will not resume until the source is controlled.

B.2.1.2 Major Vapor Emission Response Plan

The Major Vapor Emission Response Plan shall automatically be placed into effect if:

- Efforts to abate the emission source are unsuccessful and levels above 5 ppm persist for more than 30 minutes in the 20-foot zone; or
- The vapor levels are greater than 10 ppm above background in the 20-foot zone.

Upon activation of the Major Vapor Emission Response Plan, the following activities will be undertaken:

- All emergency response contacts as listed in the HASP will be notified;
- Air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two successive readings below action levels are measured, air monitoring will be halted or modified as directed by the HSO; or
- If air monitoring readings remain above action levels, work will be halted and further measures taken to reduce organic vapors.

If a Major Vapor Emission Response Plan is implemented, the NYSDEC and NYSDOH will be contacted within 24 hours.

B.2.2 Dust Monitoring

Dust (particulate) monitoring will be performed during intrusive activities with the potential to create dust by using a Miniram personal monitor calibrated according to the manufacturer's instructions. The Miniram will be capable of calculating 15-minute running average concentrations and operated continuously at the downwind perimeter of the work zone during ground intrusive activities. To ensure the validity of the fugitive dust measurements, appropriate QA/QC measures will be employed, including periodic instrument calibration, operator training, daily instrument performance (span) checks, and record-keeping on daily log sheets. If measurable dust levels are noted, then readings will also be obtained upwind of the work zone. If the downwind particulate level exceeds the upwind level by more than 100 micrograms per cubic meter (ug/m^3), then dust suppression techniques will be employed or work will be halted or controlled such that dust levels are reduced at the downwind perimeter to within 150 ug/m^3 of the upwind level.

If dust is generated during intrusive activities, then dust suppression will be performed, as discussed in Section B.1.6 of this HASP. Corrective measures may include increasing the level of PPE for onsite personnel and implementing additional dust suppression techniques. Should the action level of 150 $\mu g/m^3$ continue to be exceeded, work will stop and the NYSDEC will be notified as described in Section B.2 above. The notification will include a description of the control measures implemented to prevent further exceedances.

Reasonable fugitive dust suppression techniques will be employed during all intrusive Site activities that may generate fugitive dust. Particulate (fugitive dust) monitoring will be employed during the handling of contaminated soil or when onsite activities may generate fugitive dust from exposed contaminated soil.

Fugitive dust from contaminated soil that migrates offsite has the potential for transporting contaminants offsite. Although there may be situations when the monitoring equipment does not measure dust at or above the action level, visual observation may indicate that dust is leaving the Site. If dust is observed leaving the working area, additional dust suppression techniques will be employed.

The following techniques have been shown to be effective for controlling the generation and migration of dust during intrusive activities and will be used as needed during IRM activities at the Site:

- Wetting equipment and exposed soil;
- Restricting vehicle speeds to 10 mph;
- Covering areas of exposed soil after activity ceases; and
- Reducing the size and/or number of areas of exposed soil.

When techniques involving water application are used, care will be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will be considered to prevent overly wet conditions, conserve water, and provide an effective means of suppressing fugitive dust.

Evaluation of weather conditions is also necessary for proper fugitive dust control. When extreme wind conditions may make dust control ineffective, investigation actions may be suspended until wind speeds are reduced.

B.2.3 Noise Monitoring

Due to the use of heavy equipment, there is a potential for noise to impact the surrounding community. Work will be performed only during normal working hours when ambient noise levels are elevated due to ongoing activities in the surrounding community, which is primarily suburban and commercial. Therefore, the potential for noise impacts on the surrounding community is low.

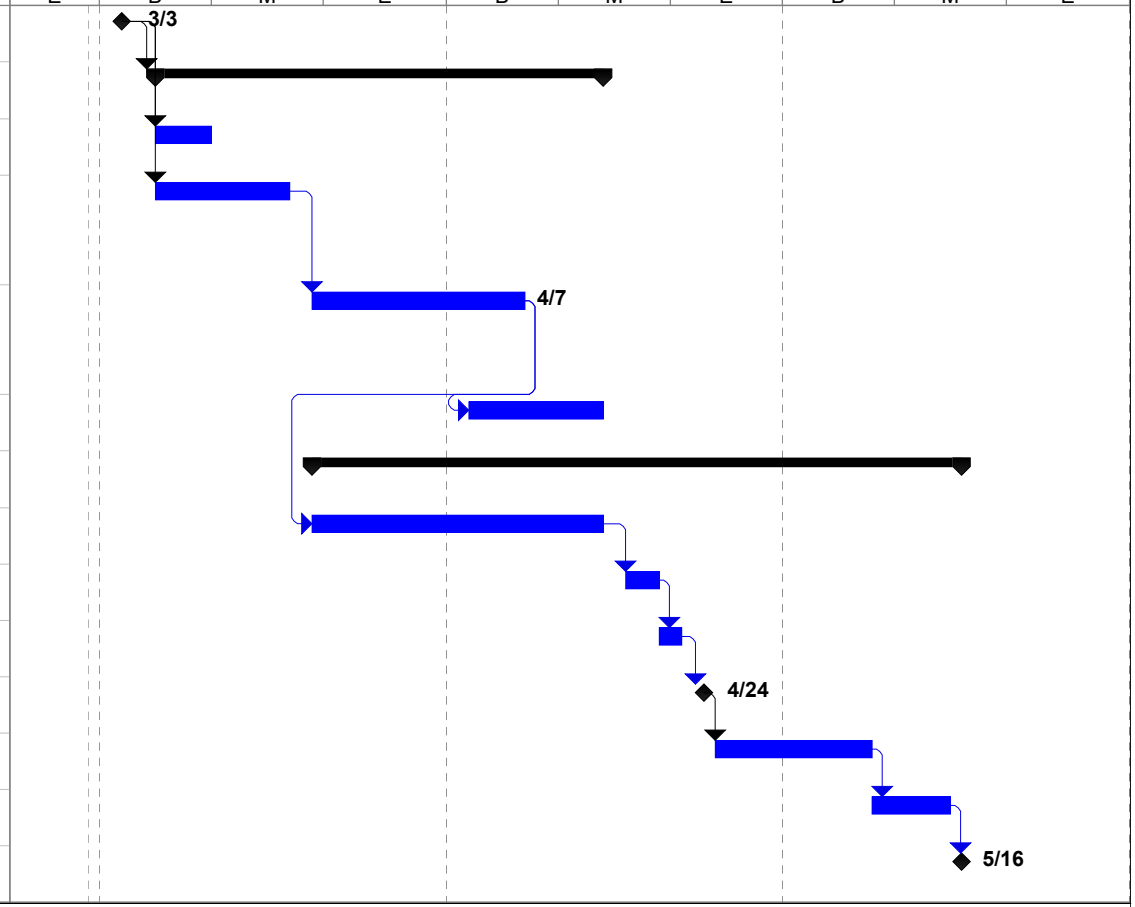
However, if pedestrians are present in the Site vicinity, it is possible for noise impacts to occur. To address these concerns and other safety concerns, pedestrians will be barred from entering the work zone. In addition, the HSO will periodically monitor noise levels at the work zone boundary and the closest property boundary with a Realistic^{tm} hand-held sound level meter. Noise levels will be monitored in dBs in the A-weighted, slow-response mode. If noise level readings exceed an eight-hour time-weighted average of 85 dB at the work zone boundary or at the closest property boundary, the HSO will take appropriate measures to reduce noise exposure beyond these boundaries. These measures may include extension of the work zone boundary, issuing appropriate hearing protection devices as discussed in Section B.1.6 of this work plan, or other measures, as appropriate. In the event that the noise exposure measures are inadequate, work will cease until noise levels can be reduced to below 85 dB at the work zone boundary and/or at the closest property boundary.

APPENDIX C

SCHEDULE OF ACTIVITIES

IRM SCHEDULE
FORMER MANGROVE FEATHER FACTORY SITE, NYSDEC #130251
47 BROADWAY, LYNBROOK, NEW YORK

ID	Task Name
1	NYSDEC approval of IRM Work Plan
2	**IRM Work**
3	Notification to NYSDEC
4	Fieldwork Preparation - schedule contractor, perform utility markout, etc.
5	Soil Excavation, confirmatory sampling, lab analyses, evaluate data
6	DUSR preparation
7	**IRM Report**
8	Prepare Draft IRM Report
9	Internal review
10	Revise IRM Report
11	Submit IRM Report to NYSDEC
12	NYSDEC Review and comments
13	Revise IRM Report and internal review
14	Submit Final IRM Report to NYSDEC



Date: Tue 2/28/23

Task		External Milestone		Manual Summary Rollup	
Split		Inactive Task		Manual Summary	
Milestone		Inactive Milestone		Start-only	
Summary		Inactive Summary		Finish-only	
Project Summary		Manual Task		Progress	
External Tasks		Duration-only		Deadline	

IRMscheduleREV.mpp

APPENDIX D

COMMUNITY AIR MONITORING PLAN

FPM

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. “Periodic” monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009