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VOLUME I OF III

TEXT, TABLES, FIGURES, APPENDICES A, B, C, D, E, F, G, I, J, AND K

REMEDIAL INVESTIGATION REPORT
180 EAST 125TH STREET DEVELOPMENT SITE
180 EAST 125TH STREET
NEW YORK, NEW YORK
NYSDEC SITE NO. C231160

by
H & A of New York Engineering and Geology, LLP
New York, New York

for
180 E125 Propco LLC
Brooklyn, New York 11211

File No. 0209815
May 2025

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REMEDIAL INVESTIGATION REPORT
180 EAST 125TH STREET DEVELOPMENT SITE
180 EAST 125TH STREET
NEW YORK, NEW YORK 10035
NYSDEC SITE NO. C231160

PREPARED FOR
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REVIEWED AND APPROVED BY:

James M. Bellew
Principal
H & A of New York Engineering and Geology, LLP

Certification

This report documents remedial investigation activities conducted at the 180 East 125th Street Development Site located at 180 East 125th Street, New York, New York 10035.

I, James M. Bellew, certify that I am currently a Qualified Environmental Professional as defined in Title 6 of the New York Codes, Rules and Regulations, Part 375 and that this Remedial Investigation Report[1] was prepared in accordance with all statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that all activities were performed in full accordance with the DER-approved work plan(s) and any DER-approved modifications.

James M. Bellew

May 8, 2025

James M. Bellew, Principal | *Date*

[1] *Certification applies to remedial investigation activities conducted after the execution of the Brownfield Cleanup Agreement dated January 22, 2025.*

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List of Acronyms and Abbreviations

µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
A	
Alpha	Alpha Analytical Laboratories, Inc.
AOC	Area of Concern
ASP	Analytical Services Protocol
AWQS	Ambient Water Quality Standards
B	
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	below grade surface
BTEX	benzene, toluene, ethylbenzene, and xylenes
C	
CAMP	Community Air Monitoring Program
CEQR	City Environmental Quality Review
COC	contaminant of concern
cu yd	cubic yard
CVOC	chlorinated volatile organic compound
D	
DER	Division of Environmental Remediation
DER-10	Division of Environmental Remediation-10 *(specifically "May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation")*
DPK	DPK Consulting LLC
DUSR	Data Usability Summary Report
E	
EBI	EBI Consulting
EcoTerra	EcoTerra Consulting, LLC
EDR	Environmental Database Report
ELAP	Environmental Laboratory Approval Program
EPH	extractable petroleum hydrocarbons
ESA	Environmental Site Assessment
Eurofins	Eurofins Scientific
F	
FDNY	Fire Department of the City of New York
FSP	Field Sampling Plan
ft	feet/foot
FWRIA	Fish and Wildlife Resource Impact Analysis

List of Acronyms and Abbreviations (continued)

G	
GPR	ground-penetrating radar
GPRS	ground-penetrating radar survey
GV	Guidance Value
H	
Haley & Aldrich of New York	H & A of New York Engineering and Geology, LLP
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
HREC	Historical Recognized Environmental Condition
HVAC	heating, ventilation, and conditioning
I	
in.	inches
L	
L/min	liters per minute
Lakewood	Lakewood Environmental Services Corp.
Langan	Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
LSDF	low-sulfur diesel fuel
M	
MDL	method detection limit
mg/kg	milligrams per kilogram
MHz	megahertz
MS	matrix spike
MSD	matrix spike duplicate
N	
ng/l	nanograms per liter
NTU	nephelometric turbidity unit
NYCOER	New York City Office of Environmental Remediation
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O	
OSHA	Occupational Safety and Health Administration

List of Acronyms and Abbreviations (continued)

P	
Pace	Pace Analytical Services, LLC
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	perchloroethylene/tetrachloroethene
PFAS	per- and polyfluoroalkyl substances
PFBA	perfluorobutanoic acid
PFHpA	perfluoroheptanoic acid
PFHxA	perfluorohexanoic acid
PFOA	perfluorooctanoic acid
PFOS	perfluorooctanesulfonic acid
PGWSCO	Protection of Groundwater Soil Cleanup Objective
PID	photoionization detector
PPE	personal protective equipment
ppt	parts per thousand
PQL	practical quantitation limit
PVC	polyvinyl chloride
Q	
QA/QC	quality assurance/quality control
QAPP	Quality Assurance Project Plan
QHHEA	Qualitative Human Health Exposure Assessment
R	
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RRSCO	Restricted-Residential Soil Cleanup Objective
RUCSCO	Restricted Use Commercial Soil Cleanup Objective
S	
SCO	Soil Cleanup Objective
SEFA	Spreadsheets for Environmental Footprint Analysis
Site	the property located at 180 East 125th Street, New York, New York
SMP	Site Management Plan
sq ft	square feet
SVOC	semi-volatile organic compound

List of Acronyms and Abbreviations (continued)

T	
TAGM	Technical and Administrative Guidance Memorandum
TAL	Total Analyte List
TCE	trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TOGS 1.1.1	Technical and Operational Guidance Series 1.1.1 *(Specifically "June 1998 NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values, Class GA for the protection of a source of drinking water modified per the April 2000 addendum")*
U	
USEPA	United States Environmental Protection Agency
UST	underground storage tank
UUSCO	Unrestricted Use Soil Cleanup Objective
V	
VOC	volatile organic compound
Volunteer	180 E125 Propco LLC

1. Introduction

This Remedial Investigation Report (RIR) was developed by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) on behalf of 180 E125 Propco LLC (the "Volunteer") for the proposed development of the property located at 180 East 125th Street, New York, New York (the "Site"). The Volunteer (180 E125 Propco LLC) applied to and was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) as a Volunteer. A Brownfield Cleanup Agreement (BCA) was executed by the NYSDEC and 180 E125 Propco LLC on January 22, 2025 (BCP Site No. C231160).

The Site is identified as Block 1773, Lot 27 on the New York City tax map. The Site is approximately 42,540 square feet (sq ft) (0.98 acres) and is currently a vacant undeveloped lot. The Site is bound by East 125th Street followed by mixed-use commercial and residential buildings and offices to the north; East 124th Street followed by mixed-use commercial and residential buildings and warehousing to the south; Fire Department of the City of New York (FDNY) Engine 35 Fire House and Third Avenue followed by mixed-use commercial and residential buildings to the east; and a vacant undeveloped lot to the west.

The Site is located within a commercial and residential zoning district (C4-4D) in an urban area characterized by multi-story residential and commercial buildings. The Volunteer plans to redevelop the Site for mixed commercial and residential purposes, which is consistent with current zoning.

The activities of this Remedial Investigation (RI) were conducted from February 5 through February 13, 2025, in accordance with the Division of Environmental Remediation (DER) Technical Guidance for Site Investigation and Remediation (DER-10) and the NYSDEC-approved January 2025 Remedial Investigation Work Plan (RIWP).

1.1 PURPOSE AND OBJECTIVES

Previous investigations conducted at the Site identified the presence of elevated concentrations of semi-volatile organic compounds (SVOCs) and metals in soil; and, SVOCs including polycyclic aromatic hydrocarbons (PAHs), pesticides, polychlorinated biphenyls (PCBs), per- and polyfluoroalkyl substances (PFAS), and metals in groundwater. Additionally, previous investigations indicated the presence of several petroleum-related volatile organic compounds (VOCs) and chlorinated VOCs (CVOCs) in soil vapor.

Previous investigations did not comprehensively delineate the extent of soil, groundwater, and soil vapor contamination on the Site. Additional investigation was required to ascertain and delineate any on-Site source(s) of contamination. Results of the additional sample analyses were used to confirm the results of the previous Site characterization activities, delineate any on-Site source(s), and determine a course for remedial action.

2. Site Background

2.1 SITE LOCATION AND DESCRIPTION

The Site is identified as Block 1773, Lot 27 on the New York City tax map. The Site is approximately 42,540 sq ft (0.98 acres) and is currently a vacant undeveloped lot. The Site is bound by East 125th Street followed by mixed-use commercial and residential buildings and offices to the north; East 124th Street followed by mixed-use commercial and residential buildings and warehousing to the south; FDNY Engine 35 Fire House and Third Avenue followed by mixed-use commercial and residential buildings to the east; and a vacant undeveloped lot to the west.

The Site is located within a commercial and residential zoning district (C4-4D) in an urban area characterized by multi-story residential and commercial buildings. The Volunteer plans to redevelop the Site for mixed commercial and residential purposes, which is consistent with current zoning.

A Site location map is provided as Figure 1 and a Site plan showing the property boundaries and adjacent properties is provided as Figure 2.

2.2 GEOLOGY AND HYDROGEOLOGY

The Site is underlain by a layer of urban fill consisting of mainly light brown to brown, medium to fine sand, with silt and varying amounts of gravel, concrete, rock fragments, and brick observed from surface grade to approximately 5 to 12 feet (ft) below ground surface (bgs) at each boring location. The fill interval was observed to be underlain by a native layer consisting of fine to medium sand, with varying amounts of fine and coarse gravels. Depth to bedrock beneath the Site is estimated to be between 20 to 80 ft bgs.

Groundwater was encountered at depths between 15.28 to 17.06 ft bgs, and groundwater beneath the Site generally flows from east to west.

2.3 SITE HISTORY

Based on the findings of the July 2024 Phase I Environmental Site Assessment (ESA) prepared by Haley & Aldrich of New York, the Site was first developed as early as 1896 with multiple two- to four-story dwellings on the eastern portion of the Site, a school on the southern portion of the Site, and the northwestern portion of the Site was undeveloped. The 1911 Sanborn Map shows buildings constructed on the northern portion of the Site which were indicated as vacant, and the school was converted to a lodging house. A railroad station was present in the street adjacent to the Site on the corner of East 125th Street and 3rd Avenue. The Site remained relatively unchanged until the early 1950s when the former lodging house and several buildings on the eastern portion of the Site were labeled as "furniture" on Sanborn Maps and printing operations were indicated on the northern portion of the subject property. By 1968, a building was constructed on the southwest portion of the Site and was occupied by the United States Postal Service (USPS). Additionally, the railroad station was no longer present. According to aerial photographs, between 1984 and 1991, the structures on the northern and eastern portions of the Site were demolished and the Site was converted into a parking lot. By 2013, the Site was occupied by a Pathmark supermarket and a Rainbow clothing store with a rooftop parking area. According to the New York City Department of Finance, Office of the City Register, the USPS sold the property in 2014. Since that time, all structures have been demolished, and the Site is currently vacant.

2.4 REDEVELOPMENT PLANS

While the development plans are conceptual at this time, the planned project will consist of the construction of a multi-story, mixed-use commercial and residential building with a full cellar that spans the entire Site footprint.

3. Summary of Previous Investigations

To date, the following investigations have been performed at the Site:

- *Phase I Environmental Site Assessment Report*, prepared by EBI Consulting (EBI), prepared for JP Morgan Chase Bank, June 21, 2018
- *Remedial Investigation Report*, prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan), prepared for 160 East 125th Owner LLC, December 18, 2020
- *Remedial Action Work Plan*, prepared by Langan, prepared for 125th Street Lessee LLC, October 2021
- *Tank Affidavit*, prepared by MVC Heating Corporation, prepared for FDNY, February 22, 2022
- *Waste Characterization Sampling Report*, prepared by EcoTerra Consulting, LLC (EcoTerra), September 20, 2022
- *ASTM Phase l Environmental Site Assessment Report,* prepared by Haley & Aldrich of New York, prepared for 180 E125th Realty LLC, August 15, 2024

Pertinent environmental findings of these investigations are summarized below.

3.1 PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT, PREPARED BY EBI, PREPARED FOR JP MORGAN CHASE BANK, JUNE 21, 2018)

A Phase I ESA was conducted for 167 East 124th Street (Lot 27) and 160 East 125th Street (Lot 20) by EBI in June 2018. The assessment revealed no evidence of Recognized Environmental Conditions (RECs) in connection with the property; however, EBI noted the following:

- EBI identified Spill No. 0005315 associated with the subject property in the NY Spills database search. In May 2000, a 2,000-gallon fuel oil underground storage tank (UST) was closed in place at the former United States Post Office building due to structural concerns. Impacted soils were reportedly identified at the time of the tank abandonment. The exact location of the UST could not be identified by EBI during the site reconnaissance. Based on the documented closure of the UST, the post-excavation soil samples exhibiting "low" concentrations, and regulatory closure of the case, EBI considered the former UST a Historical Recognized Environmental Condition (HREC). However, because the former UST and impacted soils may be encountered during demolition, EBI considered this a *de minimis* condition.
- EBI observed three groundwater monitoring wells around the boundaries of the property. EBI requested additional documentation regarding the purpose of the wells and the results of sampling data but has not received additional information. EBI considered the monitoring wells a *de minimis* condition.

3.2 REMEDIAL INVESTIGATION REPORT, PREPARED BY LANGAN, PREPARED FOR 160 EAST 125TH OWNER LLC, DECEMBER 18, 2020

Langan performed an RI at 160 East 125th Street (Lots 20 and 27) in August and September 2020 to provide information sufficient for establishing remedial action objectives, evaluating remedial actions, and selecting a remedy. The investigation included completion of a geophysical survey, installation of 11 soil borings and collection of 25 soil samples, installation of four groundwater monitoring wells and collection of five groundwater samples, and installation of 11 soil vapor probes and collection of 11 soil vapor samples. Soil samples were analyzed for VOCs, SVOCs, metals, pesticides, herbicides, PCBs, hexavalent chromium, and 1,4-dioxane. One soil sample was analyzed for PFAS. Groundwater samples were analyzed for VOCs, SVOCs, total and dissolved metals, pesticides, herbicides, PCBs, and 1,4-dioxane. One groundwater sample was analyzed for PFAS. Soil vapor samples were analyzed for VOCs.

Field observations and laboratory analytical results are summarized below:

- The stratigraphy of the Site, from the surface down, consisted of a 9- to 25-ft-thick fill layer followed by a 6- to 67-ft-thick sand and gravel layer. The sand and gravel layer was underlain by an approximately 0.5- to 4-ft-thick stratum of weathered/decomposed bedrock followed by competent bedrock. Depth to groundwater ranged from approximately 15.03 to 16.25 ft bgs. Groundwater flow was generally from west to east beneath the Site.
- Soil results are summarized as follows:
  - One VOC, methyl ethyl ketone (0.16 milligrams per kilogram [mg/kg]), was detected in the deep soil sample collected from LSB-9 exceeding NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).
  - Several SVOCs, including benzo(a)anthracene (maximum 7.18 mg/kg), benzo(a)pyrene (max 4.5 mg/kg), benzo(b)fluoranthene (maximum 5.87 mg/kg), benzo(k)fluoranthene (maximum 5.64 mg/kg), chrysene (maximum 8.63 mg/kg), dibenzo(a,h)anthracene (1.03 mg/kg), and indeno(1,2,3-c,d)pyrene (maximum 3.1 mg/kg), were detected exceeding UUSCOs in shallow fill and native interface soil samples across the Site. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were also detected exceeding the Restricted Use Commercial Soil Cleanup Objectives (RUCSCOs).
  - Several pesticides, including 4,4’-DDD (maximum 0.0696 mg/kg), 4,4’-DDE (maximum 0.112 mg/kg), 4.4’-DDT (maximum 0.324 mg/kg), and dieldrin (0.0636 mg/kg), were detected in exceedance of UUSCOs.
  - Total PCBs were detected at concentrations exceeding UUSCOs in two of the 25 soil samples collected (maximum 0.174 mg/kg).
  - Several metals, including barium (maximum 1,440 mg/kg), cadmium (maximum 2.81 mg/kg), trivalent chromium (37.3 mg/kg), copper (maximum 75.1 mg/kg), lead (maximum 3,430 mg/kg), mercury (maximum 2.75 mg/kg), nickel (102 mg/kg), selenium (12.6 mg/kg), silver (2.31 mg/kg), and zinc (1,070 mg/kg), were detected in exceedance of UUSCOs. Barium and lead were also detected in shallow fill and native interface samples at concentrations exceeding the RUCSCOs.

  - No exceedances of the NYSDEC's Sampling, Analysis, and Assessment of PFAS Guidelines (October 2020) soil guidance values (GVs) for Unrestricted Use or Protection of Groundwater, in effect at the time, were detected.
  - 1,4-dioxane was not detected above UUSCOs or RUCSCOs.
- Groundwater results are summarized below:
  - No VOCs were detected exceeding the New York Codes, Rules and Regulations (NYCRR) Part 703.5 and NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) and GVs.
  - Several SVOCs, including benzo(a)anthracene (maximum 0.06 micrograms per liter [µg/L]), benzo(a)pyrene (0.04 µg/L), benzo(b)fluoranthene (0.04 µg/L), and chrysene (0.06 µg/L), were detected above the AWQS in groundwater samples collected from LMW-4 and LMW-5. Indeno(1,2,3-c,d)pyrene (maximum 0.04 µg/L) was detected above the AWQS in groundwater samples collected from LMW-3 and LMW-4.
  - The pesticide dieldrin (maximum 0.015 µg/L) was detected above the AWQS in LMW-4 and LMW-5.
  - Metals, including iron (maximum 21,100 µg/L), magnesium (maximum 70,800 µg/L), manganese (maximum 872.5 µg/L), and sodium (maximum 243,000 µg/L), were detected above the AWQS. Dissolved metals including magnesium (maximum 74,400 µg/L), manganese (maximum 952.1 µg/L), and sodium (maximum 168,000 µg/L) were detected above the AWQS.
  - Several PFAS compounds, including perfluorobutanoic acid (PFBA) (1,280 nanograms per liter [ng/L]), perfluoroheptanoic acid (PFHpA) (1,760 ng/L), perfluorohexanoic acid (PFHxA) (8,620 ng/L), perfluoropentanoic acid (PFPeA) (5,700 ng/L), and sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2) (6:2FTS) (181 ng/L), were detected above the NYSDEC's Sampling, Analysis, and Assessment of PFAS Guidelines (October 2020) screening value of 100 ng/L, in effect at the time. Total PFAS concentration (19,453 ng/L) was detected above the screening value of 500 ng/L in effect at the time.
  - 1,4-dioxane was not detected above the AWQS in any groundwater samples.
- Soil vapor results are summarized below:
  - Total benzene, toluene, ethylbenzene, and xylenes (BTEX)concentrations ranged from 17.3 micrograms per cubic meter (µg/m^3) to 969 µg/m^3. CVOCs, including cis-1,2-dichloroethene, were detected in soil vapor samples LSV-9 and LSV-10 at concentrations of 2.13 µg/m^3 and 1.58 µg/m^3, respectively, and trichloroethene (TCE) was detected in multiple soil vapor samples at concentrations ranging from 1.28 µg/m^3 to 28.5 µg/m^3. Tetrachloroethene (PCE) was detected in all soil vapor samples with the exception of LSV-8 at concentrations ranging from 3.38 µg/m^3 to 254 µg/m^3.

3.3 REMEDIAL ACTION WORK PLAN, PREPARED BY LANGAN, PREPARED FOR 125TH STREET LESSEE LLC, OCTOBER 2021

A Remedial Action Work Plan (RAWP) for 180 East 125th Street was prepared by Langan for the New York City Office of Environmental Remediation (NYCOER) Voluntary Cleanup Program (VCP). The remedial action was proposed for a planned mixed-use commercial and residential development. For development purposes, soil beneath the Site was planned to be excavated to approximately 19 to 21 ft bgs for the construction of the cellar slab and up to 27.5 ft bgs for construction of footers, the elevator pit/car lift construction, and for construction of a swimming pool. To facilitate development, Langan proposed excavation and removal of soil/fill exceeding Restricted Residential Use Soil Cleanup Objectives (RRSCOs). Proposed engineering controls included the installation of a composite cover system consisting of a 3-ft-thick concrete mat slab and a 10-inch (in.)-thick concrete pressure slab in portions of the basement area of the building. Additionally, the installation of a vapor barrier system was proposed to mitigate the potential for soil vapor migration into the building. The RAWP included provisions to establish institutional controls and preparation of a Site Management Plan (SMP). The SMP would provide for long-term management of residual contamination and include plans for the operation, maintenance, monitoring, and inspection certification requirements of the engineering and institutional controls.

3.4 TANK AFFIDAVIT, PREPARED BY MVC HEATING CORPORATION, PREPARED FOR FDNY, FEBRUARY 22, 2022

MVC Heating Corporation provided an affidavit dated February 22, 2022, stating that on February 21, 2022, one 2,000-gallon aboveground storage tank (AST) containing no. 2 fuel oil at the subject property was removed by pumping out and properly disposing of no. 2 oil, sludge, tank bottoms, and water from the tank, gas freeing the tank, and discontinuing piping in accordance with the guidelines described in the New York City Fire Code, Section 3404.2.13.

3.5 WASTE CHARACTERIZATION SAMPLING REPORT, PREPARED BY ECOTERRA, SEPTEMBER 20, 2022

EcoTerra prepared a Waste Characterization Sampling Report to summarize the soil characterization sampling conducted at the subject property in August 2022. The scope of work included the advancement of soil borings for the collection of grab, composite, and “hot spot” delineation samples proposed for the characterization of subsurface Site soils within the area of proposed excavation. EcoTerra collected 50 samples from 11 grids distributed at approximately 800 cubic yards (cu yd) per sample. Waste characterization soil samples were analyzed for VOCs, SVOCs, pesticides, herbicides, PCBs, Total Analyte List (TAL) metals, extractable petroleum hydrocarbons (EPHs), toxicity characteristic leachate procedure (TCLP) Resource Conservation and Recovery Act (RCRA) metals, RCRA characteristics, and hexavalent chromium. Also, 34 discrete samples from two previously identified “hot spot” locations at LSB-3 and LSB-5 were procured for analysis of Total Lead and TCLP lead for delineation.

Field observations and laboratory analytical results are summarized below:

- Soil results for the waste characterization were compared to NYCDEC Part 375 UUSCOs, RUCSCOs, and RRSCOs. Soil analytical results are summarized as follows:
  - Methylene chloride was detected at 0.0720 mg/kg in soil sample S-15(g) exceeding the UUSCO and acetone was detected at 0.0810 mg/kg in soil sample S-29(g) exceeding the UUSCO. No other VOC exceedances were detected in any of the soil samples.
  - PAHs were detected in nine soil samples. PAH concentrations ranged from 1.01 mg/kg to 16.2 mg/kg for benzo(a)anthracene; from 1.04 mg/kg to 12.6 mg/kg for

benzo(b)fluoranthene; from 0.846 mg/kg to 12.6 mg/kg for benzo(k)fluoranthene; from 1.1 mg/kg to 15.2 mg/kg for chrysene; from 1.05 mg/kg to 13.3 mg/kg for benzo(a)pyrene; from 0.421 mg/kg to 3.14 mg/kg for dibenzo(a,h) anthracene; and from 0.568 mg/kg to 11.2 mg/kg for indeno(1,2,3-cd)pyrene.

- Multiple pesticides were detected above UUSCOs.
- Total PCBs were detected in soil samples S-7 and S-25 above the UUSCO at concentrations of 0.249 mg/kg and 0.163 mg/kg, respectively.
- Metals were detected at variable concentrations typical of historic fill in all of the soil samples. TCLP lead was not detected in any soil samples above the standard. Hazardous levels of lead were not detected in any sample locations.

3.6 ASTM PHASE I ENVIRONMENTAL SITE ASSESSMENT, PREPARED BY HALEY & ALDRICH OF NEW YORK, AUGUST 15, 2024

A Phase I ESA was conducted for the Site by Haley & Aldrich of New York in August 2024. The findings of Haley & Aldrich of New York's Phase I ESA are summarized as follows:

REC #1 – Documented Subsurface Contamination at Subject Property

An RI was conducted at the subject property for the NYCOER E-Designation program by Langan in December 2020. The presence of fill material was reportedly observed in a 9- to 25-ft-thick layer across the subject property. Soil analytical results indicated that soil is impacted with SVOCs, specifically PAHs, and metals above the RRSCOs. Groundwater analytical results indicated that groundwater is impacted with PAHs, metals, pesticides, and PCBs above the AWQS, and emerging contaminants, PFAS, exceeding the NYSDEC February 2023 PFAS GVs. Soil vapor analytical results indicated the presence of CVOCs and petroleum-related VOCs in soil vapor above laboratory detection limits throughout the subject property. Documented subsurface contamination at the subject property, including impacts to soil, groundwater, and soil vapor, is indicated as a REC.

HREC #1 – NY Spills Case 0005315

The subject property is identified in the NY Spills database under Spill Case Number 0005315. A spill reportedly occurred at the former USPS facility on the subject property on May 10, 2000, due to a release of no. 2 fuel oil from a 2,000-gallon AST when soil samples collected in the base and sides of the AST showed contamination. However, when comparing to Technical and Administrative Guidance Memorandum (TAGM) 4046 Restricted Commercial standards, reportedly only several exceedances of PAHs were detected above standards. As a result, NYSDEC closed the spill case on May 28, 2009, and the AST was closed in place. According to a Tank Affidavit by MVC Heating Corporation, the AST was removed from the subject property on February 21, 2022. Since the spill case was closed by NYSDEC and the AST was removed from the subject property in 2022, the closed spill case is considered an HREC.

Other Finding #1 – New York City E-Designation

The subject property was identified in the Environmental Database Report (EDR) as an E-Designation Site by the NYCOER. The subject property has been assigned an environmental E-Designation (E-703) for hazardous materials, noise (window wall attenuation and alternative means of ventilation), and air quality (heating, ventilation, and air conditioning [HVAC] fuel limited to natural gas and exhaust stack location limitations) resulting from a City Environmental Quality Review (CEQR) effective April 2023 (CEQR #23DCP058M). Satisfaction of the E-Designation requirements with NYCOER must be completed before the development can proceed.

4. Remedial Investigation Approach

4.1 PROJECT TEAM

A project team for the Site was created based on the qualifications and experience of personnel suited for the successful completion of the project.

The NYSDEC Case Manager/Project Manager was Abdulla Elbuytari. The Case Manager/Project Manager was responsible for overseeing the successful completion of the project work and adherence to the approved RIWP on behalf of NYSDEC.

The New York State Department of Health (NYSDOH) Case Manager/Project Manager was Harolyn Hood. The Case Manager/Project Manager was responsible for overseeing the successful completion of the project work and adherence to the work plan on behalf of NYSDOH.

James Bellew was the Qualified Environmental Professional and Principal-in-Charge for this work. In this role, Mr. Bellew was responsible for the overall completion of each task as per the requirements outlined in this work plan and in accordance with the DER-10 guidance.

Sarah Commisso was the Haley & Aldrich of New York Project Manager for this work. In this role, Ms. Commisso managed the day-to-day tasks, including coordination and supervision of field engineers and scientists, adherence to the work plan, and oversight of the project schedule. As the Project Manager, Ms. Commisso was responsible for communications with the NYSDEC Case Manager regarding project status, schedule, issues, and updates for project work.

Joseph Mastro was the field geologist responsible for implementing the field effort for this work. Mr. Mastro's responsibilities included implementing the work plan activities and directing the subcontractors to ensure the successful completion of field activities.

The drilling subcontractor utilized for this investigation was Lakewood Environmental Services Corp. (Lakewood). Lakewood provided Geoprobe® rig operators to implement the approved RIWP scope of work.

Samples were collected in laboratory-prepared sample bottles (pre-preserved when appropriate), placed in ice-packed coolers maintained at approximately 4 degrees Celsius under standard chain of custody procedures, and transported to Pace Analytical Services, LLC/Alpha Analytical Laboratories, Inc. (Pace/Alpha) of Westborough, Massachusetts (Certification No. 07010T). Soil vapor samples were transported to Eurofins Scientific (Eurofins) of Edison, New Jersey (Certification No. 12028). Pace/Alpha and Eurofins were responsible for analyzing the samples as per the analyses and methods identified in the approved RIWP.

4.2 GROUND-PENETRATING RADAR SURVEY

Haley & Aldrich of New York oversaw a ground-penetrating radar (GPR) survey performed at the Site by Ground Penetrating Radar Systems (GPRS) on February 5, 2025. The survey was conducted to identify the presence of any utilities, USTs, or any other anomalies that may be present in the subsurface, as well as to clear soil boring locations. Accessible areas of the Site were scanned using a GPR 450-megahertz (MHz) cart-mounted GPR system, a high-range precision utility detector, and an electromagnetic pipe and cable locator. Soil conditions allowed for a maximum GPR penetration depth of 4 ft bgs in most areas. Metallic anomalies/USTs were not detected throughout accessible areas of the Site. Several utilities were marked on the Site in designated colors. Full results of the GPR survey are provided in Appendix B.

4.3 SOIL BORING INSTALLATION AND SOIL SAMPLING

Additional soil samples were collected to meet NYSDEC DER-10 requirements for RIs, as well as to further characterize soil conditions.

Eleven soil borings were advanced throughout the Site to a maximum depth of 20 ft bgs, using a Geoprobe® model 6010DT drill rig operated by a licensed operator provided by Lakewood, the drilling subcontractor. Samples were collected from surface grade at specific intervals, including 0 to 2 in., the bottom of fill material ranging from 4 to 15 ft, and the 2-ft interval above the groundwater interface. Soil samples were collected from acetate liners using a stainless-steel trowel or sampling spoon. Samples were collected using laboratory-provided clean bottle ware. VOC grab samples were collected using terra cores. Sampling locations are displayed in Figure 3.

Soils were logged continuously by a geologist using the Modified Burmister Soil Classification System. The presence of staining, odors, and photoionization detector (PID) response were noted. Soil boring logs are provided as Appendix C. Sampling methods are described in the RIWP provided as Appendix A. A Quality Assurance Project Plan (QAPP) is provided as an Appendix to the RIWP (Appendix B).

Haley & Aldrich of New York collected 36 soil samples (plus quality assurance/quality control [QA/QC] samples) for laboratory analysis. Soil samples were collected in laboratory-supplied containers, which were relinquished under standard chain of custody protocol and delivered via courier to Pace/Alpha for analysis.

Pace/Alpha is an NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory. As detailed in Table 1, soil samples were analyzed for the following:

- Target Compound List (TCL) VOCs using United States Environmental Protection Agency (USEPA) Method 8260B;
- TCL SVOCs using USEPA Method 8270C;
- TAL Metals using USEPA Method 6010;
- PCBs using USEPA Method 8082;
- TCL Pesticides using USEPA Method 8081B;

- PFAS by USEPA Method 1633; and
- 1,4-dioxane by USEPA Method 8270 SIM.

As per NYDSEC DER-10 requirements, soil samples were collected for analysis of emerging contaminants. Samples analyzed for PFAS and 1,4-dioxane were collected and analyzed in accordance with the NYSDEC-issued April 2023 "Sampling, Analysis, and Assessment of PFAS Under NYSDEC's Part 375 Remedial Programs."

Table 1 provides a summary of all RI samples collected and analyzed, including sample depth/locations, sample rationale, QA/QC samples, and analyses performed. A Sample Location Map is provided as Figure 3.

4.4 PERMANENT MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING

The purpose of groundwater sampling was to obtain current groundwater data and meet NYSDEC DER-10 requirements for RIs.

Five, 2-in. permanent monitoring wells were installed to between 19 and 23 ft bgs. Each monitoring well was constructed using a 2-in. diameter polyvinyl chloride (PVC) riser pipe with 10-ft-long, 10-slot (0.01-in.) slotted screens. Each monitoring well was constructed within a 2-in. annular space backfilled with #0 certified clean sand fill followed by bentonite plugs. Monitoring wells were sealed with a 2-in.-diameter stick-up PVC riser at 2 ft above ground surface. Monitoring well screens were installed to straddle the water table. During a monitoring well gauging event concurrent with the well survey on February 13, 2025, groundwater was encountered at depths ranging from approximately 15.28 to 17.06 ft bgs. Well construction diagrams are provided in Appendix D.

Following installation, monitoring wells were developed by surging a pump in the well several times to pull fine-grained material from the well. Development was completed until the water turbidity was 50 nephelometric turbidity units (NTUs) or less, or 10 well volumes were purged.

Haley & Aldrich of New York collected five groundwater samples, one from each monitoring well (MW-01, MW-02, MW-03, MW-04, and MW-05). A total of six samples (including one for QA/QC) were sent to the laboratory for the following analysis:

- TCL VOCs using USEPA Method 8260B;
- TCL SVOCs using USEPA Method 8270C;
- Total Metals using USEPA Methods 6010/7471;
- Dissolved Metals using USEPA Methods 6020/7471;
- TCL Pesticides using USEPA Method 8081B;
- PCBs using USEPA Method 8082;
- PFAS using USEPA Method 1633; and
- 1,4-dioxane using USEPA Method 8270 SIM.

Groundwater samples analyzed for PFAS and 1,4-dioxane were collected and analyzed in accordance with the NYSDEC-issued April 2023 "Sampling, Analysis, and Assessment of PFAS Under NYSDEC's Part 375 Remedial Programs."

Table 1 provides a summary of all RI samples collected and analyzed, including locations and sample depths, QA/QC samples, and analyses performed. A Sample Location Map is provided as Figure 3.

Groundwater monitoring wells were sampled utilizing low-flow sampling procedures for groundwater sampling. Prior to sampling, the water level was measured from each monitoring well using an electronic water level meter. Groundwater from each well was purged using low pumping rates (less than 500 milliliters per minute) to limit drawdown of the water level. Dedicated disposable field equipment used at each well included high-density polyethylene and silicon tubing. Wells were purged until turbidity, pH, temperature, dissolved oxygen, and specific conductivity stabilized. Field measurements collected from the flow cell were logged and are included in Appendix E.

DPK Consulting LLC (DPK), a New York State-licensed surveyor, completed a monitoring well survey on February 13, 2025. A survey map summarizing the monitoring well survey data collected by the licensed surveyor is provided as Appendix F. A groundwater contour map is provided in Figure 4.

4.5 SOIL VAPOR PROBE INSTALLATION AND SOIL VAPOR SAMPLING

Soil vapor samples were collected in accordance with the "Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York" (NYSDOH, 2006). Seven soil vapor probes were installed 1 to 2 ft above the groundwater interface (between 12 and 14 ft bgs). Soil vapor implants were installed with a Geoprobe® drill rig to advance a stainless-steel probe to the desired sample depth.

To ensure the stainless-steel soil vapor probe was sealed completely to the surface using bentonite, a tracer gas was used in accordance with NYSDOH protocols to serve as a QA/QC device to verify the integrity of the soil vapor probe seal. In addition, one to three implant volumes were purged prior to the collection of the soil vapor samples. Sampling occurred for the duration of two hours. At the conclusion of the sampling round, tracer monitoring was performed a second time to confirm the continued integrity of the probe seals.

Samples were collected in appropriately sized Summa canisters that were certified clean by the laboratory. Samples were analyzed for VOCs using USEPA Method TO-15. Flow rate for both purging and sampling did not exceed 0.2 liters per minute (L/min). Additional details regarding the sampling methods are described in the Field Sampling Plan (FSP) provided in the approved RIWP. Soil vapor sampling logs are provided in Appendix G.

Table 1 provides a summary of all RI samples collected and analyzed, including sample locations, sample depths, QA/QC samples, and analyses performed. A Sample Location Map is provided as Figure 3.

4.6 QUALITY ASSURANCE/QUALITY CONTROL

The RI was conducted in accordance with Haley & Aldrich of New York's QAPP, provided as an Appendix in the RIWP. Haley & Aldrich of New York's sampling program included several types of QA/QC samples and measures to ensure the usability of the data. QA/QC samples included equipment rinsate/field blanks, trip blanks, sample duplicates, and matrix spike/matrix spike duplicates (MS/MSDs).

When applicable, the sample result summary tables list the laboratory method detection limit (MDL) at which a compound was non-detectable. The laboratory results were reported to the sample-specific practical quantitation limit (PQL), equal to the sample-specific MDL, supported by the instrument calibrations.

The reliability of laboratory data is supported by compliance with sample holding times and laboratory MDLs below cleanup criteria. The accuracy and precision of the laboratory analytical methods were maintained by using calibration and calibration verification procedures, laboratory control samples, and surrogate, matrix, and analytical spikes. A review of the laboratory data packages indicates that holding times were met and no significant non-conformance issues were reported. Category B laboratory reports are provided in Appendix H. Data was validated as detailed in Section 6.5 and summarized in Data Usability Summary Reports (DUSRs) which are included in Appendix I.

4.7 FIELD EQUIPMENT DECONTAMINATION

Downhole drilling equipment was decontaminated between each boring by washing with an Alconox-based solution. Decontamination wastewater was contained in a wash pan and containerized in 55-gallon drums for disposal. Handheld sampling equipment was decontaminated by hand in an Alconox-based solution and triple-rinsed with deionized water. Decontamination liquids were temporarily contained in 5-gallon buckets and then added to labeled drums at the end of each workday.

4.8 INVESTIGATION-DERIVED WASTE

Following sample collection, boreholes that were not converted to monitoring wells were backfilled with soil cuttings and an upper bentonite plug. Boreholes were restored to grade with the surrounding area. Groundwater purged from the monitoring wells during development and sample collection was placed into New York State Department of Transportation (DOT)-approved 55-gallon drums pending off-Site disposal. A total of two 55-gallon drums of purge water were produced during the investigation. The drums are currently labeled and staged on Site in a manner that prevents leakage, deterioration, or release of waste. The drums will be transferred to an approved facility for disposal during the implementation of the remedy.

4.9 REPORTING

During the implementation of the NYSDEC-approved RIWP, daily reports were provided to the NYSDEC. Daily field reports included a summary of sampling and field activities, investigation progress updates, and photographs of field work. The daily reports are included in Appendix J.

5. Health and Safety

The work outlined above was completed under a Site-specific Health and Safety Plan (HASP) in accordance with Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations. Work was completed in Modified Level D personal protective equipment (PPE). A copy of the HASP is included in Appendix F of the NYSDEC-approved RIWP.

The RI activities were conducted in accordance with a Site-specific Community Air Monitoring Plan (CAMP). CAMP data were provided to the NYSDEC in the daily reports included in Appendix J.

6. Contaminants of Concern and Nature and Extent of Contamination

6.1 APPLICABLE STANDARDS

Soil analytical results were compared to NYSDEC 6NYCRR Part 375 UUSCOs, Protection of Groundwater Soil Cleanup Objectives (PGWSCOs), and RRSCOs. Note that no standards for PFAS in soil currently exist in New York State; however, NYSDEC published soil GVs for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in October 2020 (latest revision April 2023). PFOA and PFOS soil sample results are compared to the unrestricted use and restricted residential use soil GVs outlined in the Part 375 Remedial Programs Guidelines for Sampling and Analysis of PFAS guidance.

Groundwater analytical results were compared to 6NYCRR Part 703.5 NYSDEC TOGS 1.1.1 AWQS. Emerging contaminants PFOA/PFOS were compared to the NYSDEC April 2023 GVs for PFOA and PFOS. Emerging contaminant 1,4-dioxane was compared to the GV as set by NYSDEC in March 2023.

No standard currently exists for soil vapor samples in New York State.

6.2 SOIL SAMPLING RESULTS

Table 2 summarizes the analytical results from the soil sampling event. Figure 5 presents the soil boring locations, as well as a summary of all soil data from the soil sampling event. Soil boring logs are provided in Appendix C.

6.2.1 Volatile Organic Compounds

No VOCs were detected above the UUSCOs, RRSCOs, and/or PGWSCOs in the soil samples collected at the Site.

6.2.2 Semi-Volatile Organic Compounds

Seven SVOCs, specifically PAHs, were detected at concentrations above the UUSCOs, RRSCOs, and/or PGWSCOs in 18 soil samples collected from the fill layer. Maximum concentrations of SVOCs were all detected in soil sample, SB-05_0-0.16, including benzo(a)anthracene (13 mg/kg), benzo(a)pyrene (12 mg/kg), benzo(b)fluoranthene (14 mg/kg), benzo(k)fluoranthene (4.4 mg/kg), chrysene (13 mg/kg), dibenzo(a,h)anthracene (1.6 mg/kg), and indeno(1,2,3-cd)pyrene (6.9 mg/kg).

No other SVOCs were detected above the UUSCOs, RRSCOs, and/or PGWSCOs in the soil samples analyzed.

6.2.3 Pesticides

Four pesticides were detected at concentrations exceeding the UUSCOs in up to 20 soil samples collected between 0 to 17 ft bgs, including 4,4’-DDD (maximum concentration of 0.0776 mg/kg in SB-08_11-13), 4,4’-DDE (maximum concentration of 0.0447 mg/kg in SB-06_9-11), 4,4’-DDT maximum concentration of 0.148 mg/kg in SB-06_9-11), and dieldrin (maximum concentration of 0.0476 in SB-08_11-13).

No other pesticides were detected above the UUSCOs, RRSCOs, and/or PGWSCOs in the soil samples analyzed.

6.2.4 Metals

Six metals were detected above the UUSCOs, RRSCOs, and/or PGWSCOs in up to 19 soil samples collected between 0 to 17 ft bgs. Barium was detected above both the UUSCO and RRSCO in four soil samples at a maximum concentration of 731 mg/kg in SB-08_11-13. Lead was detected above the UUSCO, RRSCO, and PGWSCO in two soil samples at a maximum concentration of 479 mg/kg in SB-08_11-13. Two metals were detected above the UUSCOs, only, in multiple soil samples including mercury (maximum concentration of 0.714 mg/kg in SB-04_0-0.16) and zinc (maximum concentration of 535 mg/kg in SB-08_11-13). Silver was detected above the UUSCO in one soil sample at a concentration of 2.2 mg/kg in SB-10_0-0.16.

No other metals were detected above the UUSCOs, RRSCOs, and/or PGWSCOs in the soil samples analyzed.

6.2.5 Polychlorinated Biphenyls

PCBs were detected above the UUSCOs in eight soil samples collected. Maximum concentration of PCBs was estimated at 0.486 mg/kg in SB-04_0-0.16.

6.2.6 Emerging Contaminants

The emerging contaminant 1,4-dioxane was not detected above laboratory detection limits in the soil samples analyzed.

PFOS was detected above the UUSCO in eleven soil samples, nine of which also exceeded the PGWSCO, at a maximum concentration of 0.00503 mg/kg in SB-01_9-11.

PFOA was not detected above the UUSCOs, RRSCOs, and/or PGWSCOs in any of the soil samples collected.

6.3 GROUNDWATER SAMPLING RESULTS

Table 3 summarizes the analytical results from the groundwater sampling event. Figure 6 presents the groundwater monitoring well locations. Groundwater sample logs are provided in Appendix E. The following sections provide a summary of groundwater analytical results in exceedance of NYSDEC AWQS and GVs for emerging contaminants (latest update April 2023).

6.3.1 Volatile Organic Compounds

One VOC, PCE, was detected above the AWQS in one groundwater sample collected from MW-04 at a concentration of 5.6 µg/L.

No other VOCs were detected above the AWQS in the groundwater samples analyzed.

6.3.2 Semi-Volatile Organic Compounds

No SVOCs were detected above the AWQS in the groundwater samples analyzed.

6.3.3 Pesticides

No pesticides were detected above the AWQS in the groundwater samples analyzed.

6.3.4 Polychlorinated Biphenyls

No PCBs were detected above the AWQS in the groundwater samples analyzed.

6.3.5 Total Metals

Three metals were detected above the AWQS in multiple groundwater samples including sodium (maximum concentration of 128,000 µg/L in MW-04), total magnesium (maximum concentration of 48,200 µg/L in MW-01), and total manganese (maximum concentration of 476 µg/L in DUP-01, parent sample is MW-02).

No other total metals were detected above the AWQS in the groundwater samples analyzed.

6.3.6 Dissolved Metals

Four dissolved metals were detected in multiple groundwater samples above the AWQS, including dissolved manganese (maximum concentration of 422.9 µg/L in MW-02), dissolved magnesium (maximum concentration of 43,100 µg/L in MW-01), dissolved sodium (maximum concentration of 123,000 µg/L in MW-04), and dissolved antimony in one groundwater sample (concentration of 4.24 µg/L in MW-03).

No other dissolved metals were detected above the AWQS in the groundwater samples analyzed.

6.3.7 Emerging Contaminants

Concentrations of emerging contaminants PFOA and PFOS were compared to the NYSDEC GVs of 6.7 parts per thousand (ppt) for PFOA and 2.7 ppt for PFOS. PFOA and PFOS were both detected above the NYSDEC GVs in all six groundwater samples (including the duplicate sample). PFOA was detected at a maximum concentration of 177 ppt in MW-05 and PFOS was detected at a maximum concentration of 785 ppt in MW-05.

Emerging contaminant 1,4-dioxane was compared to the NYSDEC GV of 350 ppt; 1,4-dioxane was not detected above laboratory detection limits in the groundwater samples analyzed.

Figure 5 provides a summary of emerging contaminant data in groundwater.

6.4 SOIL VAPOR SAMPLING RESULTS

Table 4 provides a summary of the analytical results from the soil vapor sampling event. Figure 7 provides the soil vapor sampling locations, as well as a summary of all soil vapor data that were considered in the findings of this report. The soil vapor purge log is provided in Appendix G and includes details on each soil vapor sample collected.

Total VOC concentrations in soil vapor samples ranged from 87.18 $\mu g/m^3$ in sample SV-06 to 272.71 $\mu g/m^3$ in SV-05. Total BTEX concentrations ranged from 18.62 $\mu g/m^3$ in SV-07 to 45.4 $\mu g/m^3$ in sample SV-01. Total CVOC concentrations in soil vapor samples ranged from 1.72 $\mu g/m^3$ in SV-04 to 14.76 $\mu g/m^3$ in SV-02.

CVOCs were detected in all seven soil vapor samples collected during the RI. PCE was detected in all seven soil vapor samples at a maximum concentration of 14 $\mu g/m^3$ in SV-02. TCE was detected in four soil vapor samples at a maximum concentration of 0.39 $\mu g/m^3$ in SV-02. Methylene chloride was detected in three soil vapor samples at a maximum concentration of 1.9 $\mu g/m^3$ in SV-05. Carbon tetrachloride was detected five soil vapor samples at a maximum concentration of 0.33 $\mu g/m^3$ in SV-06. 1,1,1-trichloroethane was detected in two soil samples at a maximum concentration of 3 $\mu g/m^3$ in SV-03.

6.5 DATA VALIDATION

DUSRs were created to confirm the compliance of methods with the protocols described in the NYSDEC Analytical Services Protocol (ASP). DUSRs will be provided in Appendix I of the final RIR.

6.6 DATA USE

Validated analytical data, supplied in ASP Category B Data Packages in Appendix I, was submitted to the NYSDEC EQuIS database in an Electronic Data Deliverable package on March 20, 2025.

7. Conceptual Site Model

7.1 AREAS OF CONCERN

The following areas of concern (AOCs) were identified at the Site:

7.1.1 AOC 1 – Site-Wide Contaminated Fill in Subsurface Soils

Subsurface soils throughout the Site are impacted with elevated concentrations of metals (primarily lead), SVOCs (specifically PAHs), and, in some areas, PCBs, pesticides, and PFAS. These findings are consistent with characteristics of contaminated fill found throughout the New York City area. Contaminated fill material varies in depth throughout the Site, generally extending from surface grade to about 12 ft bgs.

7.1.2 AOC 2 – Groundwater Impacts

Metals, PFAS, and one CVOC, PCE, were detected above the AWQS in groundwater. PCE was detected in one monitoring well slightly above the AWQS standard. PFAS groundwater contamination is widespread and may have resulted from historical uses at the Site or nearby properties.

7.2 POTENTIAL ON-SITE SOURCES

Elevated concentrations of metals, SVOCs, pesticides, PCBs, and PFAS are present throughout the fill layer, which extends from surface grade to about 12 ft bgs. These contaminants are characteristic of fill material found throughout the New York City area.

The source of PFAS in groundwater is unknown but may have resulted from historical uses at the Site or nearby properties. The Site historically contained buildings operating in furniture sales and/or furniture manufacturing as indicated on Sanborn Fire Insurance Maps from 1939 to 1979. With the introduction of products such as 3M's Scotchgard™, which was widely used as a stain repellent to protect fabric, furniture, and carpets, historical furniture sales/manufacturing operations are a potential source of PFAS contamination on the Site.

8. Human Health and Environmental Risk Evaluation

8.1 HUMAN HEALTH RISK EVALUATION

A qualitative human health exposure assessment (QHHEA) consists of characterizing the exposure setting (including the physical environment and potentially exposed human populations), identifying exposure pathways, and evaluating chemical fate and transport. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has the following five elements:

1. Receptor population;
2. Contaminant source;
3. Contaminant release and transport mechanism;
4. Point of exposure; and
5. Route of exposure.

An exposure pathway is complete when all five elements of an exposure pathway are documented; a potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented but could reasonably occur. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway does not exist in the present and will not exist in the future.

8.1.1 Receptor Population

The receptor population includes the people who are or may be exposed to contaminants at a point of exposure. The identification of potential human receptors is based on the characteristics of the Site, the surrounding land uses, and the probable future land uses. The Site is currently vacant; therefore, receptors would only include construction/maintenance workers who may be employed to perform work on the property, and exposure routes would include direct contact activities and/or inhalation of soil vapor during ground-intrusive activities (i.e., construction of the building's foundation and sub-grade cellar).

At this time, Site development plans are conceptual; however, it is anticipated that the project will consist of the development of a multi-story, mixed-use commercial and residential building encompassing the entire Site footprint with a one-level cellar, which is consistent/compatible with surrounding property use and zoning. Exposed receptors under the future use scenario may comprise residents of the future building, indoor employees, outdoor employees (e.g., groundskeepers or maintenance staff), and construction workers who may be employed at or perform work on the property. Site visitors may also be considered receptors; however, their exposure would be similar to that of the indoor employees but at a lesser frequency and duration. In addition, residents or employees in off-Site adjoining buildings have the potential to be exposed to vapors.

8.1.2 Contaminant Sources

The source of contamination is defined as either the source of contaminant release to the environment (such as a waste disposal area or point of discharge) or the impacted environmental medium (soil, air, and/or water) at the point of exposure. Sections 6.0 and 7.0 discuss the contaminants of concern (COCs) present in the Site media at elevated concentrations. In general, Site COCs include metals, SVOCs (specifically PAHs), pesticides, and PFAS in soil; and VOCs (specifically CVOCs), metals, and PFAS in groundwater.

8.1.3 Contaminant Release and Transport

Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed and are specific to the type of contaminant and site use. For CVOCs present in soil vapor, the potential exists for exposure through pathways associated with soil vapor intrusion. This would include the indoor vapor intrusion pathway (also referred to as “soil vapor intrusion”).

8.1.4 Exposure Points, Routes, and Mechanisms

The point of exposure is a location where actual or potential human contact with a contaminated medium may occur. Based on the exceedances of RRSCOs for metals and SVOCs and exceedances of UUSCOs for pesticides and PCBs in soil, the exceedance of AWQS for metals and VOCs in groundwater, and CVOCs and BTEX above laboratory detection limits in soil vapor, the point of exposure is defined as the entire Site.

The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, and dermal absorption). Based on the types of receptors and points of exposure identified above, potential routes of exposure are listed below.

Current Use Scenario: The Site is currently vacant and covered with dirt and grass. There is potential for exposure to the contaminated surface soil on the Site. Release and transport mechanisms include contaminated surface soil transported as dust, contaminated groundwater flow, and volatilization of contaminants from soil and/or groundwater into the vapor phase.

- Site Visitors and Public Adjacent to Site – inhalation and incidental ingestion.
- Construction/Utility/Site Investigation Worker – skin contact, inhalation, and incidental ingestion.

Construction/Remediation Scenario: In the absence of engineering and institutional controls, there will be continued exposure pathways during construction/remediation specifically related to surface soil. Construction/remedial activities include excavation and off-Site disposal of soil. Release and transport mechanisms include disturbed and exposed soil during excavation, contaminated soil transported as dust, inhalation of dust from contaminated soil, and volatilization of contaminants from soil and/or groundwater into the vapor phase.

- Site Visitors and Public Adjacent to Site – inhalation and incidental ingestion.
- Construction/Utility/Remediation Work – skin contact, inhalation, and incidental ingestion.

Future Use Scenario: The anticipated remedial approach includes the excavation of contaminated soil and the installation of a composite cover system. In the absence of engineering and institutional controls, remaining contaminant release and transport mechanisms include the migration of contaminated groundwater and volatilization of contaminants from soil and/or groundwater into the vapor phase. Routes of exposure include cracks in the foundation or slab or emergency repairs to the foundation walls or slab. Persons at risk of exposure, via the indicated exposure routes, are noted below:

- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion.
- Occupant/Employee/Visitor – inhalation.
- Public Adjacent to Site – inhalation.

Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed and are specific to the type of contaminant and site use. For CVOCs and BTEX present in soil vapor, the potential exists for exposure through pathways associated with soil vapor intrusion. This would include the indoor vapor intrusion pathway (also referred to as "soil vapor intrusion").

Concerning the indoor air pathway, under the current and future use scenario, soil vapor intrusion is a relevant transport mechanism. Soil vapor intrusion would entail soil vapor migrating from under the building slab and potentially impacting the indoor air above the slab. Concerning skin contact, inhalation, and incidental ingestion of volatile organics present in soil and groundwater, the potential exists for exposure to VOCs for construction workers involved in subsurface activities where volatiles are present at elevated concentrations.

8.1.5 Exposure Assessment

Based on the above assessment, the potential exposure pathways for the current and future use conditions are listed below.

Current Use Scenario: Site contamination includes SVOCs, pesticides, PCBs, and metals in soil related to fill and the historical Site operations. Under current conditions, the likelihood of exposure to soil or groundwater is limited, as the Site is affixed with a perimeter fence secured with a lock. Site access is only granted to personnel associated with the planned development. Potable water for New York County will continue to be sourced from reservoirs in the Catskill and Delaware watersheds. All intrusive work on the Site is done in accordance with a Site-Specific HASP and the donning of PPE.

Construction/Remediation Scenario: The exposure element exists for all elements during this phase. The overall risk will be minimized by the implementation of a Site-Specific Construction HASP, localized monitoring of organic vapors, community air monitoring on the Site perimeter for particulates and VOCs, vapor and dust suppression techniques, installation of a stabilized entrance, cleaning truck tires and undercarriages, and donning of appropriate PPE. Additionally, the Site will be under a RAWP that will include a Soil Materials Management Plan that will highlight measures for PPE, covering of stockpiles, housekeeping, suppression techniques (particulates and vapor), and measures to prevent off-Site migration of contaminants. In addition, the Site will be secured and inaccessible to the public during remedial construction.

Future Use Scenario: Under the proposed future condition (after construction/remediation), residual contaminants may remain on Site depending on the remedy achieved. The remaining contaminants would include those listed in the current conditions. If contaminants remain on Site after construction/remediation, the route of exposure will be mitigated by proper installation of engineering controls, such as a Site capping system foundation, implementation of institutional controls, such as land use and groundwater use restrictions, and implementation of an SMP to manage referenced controls.

8.2 FISH AND WILDLIFE IMPACT ANALYSIS

NYSDEC DER-10 requires an on-Site and off-Site Fish and Wildlife Resource Impact Analysis (FWRIA) if certain criteria are met. The Site was developed as early as the late 1800s and has been utilized mainly for commercial purposes until the mid-2010s. The Site is located in the Harlem neighborhood of New York, New York. The Site provides little or no wildlife habitat or food value and/or access to the detected subsurface contamination. No natural waterways are present on or adjacent to the Site. The proposed future use of the Site is for residential and commercial purposes. As such, no unacceptable ecological risks are expected under the current and future use scenarios.

9. Green and Sustainable Remediation and Climate Resiliency

The work completed as part of the RI complies with all NYSDEC guidance documents, including DER-31: Green Remediation (NYSDEC, 2011). To ensure compliance with DER-31, the work was completed using the best practices and techniques described below. Specific reporting methods relative to DER-31 are further described below.

9.1 BEST PRACTICES AND TECHNIQUES EMPLOYED

DER-31 provides examples of best practices and techniques that could be applied during all phases of remediation (Attachment 1 of the DER-31 policy). The techniques identified below were implemented during the RI when relevant to the work completed.

Practice/Technique	Potential Benefits[1]	Applicable to this RI
Use renewable energy where possible or purchase Renewable Energy Credits	Reduce/supplement purchased energy use	
Use of remediation technologies with an intermittent energy supply (i.e., energy use during peak energy generation only)	Reduce energy use	X
Incorporate green building design	Reduce future use impacts	
Reuse existing buildings and infrastructure to reduce waste	Reduce waste and material use	
Reuse and recycle construction and demolition debris and other materials (i.e., grind waste wood and other organics for on-Site use)	Reduce waste and material use	
Design cover systems to be usable (i.e., habitat or recreation)	Reduce construction impacts of future development	
Reduce vehicle idling	Reduce air emissions and fuel use	X
Use of Low-Sulfur Diesel Fuel (LSDF) or alternate fuels (i.e., biodiesel or E85) when possible	Reduce air emissions	
Sequence work to minimize double-handling of materials	Reduce construction impacts	X
Use energy-efficient systems and office equipment in the job trailer	Reduce energy use	X

[1]*Potential benefits listed are not comprehensive and will vary depending upon the site and implementation of the practice or technique.*

In order to comply with the requirements of DER-31, the following actions were taken:

1. All vehicles and fuel-consuming equipment on the Site were shut off if not in use for more than three minutes;

2. Work was sequenced, to the extent practicable, to allow the direct loading of waste containers for off-Site disposal;
3. Work was sequenced, to the extent practicable, to limit unnecessary mobilizations to and throughout the Site; and
4. To the extent practicable, energy-efficient systems and office equipment were utilized.

9.2 CLIMATE RESILIENCY EVALUATION

The Site is not located within a 100-year flood zone. The development plan is still under design but will incorporate consideration for resiliency to climate change, including the design of a cover system that will mimic, rather than alter, the current setting in the vicinity of the Site and will provide pathways for surface runoff and resiliency against future flooding events. A Climate Screening Checklist is provided in Appendix K.

9.3 ENVIRONMENTAL FOOTPRINT ANALYSIS

An environmental footprint analysis has been completed for the combined activities of the RI using the USEPA's Spreadsheets for Environmental Footprint Analysis (SEFA). The RI components detailed within this analysis include the installation of soil borings, permanent groundwater monitoring wells, and soil vapor points; monitoring well development; soil, groundwater, and soil vapor sampling; and the transportation of personnel, contractors, and materials. Results of the environmental footprint analysis, available in Appendix K, indicate the majority of greenhouse gas emissions were the product of transportation, on-Site equipment use, and off-Site activities associated with the investigation.

10. Conclusions and Recommendations

10.1 CONCLUSIONS

Based on the results of Site investigations, the following conclusions have been identified:

- In general, Site COCs include metals, SVOCs (specifically PAHs), PCBs, pesticides, and PFAS in soil; and metals, CVOCs, and PFAS in groundwater.
- Elevated concentrations of metals, SVOCs, pesticides, and PFAS are present throughout the fill layer that extends from surface grade to about 12 ft bgs. These contaminants are characteristic of fill material commonly found throughout the New York City area.
- The source of PFAS in groundwater is unknown but may have resulted from historical uses at the Site or nearby properties. The Site historically contained buildings operating in furniture sales and/or furniture manufacturing as indicated on Sanborn Fire Insurance Maps from 1939 to 1979. With the introduction of products such as 3M's Scotchgard™, which was widely used as a stain repellent to protect fabric, furniture, and carpets, historical furniture sales/manufacturing operations are a potential source of PFAS contamination on the Site.

10.2 RECOMMENDATIONS

Based on the results of the RI, remedial action will be necessary to proceed with the anticipated redevelopment plan.

To address the AOCs, Haley & Aldrich of New York is evaluating the utilization of a combination of remedial techniques. Applicable strategies and technologies may include, but are not limited to, source removal and installation of engineering controls which will be detailed in a RAWP.

References

1. Brownfield Cleanup Program Application. Proposed 180 East 125th Street Development Site. 180 East 125th Street, New York, New York. Prepared for 180 E125th Realty LLC by H & A of New York Engineering and Geology LLP for submission to the New York State Department of Environmental Conservation. Submitted in September 2024.

2. New York State Department of Environmental Conservation, 2010. Program Policy DER-10, "Technical Guidance for Site Investigation and Remediation." May.

3. New York State Department of Environmental Conservation, 2023. Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDECs Part 375 Remedial Programs. April.

4. New York State Department of Environmental Conservation, Part 375 of Title 6 of the New York Compilation of Codes, Rules, and Regulations, Effective December 14, 2006.

5. New York State Department of Health, 2006. Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York with updates. October.

6. New York State Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1) dated June 1998.

7. Phase I Environmental Site Assessment. 167 East 124th Street & 160 East 125th Street, New York, New York. Prepared by EBI Consulting, prepared for JP Morgan Chase Bank NA, June 21, 2018.

8. Phase I Environmental Site Assessment – 180 East 125th Street, New York, New York. Prepared by H & A of New York Engineering and Geology LLP, prepared for 180 E125th Realty LLC, August 15, 2024.

9. Remedial Action Work Plan. 180 East 125th Street, New York, New York. Prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C., prepared for 125th Street Lessee LLC, October 2021

10. Remedial Investigation Report. Proposed 125th Street Development, New York, New York. Prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C., prepared for 160 East 125th Owner LLC, December 18, 2020.

11. Tank Affidavit. 180 East 125th Street, New York, New York. Prepared by MVC Heating Corp., prepared for Fire Department City of New York, February 22, 2022.

12. United States Environmental Protection Agency, 2017. "Low Flow Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells," EQASOP-GW 001. 19 September.

13. Waste Characterization Sampling Report. 180 East 125th Street, New York, New York. Prepared by EcoTerra Consulting, LLC, prepared for Monadnock Construction, Inc., September 20, 2022.

TABLES

TABLE 1
SAMPLING AND ANALYSIS PLAN
180 EAST 125TH STREET DEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

Sample Location	Date Collected	Sample Depth	Rationale	TCL VOCs (8260B)	TCL SVOCs (8270C)	TAL Metals (6010)	PCBs (8082)	TCL Pesticides (8081B)	PFAS (1633)	Total PFOA+PFOS	1,4-Dioxane (8270)	VOCs (TO-15)
SOIL												
SB-01	2/6/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/6/2025	9-11'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/6/2025	12-14'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-02	2/5/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/5/2025	4-6'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/5/2025	11-13'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-03	2/5/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/5/2025	13-15'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/5/2025	15-17'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-04	2/5/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/5/2025	12-14'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/5/2025	14-16'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-05	2/5/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/5/2025	8-10'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/5/2025	11-13'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-06	2/7/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/7/2025	9-11'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/7/2025	11-13'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-07	2/7/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/7/2025	5-7'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/7/2025	11-13'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-08	2/5/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/5/2025	11-13'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/5/2025	13-15'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-09	2/5/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/5/2025	11-13'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/5/2025	13-15'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-10	2/5/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/5/2025	8-10'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/5/2025	12-14'	Groundwater interface	X	X	X	X	X	X	X	X	
SB-11	2/6/2025	0-0.16'	0-2 inches	X	X	X	X	X	X	X	X	
	2/6/2025	4-6'	Bottom 2 ft of fill material	X	X	X	X	X	X	X	X	
	2/6/2025	11-13'	Groundwater interface	X	X	X	X	X	X	X	X	
DUP-01_20250205	2/5/2025	Parent Sample SB09_11-13	Duplicate Sample	X	X	X	X	X	X	X	X	
DUP-02_20250207	2/7/2025	Parent Sample SB0-06_0-0.16	Duplicate Sample	X	X	X	X	X	X	X	X	
MS	2/5/2025	SB-05_0-0.16	Matrix Spike	X	X	X	X	X	X	X	X	
MSD	2/5/2025	SB-05_0-0.16	Matrix Spike Duplicate	X	X	X	X	X	X	X	X	
MS	2/7/2025	SB-07_0-0.16	Matrix Spike	X	X	X	X	X	X	X	X	
MSD	2/7/2025	SB-07_0-0.16	Matrix Spike Duplicate	X	X	X	X	X	X	X	X	
FB-01_20250205	2/5/2025	-	Field Blank	X	X	X	X	X	X	X	X	
FB-02_20250207	2/7/2025	-	Field Blank	X	X	X	X	X	X	X	X	

TABLE 1
SAMPLING AND ANALYSIS PLAN
180 EAST 125TH STREET DEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

Sample Location	Date Collected	Sample Depth	Rationale	TCL VOCs (8260B)	TCL SVOCs (8270C)	TAL Metals (6010)	PCBs (8082)	TCL Pesticides (8081B)	PFAS (1633)	Total PFOA+PFOS	1,4-Dioxane (8270)	VOCs (TO-15)
SOIL												
FB-03_20250221	2/21/2025	-	Field Blank	X	X	X	X	X	X	X	X	
TB-01_20250205	2/5/2025	-	Trip Blank	X								
TB-02_20250206	2/6/2025	-	Trip Blank	X								
TB-03_20250207	2/7/2025	-	Trip Blank	X								
GROUNDWATER												
MW-01	2/13/2025	MW-01_20250213	Straddle Water Table	X	X	X	X	X	X	X	X	
MW-02	2/13/2025	MW-02_20250213	Straddle Water Table	X	X	X	X	X	X	X	X	
MW-03	2/13/2025	MW-03_20250213	Straddle Water Table	X	X	X	X	X	X	X	X	
MW-04	2/13/2025	MW_04_20250213	Straddle Water Table	X	X	X	X	X	X	X	X	
MW-05	2/13/2025	MW_05_20250213	Straddle Water Table	X	X	X	X	X	X	X	X	
DUP-01_20250213	2/13/2025	Parent Sample MW-02_20250213	Straddle Water Table	X	X	X	X	X	X	X	X	
FB-01_20250213	2/13/2025	-	Field Blank	X	X	X	X	X	X	X	X	
TB-01_20250213	2/13/2025	-	Trip Blank	X								
MS	2/13/2025	MW-02_20250213	Matrix Spike	X	X	X	X	X	X	X	X	
MSD	2/13/2025	MW-02_20250213	Matrix Spike Duplicate	X	X	X	X	X	X	X	X	
SOIL VAPOR												
SV-01	2/7/2025	SV-01	1-2 ft above groundwater interface									X
SV-02	2/7/2025	SV-02	1-2 ft above groundwater interface									X
SV-03	2/12/2025	SV-03	1-2 ft above groundwater interface									X
SV-04	2/7/2025	SV-04	1-2 ft above groundwater interface									X
SV-05	2/7/2025	SV-05	1-2 ft above groundwater interface									X
SV-06	2/7/2025	SV-06	1-2 ft above groundwater interface									X
SV-07	2/7/2025	SV-07	1-2 ft above groundwater interface									X

Notes:
VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
PCBs - Polychlorinated biphenyls
PFAS - Per- and Polyfluoroalkyl Substances
Groundwater sampled for total and dissolved metals

QA/QC samples include:
MS/MSD - 1 for every 20 samples
Field Duplicate - 1 for every 20 samples
Trip Blanks - 1 per cooler of samples to be analyzed for VOCs
Field Blanks - 1 for every 20 samples

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level																					
Location Name	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Restricted Use Soil Cleanup Objectives - Residential	Unrestricted Use Soil Cleanup Objectives	SB-01	SB-01	SB-01	SB-02	SB-02	SB-02	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06	SB-06	SB-06
Sample Name				SB-01_0-0.16	SB-01_9-11	SB-01_12-14	SB-02_0-0.16	SB-02_4-6	SB-02_11-13	SB-03_0-0.16	SB-03_13-15	SB-03_15-17	SB-04_0-0.16	SB-04_12-14	SB-04_14-16	SB-05_0-0.16	SB-05_8-10	SB-05_11-13	SB-06_0-0.16	DUP-02_20250207	SB-06_9-11	SB-06_11-13
Sample Date				02/06/2025	02/06/2025	02/06/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/07/2025	02/07/2025	02/07/2025	02/07/2025
Lab Sample ID				L2506692-02	L2506692-03	L2506692-04	L2506469-03	L2506469-04	L2506469-05	L2506469-06	L2506469-07	L2506469-08	L2506469-09	L2506469-10	L2506469-11	L2506469-12	L2506469-13	L2506469-14	L2506987-06	L2506987-07	L2506987-08	L2506987-09
Sample Depth (bgs)				0 - 0.16 (ft)	9 - 11 (ft)	12 - 14 (ft)	0 - 0.16 (ft)	4 - 6 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	13 - 15 (ft)	15 - 17 (ft)	0 - 0.16 (ft)	12 - 14 (ft)	14 - 16 (ft)	0 - 16 (ft)	8 - 10 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	0 - 0.16 (ft)	9 - 11 (ft)	11 - 13 (ft)
Volatile Organic Compounds (mg/kg)																						
1,1,1,2-Tetrachloroethane	NA	NA	NA	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
1,1,1-Trichloroethane	0.68	100	0.68	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
1,1,2-Trichloroethane	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
1,1-Dichloroethane	0.27	26	0.27	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
1,1-Dichloroethene	0.33	100	0.33	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
1,1-Dichloropropene	NA	NA	NA	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
1,2,3-Trichlorobenzene	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,2,3-Trichloropropane	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,2,4,5-Tetramethylbenzene	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,2,4-Trichlorobenzene	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,2,4-Trimethylbenzene	3.6	52	3.6	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	ND (0.0036)	ND (0.0044)	ND (0.0033)	ND (0.0033)	ND (0.0031)	ND (0.0033)	ND (0.0036)	ND (0.0031)	ND (0.0033)	ND (0.0037)	ND (0.0032)	ND (0.0036)	ND (0.0054)	ND (0.0029)	ND (0.0036)	ND (0.003)	ND (0.0031)	ND (0.004)	ND (0.0036)
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
1,2-Dichlorobenzene	1.1	100	1.1	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,2-Dichloroethane	0.02	3.1	0.02	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
1,2-Dichloroethene (total)	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
1,2-Dichloropropane	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
1,3,5-Trimethylbenzene	8.4	52	8.4	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,3-Dichlorobenzene	2.4	49	2.4	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,3-Dichloropropane	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,3-Dichloropropene	NA	NA	NA	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
1,4-Dichlorobenzene	1.8	13	1.8	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,4-Diethylbenzene	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
1,4-Dioxane	0.1	13	0.1	ND (0.097)	ND (0.12)	ND (0.087)	ND (0.089)	ND (0.084)	ND (0.088)	ND (0.097)	ND (0.083)	ND (0.087)	ND (0.099)	ND (0.086)	ND (0.096)	ND (0.14)	ND (0.077)	ND (0.095)	ND (0.081)	ND (0.083)	ND (0.11)	ND (0.095)
2,2-Dichloropropane	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
2-Butanone (Methyl Ethyl Ketone)	0.12	100	0.12	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.018)	ND (0.0096)	ND (0.012)	ND (0.01)	ND (0.01)	ND (0.013)	ND (0.012)
2-Chlorotoluene	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
2-Hexanone (Methyl Butyl Ketone)	NA	NA	NA	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.018)	ND (0.0096)	ND (0.012)	ND (0.01)	ND (0.01)	ND (0.013)	ND (0.012)
2-Phenylbutane (sec-Butylbenzene)	11	100	11	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
4-Chlorotoluene	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.018)	ND (0.0096)	ND (0.012)	ND (0.01)	ND (0.01)	ND (0.013)	ND (0.012)
Acetone	0.05	100	0.05	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.018)	ND (0.0096)	ND (0.012)	0.021	ND (0.01)	0.008 J	ND (0.012)
Acrylonitrile	NA	NA	NA	ND (0.0048)	ND (0.0059)	ND (0.0044)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0049)	ND (0.0041)	ND (0.0044)	ND (0.005)	ND (0.0043)	ND (0.0048)	ND (0.0072)	ND (0.0038)	ND (0.0048)	ND (0.004)	ND (0.0042)	ND (0.0054)	ND (0.0047)
Benzene	0.06	4.8	0.06	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
Bromobenzene	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Bromodichloromethane	NA	NA	NA	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
Bromoform	NA	NA	NA	ND (0.0048)	ND (0.0059)	ND (0.0044)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0049)	ND (0.0041)	ND (0.0044)	ND (0.005)	ND (0.0043)	ND (0.0048)	ND (0.0072)	ND (0.0038)	ND (0.0048)	ND (0.004)	ND (0.0042)	ND (0.0054)	ND (0.0047)
Bromomethane (Methyl Bromide)	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Carbon disulfide	NA	NA	NA	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.018)	ND (0.0096)	ND (0.012)	ND (0.01)	ND (0.01)	ND (0.013)	ND (0.012)
Carbon tetrachloride	0.76	2.4	0.76	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
Chlorobenzene	1.1	100	1.1	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
Chlorobromomethane	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Chloroethane	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Chloroform (Trichloromethane)	0.37	49	0.37	ND (0.0018)	ND (0.0022)	ND (0.0016)	ND (0.0017)	ND (0.0016)	ND (0.0016)	ND (0.0018)	ND (0.0016)	ND (0.0016)	ND (0.0019)	ND (0.0016)	ND (0.0018)	ND (0.0027)	ND (0.0014)	ND (0.0018)	ND (0.0015)	ND (0.0016)	ND (0.002)	ND (0.0018)
Chloromethane (Methyl Chloride)	NA	NA	NA	ND (0.0048)	ND (0.0059)	ND (0.0044)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0049)	ND (0.0041)	ND (0.0044)	ND (0.005)	ND (0.0043)	ND (0.0048)	ND (0.0072)	ND (0.0038)	ND (0.0048)	ND (0.004)	ND (0.0042)	ND (0.0054)	ND (0.0047)
cis-1,2-Dichloroethene	0.25	100	0.25	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
cis-1,3-Dichloropropene	NA	NA	NA	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
Cymene (p-Isopropyltoluene)	NA	NA	NA	0.001 J	0.00046 J	ND (0.0011)	0.00048 J	ND (0.001)	ND (0.0011)	0.00016 J	ND (0.001)	0.00023 J	0.00027 J	ND (0.0011)	ND (0.0012)	0.01	ND (0.00096)	ND (0.0012)	0.0031	0.0006 J	ND (0.0013)	ND (0.0012)
Dibromochloromethane	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
Dibromomethane	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.018)	ND (0.0096)	ND (0.012)	ND (0.01)	ND (0.01)	ND (0.013)	ND (0.012)
Ethyl Ether	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Ethylbenzene	1	41	1	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
Hexachlorobutadiene	NA	NA	NA	ND (0.0048)	ND (0.0059)	ND (0.0044)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0049)	ND (0.0041)	ND (0.0044)	ND (0.005)	ND (0.0043)	ND (0.0048)	ND (0.0072)	ND (0.0038)	ND (0.0048)	ND (0.004)	ND (0.0042)	ND (0.0054)	ND (0.0047)
Isopropylbenzene (Cumene)	NA	NA	NA	ND (0.0012)	0.00054 J	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
m,p-Xylenes	NA	NA	NA	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Methyl Tert Butyl Ether (MTBE)	0.93	100	0.93	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Methylene chloride (Dichloromethane)	0.05	100	0.05	ND (0.006)	ND (0.0073)	ND (0.0055)	ND (0.0055)	ND (0.0052)	ND (0.0055)	ND (0.0061)	ND (0.0052)	ND (0.0054)	ND (0.0062)	ND (0.0054)	ND (0.006)	ND (0.009)	ND (0.0048)	ND (0.0059)	ND (0.0051)	ND (0.0052)	ND (0.0067)	ND (0.0059)
Naphthalene	12	100	12	ND (0.0048)	ND (0.0059)	ND (0.0044)	ND (0.0044)	0.00071 J	ND (0.0044)	ND (0.0049)	0.00074 J	0.0056	ND (0.005)	ND (0.0043)	ND (0.0048)	ND (0.0072)	ND (0.0038)	ND (0.0048)	ND (0.004)	ND (0.0042)	ND (0.0054)	ND (0.0047)
n-Butylbenzene	12	100	12	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
n-Propylbenzene	3.9	100	3.9	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
o-Xylene	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
Styrene	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
tert-Butylbenzene	5.9	100	5.9	ND (0.0024)	ND (0.0029)	ND (0.0022)	ND (0.0022)	ND (0.0021)	ND (0.0022)	ND (0.0024)	ND (0.0021)	ND (0.0022)	ND (0.0025)	ND (0.0021)	ND (0.0024)	ND (0.0036)	ND (0.0019)	ND (0.0024)	ND (0.002)	ND (0.0021)	ND (0.0027)	ND (0.0024)
Tetrachloroethene	1.3	19	1.3	ND (0.0006)	0.0012	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	0.00043 J	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
Toluene	0.7	100	0.7	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
trans-1,2-Dichloroethene	0.19	100	0.19	ND (0.0018)	ND (0.0022)	ND (0.0016)	ND (0.0017)	ND (0.0016)	ND (0.0016)	ND (0.0018)	ND (0.0016)	ND (0.0016)	ND (0.0019)	ND (0.0016)	ND (0.0018)	ND (0.0027)	ND (0.0014)	ND (0.0018)	ND (0.0015)	ND (0.0016)	ND (0.002)	ND (0.0018)
trans-1,3-Dichloropropene	NA	NA	NA	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
trans-1,4-Dichloro-2-butene	NA	NA	NA	ND (0.006)	ND (0.0073)	ND (0.0055)	ND (0.0055)	ND (0.0052)	ND (0.0055)	ND (0.0061)	ND (0.0052)	ND (0.0054)	ND (0.0062)	ND (0.0054)	ND (0.006)	ND (0.009)	ND (0.0048)	ND (0.0059)	ND (0.0051)	ND (0.0052)	ND (0.0067)	ND (0.0059)
Trichloroethene	0.47	21	0.47	ND (0.0006)	ND (0.00073)	ND (0.00055)	ND (0.00055)	ND (0.00052)	ND (0.00055)	ND (0.00061)	ND (0.00052)	ND (0.00054)	ND (0.00062)	ND (0.00054)	ND (0.0006)	ND (0.0009)	ND (0.00048)	ND (0.00059)	ND (0.00051)	ND (0.00052)	ND (0.00067)	ND (0.00059)
Trichlorofluoromethane (CFC-11)	NA	NA	NA	ND (0.0048)	ND (0.0059)	ND (0.0044)	ND (0.0044)	ND (0.0042)	ND (0.0044)	ND (0.0049)	ND (0.0041)	ND (0.0044)	ND (0.005)	ND (0.0043)	ND (0.0048)	ND (0.0072)	ND (0.0038)	ND (0.0048)	ND (0.004)	ND (0.0042)	ND (0.0054)	ND (0.0047)
Vinyl acetate	NA	NA	NA	ND (0.012)	ND (0.015)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.01)	ND (0.011)	ND (0.012)	ND (0.011)	ND (0.012)	ND (0.018)	ND (0.0096)	ND (0.012)	ND (0.01)	ND (0.01)	ND (0.013)	ND (0.012)
Vinyl chloride	0.02	0.9	0.02	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)
Xylene (Total)	1.6	100	0.26	ND (0.0012)	ND (0.0015)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.001)	ND (0.0011)	ND (0.0012)	ND (0.0011)	ND (0.0012)	ND (0.0018)	ND (0.00096)	ND (0.0012)	ND (0.001)	ND (0.001)	ND (0.0013)	ND (0.0012)

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level																					
Location Name	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Restricted Use Soil Cleanup Objectives - Residential	Unrestricted Use Soil Cleanup Objectives	SB-01	SB-01	SB-01	SB-02	SB-02	SB-02	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06	SB-06	SB-06
Sample Name				SB-01_0-0.16	SB-01_9-11	SB-01_12-14	SB-02_0-0.16	SB-02_4-6	SB-02_11-13	SB-03_0-0.16	SB-03_13-15	SB-03_15-17	SB-04_0-0.16	SB-04_12-14	SB-04_14-16	SB-05_0-0.16	SB-05_8-10	SB-05_11-13	SB-06_0-0.16	DUP-02_20250207	SB-06_9-11	SB-06_11-13
Sample Date				02/06/2025	02/06/2025	02/06/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/07/2025	02/07/2025	02/07/2025	02/07/2025
Lab Sample ID				L2506692-02	L2506692-03	L2506692-04	L2506469-03	L2506469-04	L2506469-05	L2506469-06	L2506469-07	L2506469-08	L2506469-09	L2506469-10	L2506469-11	L2506469-12	L2506469-13	L2506469-14	L2506987-06	L2506987-07	L2506987-08	L2506987-09
Sample Depth (bgs)				0 - 0.16 (ft)	9 - 11 (ft)	12 - 14 (ft)	0 - 0.16 (ft)	4 - 6 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	13 - 15 (ft)	15 - 17 (ft)	0 - 0.16 (ft)	12 - 14 (ft)	14 - 16 (ft)	0 - 16 (ft)	8 - 10 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	0 - 0.16 (ft)	9 - 11 (ft)	11 - 13 (ft)
Semi-Volatile Organic Compounds (mg/kg)																						
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
1,2,4-Trichlorobenzene	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
1,2-Dichlorobenzene	1.1	100	1.1	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
1,3-Dichlorobenzene	2.4	49	2.4	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
1,4-Dichlorobenzene	1.8	13	1.8	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
1,4-Dioxane	0.1	13	0.1	ND (0.15)	ND (0.16)	ND (0.028)	ND (0.031)	ND (0.026)	ND (0.026)	ND (0.029)	ND (0.029)	ND (0.027)	ND (0.03)	ND (0.026)	ND (0.028)	-	ND (0.027)	ND (0.032)	ND (0.028)	ND (0.028)	ND (0.028)	ND (0.025)
2,2'-oxybis(1-Chloropropane)	NA	NA	NA	ND (1.2)	ND (1.2)	ND (0.22)	ND (0.25)	ND (0.21)	ND (0.2)	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.24)	ND (0.21)	ND (0.23)	ND (2.4)	ND (0.22)	ND (0.26)	ND (0.23)	ND (0.22)	ND (0.23)	ND (0.2)
2,4,5-Trichlorophenol	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2,4,6-Trichlorophenol	NA	NA	NA	ND (0.59)	ND (0.62)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.11)	ND (1.2)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.1)
2,4-Dichlorophenol	NA	NA	NA	ND (0.89)	ND (0.93)	ND (0.17)	ND (0.19)	ND (0.15)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.16)	ND (0.18)	ND (0.16)	ND (0.17)	ND (1.8)	ND (0.16)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.15)
2,4-Dimethylphenol	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2,4-Dinitrophenol	NA	NA	NA	ND (4.8)	ND (5)	ND (0.89)	ND (1)	ND (0.83)	ND (0.82)	ND (0.93)	ND (0.93)	ND (0.87)	ND (0.96)	ND (0.83)	ND (0.91)	ND (9.7)	ND (0.86)	ND (1)	ND (0.91)	ND (0.89)	ND (0.92)	ND (0.8)
2,4-Dinitrotoluene	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2,6-Dinitrotoluene	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2-Chloronaphthalene	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2-Chlorophenol	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2-Methylnaphthalene	NA	NA	NA	ND (1.2)	ND (1.2)	ND (0.22)	0.093 J	ND (0.21)	ND (0.2)	0.1 J	0.097 J	0.048 J	0.11 J	ND (0.21)	ND (0.23)	1.3 J	0.12 J	ND (0.26)	0.06 J	0.035 J	0.05 J	ND (0.2)
2-Methylphenol (o-Cresol)	0.33	100	0.33	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2-Nitroaniline	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
2-Nitrophenol	NA	NA	NA	ND (2.1)	ND (2.2)	ND (0.4)	ND (0.45)	ND (0.37)	ND (0.37)	ND (0.42)	ND (0.42)	ND (0.39)	ND (0.43)	ND (0.37)	ND (0.41)	ND (4.4)	ND (0.39)	ND (0.46)	ND (0.41)	ND (0.4)	ND (0.41)	ND (0.36)
3&4-Methylphenol	NA	NA	NA	ND (1.4)	ND (1.5)	ND (0.27)	0.04 J	ND (0.25)	ND (0.24)	0.058 J	0.036 J	ND (0.26)	0.054 J	ND (0.25)	ND (0.27)	ND (2.9)	0.032 J	ND (0.31)	ND (0.27)	ND (0.27)	0.058 J	ND (0.24)
3,3'-Dichlorobenzidine	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
3-Nitroaniline	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
4,6-Dinitro-2-methylphenol	NA	NA	NA	ND (2.6)	ND (2.7)	ND (0.48)	ND (0.54)	ND (0.45)	ND (0.44)	ND (0.5)	ND (0.51)	ND (0.47)	ND (0.52)	ND (0.45)	ND (0.49)	ND (5.2)	ND (0.46)	ND (0.56)	ND (0.5)	ND (0.48)	ND (0.5)	ND (0.43)
4-Bromophenyl phenyl ether (BDE-3)	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
4-Chloro-3-methylphenol	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
4-Chloroaniline	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
4-Chlorophenyl phenyl ether	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
4-Nitroaniline	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
4-Nitrophenol	NA	NA	NA	ND (1.4)	ND (1.4)	ND (0.26)	ND (0.29)	ND (0.24)	ND (0.24)	ND (0.27)	ND (0.27)	ND (0.25)	ND (0.28)	ND (0.24)	ND (0.27)	ND (2.8)	ND (0.25)	ND (0.3)	ND (0.27)	ND (0.26)	ND (0.27)	ND (0.23)
Acenaphthene	98	100	20	0.17 J	ND (0.83)	ND (0.15)	0.19	ND (0.14)	ND (0.14)	0.14 J	0.29	0.11 J	0.3	ND (0.14)	ND (0.15)	5	0.2	ND (0.17)	0.18	0.091 J	0.078 J	ND (0.13)
Acenaphthylene	107	100	100	0.51 J	0.62 J	ND (0.15)	2	ND (0.14)	0.061 J	0.46	0.26	0.22	0.63	ND (0.14)	ND (0.15)	0.93 J	0.54	0.036 J	0.23	0.18	0.72	ND (0.13)
Acetophenone	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	0.18 J	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	0.028 J	ND (0.19)	ND (0.17)
Anthracene	1000	100	100	0.65	0.92	ND (0.11)	0.97	ND (0.1)	0.063 J	0.56	0.75	0.38	1.2	ND (0.1)	ND (0.11)	8.6	0.65	ND (0.13)	0.5	0.34	0.66	ND (0.1)
Benzo(a)anthracene	1	1	1	***2.5***	***1.9***	ND (0.11)	***4.3***	ND (0.1)	0.18	***1.7***	***1.4***	0.54	***3***	ND (0.1)	ND (0.11)	***13***	***2***	0.074 J	***1.5***	***1.1***	***2.1***	ND (0.1)
Benzo(a)pyrene	22	1	1	2.7	2.4	ND (0.15)	4	ND (0.14)	0.17	1.8	1.3	0.53	2.9	ND (0.14)	ND (0.15)	12	1.8	0.064 J	1.5	1.1	2	ND (0.13)
Benzo(b)fluoranthene	1.7	1	1	***3.3***	***3.3***	ND (0.11)	***5.8***	ND (0.1)	0.22	***2.3***	1.6	0.63	***3.8***	ND (0.1)	ND (0.11)	***14***	***2.4***	0.078 J	***2***	1.4	***2.6***	ND (0.1)
Benzo(g,h,i)perylene	1000	100	100	1.9	2.6	ND (0.15)	2.5	ND (0.14)	0.096 J	1	0.82	0.47	2.2	ND (0.14)	ND (0.15)	7.5	0.89	0.045 J	1.1	0.77	1.5	ND (0.13)
Benzo(k)fluoranthene	1.7	3.9	0.8	1.1	1	ND (0.11)	***1.9***	ND (0.1)	0.065 J	0.74	0.43	0.2	1	ND (0.1)	ND (0.11)	***4.4***	0.76	ND (0.13)	0.56	0.47	0.96	ND (0.1)
Benzoic acid	NA	NA	NA	ND (3.2)	ND (3.4)	ND (0.6)	ND (0.68)	ND (0.56)	ND (0.55)	ND (0.63)	ND (0.63)	ND (0.59)	ND (0.65)	ND (0.56)	ND (0.62)	ND (6.5)	ND (0.58)	ND (0.69)	ND (0.62)	ND (0.6)	ND (0.62)	ND (0.54)
Benzyl Alcohol	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	0.14 J	ND (0.19)	ND (0.17)
Biphenyl	NA	NA	NA	ND (2.2)	ND (2.4)	ND (0.42)	ND (0.48)	ND (0.39)	ND (0.39)	0.028 J	0.029 J	ND (0.41)	0.036 J	ND (0.39)	ND (0.43)	0.43 J	0.034 J	ND (0.49)	ND (0.43)	ND (0.42)	ND (0.43)	ND (0.38)
bis(2-Chloroethoxy)methane	NA	NA	NA	ND (1.1)	ND (1.1)	ND (0.2)	ND (0.22)	ND (0.18)	ND (0.18)	ND (0.21)	ND (0.21)	ND (0.2)	ND (0.22)	ND (0.19)	ND (0.2)	ND (2.2)	ND (0.19)	ND (0.23)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.18)
bis(2-Chloroethyl)ether	NA	NA	NA	ND (0.89)	ND (0.93)	ND (0.17)	ND (0.19)	ND (0.15)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.16)	ND (0.18)	ND (0.16)	ND (0.17)	ND (1.8)	ND (0.16)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.15)
bis(2-Ethylhexyl)phthalate	NA	NA	NA	0.68 J	ND (1)	ND (0.18)	0.16 J	ND (0.17)	ND (0.17)	0.2	0.4	ND (0.18)	0.37	ND (0.17)	ND (0.19)	ND (2)	1.6	ND (0.21)	0.16 J	0.3	ND (0.19)	ND (0.17)
Butyl benzylphthalate (BBP)	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	0.31	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	0.08 J	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
Carbazole	NA	NA	NA	0.3 J	0.37 J	ND (0.18)	0.38	ND (0.17)	0.025 J	0.24	0.31	0.17 J	0.54	ND (0.17)	ND (0.19)	3.1	0.26	ND (0.21)	0.22	0.14 J	0.23	ND (0.17)
Chrysene	1	3.9	1	***2.5***	***2***	ND (0.11)	***4.9***	ND (0.1)	0.18	***1.7***	***1.4***	0.53	***3***	ND (0.1)	ND (0.11)	***13***	***2.4***	0.078 J	***1.5***	***1.2***	***2.2***	ND (0.1)
Dibenz(a,h)anthracene	1000	0.33	0.33	0.42 J	0.52 J	ND (0.11)	0.67	ND (0.1)	ND (0.1)	0.23	0.16	0.084 J	0.47	ND (0.1)	ND (0.11)	1.6	0.21	ND (0.13)	0.24	0.18	0.33	ND (0.1)
Dibenzofuran	210	59	7	0.097 J	0.1 J	ND (0.18)	0.24	ND (0.17)	ND (0.17)	0.12 J	0.19	0.09 J	0.23	ND (0.17)	ND (0.19)	3.1	0.18	ND (0.21)	0.099 J	0.056 J	0.13 J	ND (0.17)
Diethyl phthalate	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
Dimethyl phthalate	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
Di-n-butylphthalate (DBP)	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	0.054 J	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	0.17 J	0.07 J	0.066 J	0.054 J
Di-n-octyl phthalate (DnOP)	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
Fluoranthene	1000	100	100	5	3.9	ND (0.11)	11	ND (0.1)	0.4	3.5	3.3	1.3	5.5	ND (0.1)	ND (0.11)	34	4.4	0.12 J	3	2.2	4.8	ND (0.1)
Fluorene	386	100	30	0.21 J	0.11 J	ND (0.18)	0.45	ND (0.17)	0.026 J	0.14 J	0.28	0.12 J	0.3	ND (0.17)	ND (0.19)	4.2	0.33	ND (0.21)	0.16 J	0.091 J	0.14 J	ND (0.17)
Hexachlorobenzene	3.2	1.2	0.33	ND (0.59)	ND (0.62)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.1)	ND (0.12)	ND (0.12)	ND (0.11)	ND (0.12)	ND (0.1)	ND (0.11)	ND (1.2)	ND (0.11)	ND (0.13)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.1)
Hexachlorobutadiene	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
Hexachlorocyclopentadiene	NA	NA	NA	ND (2.8)	ND (3)	ND (0.53)	ND (0.6)	ND (0.49)	ND (0.49)	ND (0.55)	ND (0.56)	ND (0.52)	ND (0.57)	ND (0.49)	ND (0.54)	ND (5.8)	ND (0.51)	ND (0.61)	ND (0.54)	ND (0.53)	ND (0.54)	ND (0.48)
Hexachloroethane	NA	NA	NA	ND (0.79)	ND (0.83)	ND (0.15)	ND (0.17)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.16)	ND (0.14)	ND (0.15)	ND (1.6)	ND (0.14)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.13)
Indeno(1,2,3-cd)pyrene	8.2	0.5	0.5	1.8	2.2	ND (0.15)	2.6	ND (0.14)	0.095 J	0.98	0.78	0.41	2	ND (0.14)	ND (0.15)	6.9	0.86	0.038 J	1	0.71	1.4	ND (0.13)
Isophorone	NA	NA	NA	ND (0.89)	ND (0.93)	ND (0.17)	ND (0.19)	ND (0.15)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.16)	ND (0.18)	ND (0.16)	ND (0.17)	ND (1.8)	ND (0.16)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.15)
Naphthalene	12	100	12	0.13 J	ND (1)	ND (0.18)	0.22	ND (0.17)	ND (0.17)	0.29	0.31	0.15 J	0.3	ND (0.17)	ND (0.19)	2.1	0.2	ND (0.21)	0.13 J	0.081 J	0.13 J	ND (0.17)
Nitrobenzene	NA	NA	NA	ND (0.89)	ND (0.93)	ND (0.17)	ND (0.19)	ND (0.15)	ND (0.15)	ND (0.17)	ND (0.18)	ND (0.16)	ND (0.18)	ND (0.16)	ND (0.17)	ND (1.8)	ND (0.16)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.17)	ND (0.15)
N-Nitrosodi-n-propylamine	NA	NA	NA	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	ND (0.19)	ND (0.17)
N-Nitrosodiphenylamine	NA	NA	NA	ND (0.79)	ND (0.83)	ND (0.15)	ND (0.17)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.16)	ND (0.14)	ND (0.15)	ND (1.6)	ND (0.14)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.13)
Pentachlorophenol	0.8	6.7	0.8	ND (0.79)	ND (0.83)	ND (0.15)	ND (0.17)	ND (0.14)	ND (0.14)	ND (0.15)	ND (0.16)	ND (0.14)	ND (0.16)	ND (0.14)	ND (0.15)	ND (1.6)	ND (0.14)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.15)	ND (0.13)
Phenanthrene	1000	100	100	2.8	2.1	ND (0.11)	5.4	ND (0.1)	0.24	2	2.6	1.1	3.8	ND (0.1)	ND (0.11)	36	4.4	0.11 J	2	1.2	3.2	ND (0.1)
Phenol	0.33	100	0.33	ND (0.99)	ND (1)	ND (0.18)	ND (0.21)	ND (0.17)	ND (0.17)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.2)	ND (0.17)	ND (0.19)	ND (2)	ND (0.18)	ND (0.21)	ND (0.19)	ND (0.19)	0.037 J	ND (0.17)
Pyrene	1000	100	100	4.6	3.2	ND (0.11)	8	ND (0.1)	0.34	3.1	2.9	1.2	4.8	ND (0.1)	ND (0.11)	29	4.2	0.13	2.7	2	4.1	ND (0.1)

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level																					
Location Name	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Restricted Use Soil Cleanup Objectives - Residential	Unrestricted Use Soil Cleanup Objectives	SB-01	SB-01	SB-01	SB-02	SB-02	SB-02	SB-03	SB-03	SB-03	SB-04	SB-04	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06	SB-06	SB-06
Sample Name				SB-01_0-0.16	SB-01_9-11	SB-01_12-14	SB-02_0-0.16	SB-02_4-6	SB-02_11-13	SB-03_0-0.16	SB-03_13-15	SB-03_15-17	SB-04_0-0.16	SB-04_12-14	SB-04_14-16	SB-05_0-0.16	SB-05_8-10	SB-05_11-13	SB-06_0-0.16	DUP-02_20250207	SB-06_9-11	SB-06_11-13
Sample Date				02/06/2025	02/06/2025	02/06/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/07/2025	02/07/2025	02/07/2025	02/07/2025
Lab Sample ID				L2506692-02	L2506692-03	L2506692-04	L2506469-03	L2506469-04	L2506469-05	L2506469-06	L2506469-07	L2506469-08	L2506469-09	L2506469-10	L2506469-11	L2506469-12	L2506469-13	L2506469-14	L2506987-06	L2506987-07	L2506987-08	L2506987-09
Sample Depth (bgs)				0 - 0.16 (ft)	9 - 11 (ft)	12 - 14 (ft)	0 - 0.16 (ft)	4 - 6 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	13 - 15 (ft)	15 - 17 (ft)	0 - 0.16 (ft)	12 - 14 (ft)	14 - 16 (ft)	0 - 16 (ft)	8 - 10 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	0 - 0.16 (ft)	9 - 11 (ft)	11 - 13 (ft)
Inorganic Compounds (mg/kg)																						
Aluminum	NA	NA	NA	6660	7100	2490	5150	6160	2090	5160	6120	4400	4680	13000	2220	6200	5980	3490	5610	5740	5710	1620
Antimony	NA	NA	NA	ND (4.79)	ND (4.94)	ND (4.39)	ND (4.77)	ND (3.96)	ND (3.95)	ND (4.55)	ND (4.64)	ND (4.26)	ND (4.61)	ND (4.23)	ND (4.67)	ND (4.83)	ND (4.23)	ND (5.09)	ND (4.49)	ND (4.32)	ND (4.36)	ND (8.11)
Arsenic	16	16	13	5.08	2.87	0.616 J	1.98	0.411 J	0.878	3.94	5.04	2.45	3.96	0.553 J	ND (0.935)	3.53	2.11	0.654 J	4.97	3.52	1.7	ND (1.62)
Barium	820	400	350	488	55.8	12.2	138	37.3	15.5	438	211	118	338	77.3	12.8	255	106	20.7	388	245	38.7	7.41
Beryllium	47	72	7.2	0.289 J	0.268 J	0.091 J	0.198 J	0.178 J	0.117 J	0.223 J	0.256 J	0.183 J	0.224 J	0.263 J	0.094 J	0.252 J	0.367 J	0.153 J	0.193 J	0.191 J	0.224 J	ND (0.811)
Cadmium	7.5	4.3	2.5	0.72 J	0.195 J	ND (0.878)	0.554 J	ND (0.792)	ND (0.79)	0.393 J	0.207 J	0.053 J	0.336 J	ND (0.846)	ND (0.935)	0.383 J	0.091 J	0.072 J	0.363 J	0.278 J	ND (0.873)	ND (1.62)
Calcium	NA	NA	NA	39200	46700	15000	33100	37500	56500	36000	60600	38300	32800	36200	58000	27400	15000	1560	29500	30900	19400	78000
Chromium	NA	NA	NA	17	12.3	5.52	12.4	11.2	4.19	15.8	16.5	10.9	14.3	21.2	4.84	15.9	14.2	7.86	16.9	16	4.5	2.71
Cobalt	NA	NA	NA	5.13	3.67	2.68	4.2	6.68	4.19	4.1	4.53	2.72	3.55	6.92	2.99	5.56	4.86	4.43	5.13	4.73	1.86	1.83 J
Copper	1720	270	50	39.3	15.8	11.5	22.2	24.7	17.9	31.3	35.2	18.2	33.5	25.1	12.8	41.2	21.5	15.1	36.7	30.7	5.73	7.72
Iron	NA	NA	NA	16400	8800	5350	11000	11500	5820	10300	16600	7260	8660	15100	5600	11100	10200	7350	16700	10600	5080	3560
Lead	450	400	63	325	76.1	2.34 J	153	5.92	4.49	303	213	89.1	276	4.35	3.53 J	337	60.8	5.01 J	284	213	47.3	2.16 J
Magnesium	NA	NA	NA	6030	10300	10300	15200	25200	31900	6370	16000	13800	5610	23000	35500	7980	8340	2460	5260	8750	1750	48400
Manganese	2000	2000	1600	256	203	150	200	174	128	208	233	150	181	312	116	278	141	210	280	232	98.2	116
Mercury	0.73	0.81	0.18	0.458	0.166	ND (0.082)	0.126	ND (0.067)	ND (0.07)	0.205	0.189	0.09	0.714	0.188	ND (0.079)	0.34	ND (0.082)	ND (0.097)	0.374	0.325	ND (0.078)	ND (0.067)
Nickel	130	310	30	13.5	12.1	6.03	10.1	13	5.67	11.8	13	7.07	10.8	16.2	5.28	14.1	15	10.2	13.5	12.8	4.04	4.12
Potassium	NA	NA	NA	1520	1090	590	1430	1750	469	1220	1190	922	953	4170	568	1700	1610	925	1150	1140	640	387 J
Selenium	4	180	3.9	ND (1.92)	ND (1.98)	ND (1.76)	ND (1.91)	ND (1.58)	ND (1.58)	ND (1.82)	ND (1.86)	ND (1.7)	ND (1.84)	ND (1.69)	ND (1.87)	ND (1.93)	ND (1.69)	ND (2.03)	ND (1.8)	ND (1.73)	ND (1.75)	ND (3.24)
Silver	8.3	180	2	0.286 J	ND (0.494)	ND (0.439)	ND (0.477)	ND (0.396)	ND (0.395)	0.338 J	ND (0.464)	ND (0.426)	0.362 J	ND (0.423)	ND (0.467)	0.412 J	ND (0.423)	ND (0.509)	ND (0.449)	ND (0.432)	ND (0.436)	ND (0.811)
Sodium	NA	NA	NA	210	363	ND (176)	136 J	105 J	ND (158)	166 J	192	221	167 J	520	ND (187)	247	100 J	ND (203)	300	285	585	ND (324)
Thallium	NA	NA	NA	ND (1.92)	ND (1.98)	ND (1.76)	ND (1.91)	1.07 J	0.813 J	ND (1.82)	ND (1.86)	ND (1.7)	ND (1.84)	1.82 J	ND (1.87)	ND (1.93)	ND (1.69)	ND (2.03)	ND (1.8)	ND (1.73)	ND (1.75)	ND (3.24)
Vanadium	NA	NA	NA	26.4	15.8	7.43	18.6	18.9	10.5	25.2	24.5	15	19.2	40.1	9.41	23.3	23.2	10.4	21.1	19.7	9.85	5.82
Zinc	2480	10000	109	372	203	14.3	176	28.5	13.6	332	444	129	312	43.3	20.2	238	69.4	22.1	258	189	17	12.5
PCBs (mg/kg)																						
Aroclor-1016 (PCB-1016)	NA	NA	NA	ND (0.0595)	ND (0.0629)	ND (0.0554)	ND (0.0621)	ND (0.0488)	ND (0.0478)	ND (0.0549)	ND (0.056)	ND (0.0537)	ND (0.0588)	ND (0.0508)	ND (0.0552)	ND (0.0562)	ND (0.0525)	ND (0.064)	ND (0.0546)	ND (0.0557)	ND (0.0551)	ND (0.0484)
Aroclor-1221 (PCB-1221)	NA	NA	NA	ND (0.0595)	ND (0.0629)	ND (0.0554)	ND (0.0621)	ND (0.0488)	ND (0.0478)	ND (0.0549)	ND (0.056)	ND (0.0537)	ND (0.0588)	ND (0.0508)	ND (0.0552)	ND (0.0562)	ND (0.0525)	ND (0.064)	ND (0.0546)	ND (0.0557)	ND (0.0551)	ND (0.0484)
Aroclor-1232 (PCB-1232)	NA	NA	NA	ND (0.0595)	ND (0.0629)	ND (0.0554)	ND (0.0621)	ND (0.0488)	ND (0.0478)	ND (0.0549)	ND (0.056)	ND (0.0537)	ND (0.0588)	ND (0.0508)	ND (0.0552)	ND (0.0562)	ND (0.0525)	ND (0.064)	ND (0.0546)	ND (0.0557)	ND (0.0551)	ND (0.0484)
Aroclor-1242 (PCB-1242)	NA	NA	NA	0.0283 J	ND (0.0629)	ND (0.0554)	ND (0.0621)	ND (0.0488)	ND (0.0478)	ND (0.0549)	ND (0.056)	ND (0.0537)	ND (0.0588)	ND (0.0508)	ND (0.0552)	ND (0.0562)	ND (0.0525)	ND (0.064)	ND (0.0546)	ND (0.0557)	ND (0.0551)	ND (0.0484)
Aroclor-1248 (PCB-1248)	NA	NA	NA	ND (0.0595)	ND (0.0629)	ND (0.0554)	ND (0.0621)	ND (0.0488)	ND (0.0478)	ND (0.0549)	ND (0.056)	ND (0.0537)	ND (0.0588)	ND (0.0508)	ND (0.0552)	ND (0.0562)	ND (0.0525)	ND (0.064)	ND (0.0546)	ND (0.0557)	ND (0.0551)	ND (0.0484)
Aroclor-1254 (PCB-1254)	NA	NA	NA	0.187	0.032 J	ND (0.0554)	0.0239 J	ND (0.0488)	ND (0.0478)	0.106	0.0244 J	0.0124 J	0.408	ND (0.0508)	ND (0.0552)	0.103	0.031 J	0.0166 J	0.0463 J	0.0584	0.014 J	ND (0.0484)
Aroclor-1260 (PCB-1260)	NA	NA	NA	0.0488 J	0.031 J	ND (0.0554)	ND (0.0621)	ND (0.0488)	ND (0.0478)	0.0307 J	ND (0.056)	ND (0.0537)	0.0573 J	ND (0.0508)	ND (0.0552)	0.0372 J	ND (0.0525)	ND (0.064)	0.0234 J	0.0316 J	ND (0.0551)	ND (0.0484)
Aroclor-1262 (PCB-1262)	NA	NA	NA	ND (0.0595)	ND (0.0629)	ND (0.0554)	ND (0.0621)	ND (0.0488)	ND (0.0478)	ND (0.0549)	ND (0.056)	ND (0.0537)	ND (0.0588)	ND (0.0508)	ND (0.0552)	ND (0.0562)	ND (0.0525)	ND (0.064)	ND (0.0546)	ND (0.0557)	ND (0.0551)	ND (0.0484)
Aroclor-1268 (PCB-1268)	NA	NA	NA	0.0213 J	0.0288 J	ND (0.0554)	0.00673 J	ND (0.0488)	ND (0.0478)	0.0123 J	ND (0.056)	ND (0.0537)	0.0203 J	ND (0.0508)	ND (0.0552)	0.0107 J	ND (0.0525)	ND (0.064)	0.00877 J	0.0109 J	ND (0.0551)	ND (0.0484)
Polychlorinated biphenyls (PCBs)	3.2	1	0.1	0.285 J	0.0918 J	ND (0.0554)	0.0306 J	ND (0.0488)	ND (0.0478)	0.149 J	0.0244 J	0.0124 J	0.486 J	ND (0.0508)	ND (0.0552)	0.151 J	0.031 J	0.0166 J	0.0785 J	0.101 J	0.014 J	ND (0.0484)
Other																						
Total Solids (%)	NA	NA	NA	82.1	79	89.4	79.4	96.1	96.2	84.6	83.8	89.3	82.9	94.3	85.1	81	91.7	77.1	86	87.5	86.7	97.1
Pesticides (mg/kg)																						
4,4'-DDD	14	13	0.0033	0.0276	0.00705	ND (0.00178)	0.00842 IP	ND (0.00165)	ND (0.00164)	0.0268	0.00816	ND (0.00168)	0.0148 IP	ND (0.00166)	ND (0.00181)	0.00987	0.0152	ND (0.00203)	0.0129	0.00797	0.00898	ND (0.0016)
4,4'-DDE	17	8.9	0.0033	0.0265	0.0209	ND (0.00178)	0.00961	ND (0.00165)	0.000477 J	0.0296	0.0117	0.0209	0.0176	ND (0.00166)	ND (0.00181)	0.00611 IP	0.027	0.00106 J	0.0277	0.0144	0.0447	ND (0.0016)
4,4'-DDT	136	7.9	0.0033	0.1	0.0388	ND (0.00178)	0.0321	ND (0.00165)	ND (0.00164)	0.068	0.0316	0.00441	0.029 IP	ND (0.00166)	ND (0.00181)	0.019	0.0606	ND (0.00203)	0.0852	0.0349	0.148	ND (0.0016)
Aldrin	0.19	0.097	0.005	0.00153 J	ND (0.00198)	ND (0.00178)	ND (0.00197)	ND (0.00165)	ND (0.00164)	ND (0.00184)	ND (0.00183)	ND (0.00168)	0.00088 JIP	ND (0.00166)	ND (0.00181)	ND (0.00188)	ND (0.00173)	ND (0.00203)	ND (0.00184)	ND (0.00173)	ND (0.00182)	ND (0.0016)
alpha-BHC	0.02	0.48	0.02	ND (0.00079)	ND (0.000827)	ND (0.00074)	ND (0.000822)	ND (0.000688)	ND (0.000682)	ND (0.000766)	ND (0.000762)	ND (0.000701)	ND (0.00076)	ND (0.00069)	ND (0.000756)	ND (0.000783)	ND (0.000719)	ND (0.000847)	ND (0.000769)	ND (0.000722)	ND (0.000759)	ND (0.000667)
alpha-Chlordane (cis)	2.9	4.2	0.094	0.0206 IP	0.0194	ND (0.00222)	0.00445	ND (0.00206)	ND (0.00205)	0.0247	0.00725	ND (0.0021)	0.0711	ND (0.00207)	ND (0.00227)	0.0173	0.00259	ND (0.00254)	0.0166 IP	0.00669 IP	0.0066 IP	ND (0.002)
beta-BHC	0.09	0.36	0.036	ND (0.0019)	ND (0.00198)	ND (0.00178)	ND (0.00197)	ND (0.00165)	ND (0.00164)	ND (0.00184)	ND (0.00183)	ND (0.00168)	ND (0.00182)	ND (0.00166)	ND (0.00181)	ND (0.00188)	ND (0.00173)	ND (0.00203)	ND (0.00184)	ND (0.00173)	ND (0.00182)	ND (0.0016)
Chlordane	NA	NA	NA	0.115 IP	0.1	ND (0.0148)	0.0328	ND (0.0138)	ND (0.0136)	0.106 IP	0.0737 P	ND (0.014)	0.44	ND (0.0138)	ND (0.0151)	0.108	0.0321 IP	ND (0.0169)	0.144	0.0593	ND (0.0152)	ND (0.0133)
delta-BHC	0.25	100	0.04	ND (0.0019)	ND (0.00198)	ND (0.00178)	ND (0.00197)	ND (0.00165)	ND (0.00164)	ND (0.00184)	ND (0.00183)	ND (0.00168)	ND (0.00182)	ND (0.00166)	ND (0.00181)	ND (0.00188)	ND (0.00173)	ND (0.00203)	ND (0.00184)	ND (0.00173)	ND (0.00182)	ND (0.0016)
Dieldrin	0.1	0.2	0.005	0.0471	0.0148	ND (0.00111)	0.00608	ND (0.00103)	ND (0.00102)	0.0307	0.0118	0.00611	ND (0.00114)	ND (0.00103)	ND (0.00113)	0.0287	0.00692	0.00226	0.0331	0.0102	0.00592	ND (0.001)
Endosulfan I	102	24	2.4	ND (0.0019)	ND (0.00198)	ND (0.00178)	ND (0.00197)	ND (0.00165)	ND (0.00164)	ND (0.00184)	ND (0.00183)	ND (0.00168)	ND (0.00182)	ND (0.00166)	ND (0.00181)	ND (0.00188)	ND (0.00173)	ND (0.00203)	ND (0.00184)	ND (0.00173)	ND (0.00182)	ND (0.0016)
Endosulfan II	102	24	2.4	ND (0.0019)	ND (0.00198)	ND (0.00178)	ND (0.00197)	ND (0.00165)	ND (0.00164)	ND (0.00184)	ND (0.00183)	ND (0.00168)	ND (0.00182)	ND (0.00166)	ND (0.00181)	ND (0.00188)	ND (0.00173)	ND (0.00203)	ND (0.00184)	ND (0.00173)	ND (0.00182)	ND (0.0016)
Endosulfan sulfate	1000	24	2.4	ND (0.00079)	ND (0.000827)	ND (0.00074)	ND (0.000822)	ND (0.000688)	ND (0.000682)	ND (0.000766)	ND (0.000762)	ND (0.000701)	ND (0.00076)	ND (0.00069)	ND (0.000756)	ND (0.000783)	ND (0.000719)	ND (0.000847)	0.0027	ND (0.000722)	ND (0.000759)	ND (0.000667)
Endrin	0.06	11	0.014	ND (0.00079)	ND (0.000827)	ND (0.00074)	ND (0.000822)	ND (0.000688)	ND (0.000682)	ND (0.000766)	ND (0.000762)	ND (0.000701)	ND (0.00076)	ND (0.00069)	ND (0.000756)	ND (0.000783)	ND (0.000719)	ND (0.000847)	ND (0.000769)	ND (0.000722)	ND (0.000759)	ND (0.000667)
Endrin aldehyde	NA	NA	NA	ND (0.00237)	ND (0.00248)	ND (0.00222)	ND (0.00247)	ND (0.00206)	ND (0.00205)	ND (0.0023)	ND (0.00229)	ND (0.0021)	ND (0.00228)	ND (0.00207)	ND (0.00227)	ND (0.00235)	ND (0.00216)	ND (0.00254)	ND (0.00231)	ND (0.00216)	ND (0.00228)	ND (0.002)
Endrin ketone	NA	NA	NA	ND (0.0019)	ND (0.00198)	ND (0.00178)	ND (0.00197)	ND (0.00165)	ND (0.00164)	ND (0.00184)	ND (0.00183)	ND (0.00168)	ND (0.00182)	ND (0.00166)	ND (0.00181)	ND (0.00188)	ND (0.00173)	ND (0.00203)	ND (0.00184)	ND (0.00173)	ND (0.00182)	ND (0.0016)
gamma-BHC (Lindane)	0.1	1.3	0.1	ND (0.00079)	ND (0.000827)	ND (0.00074)	ND (0.000822)	ND (0.000688)	ND (0.000682)	ND (0.000766)	ND (0.000762)	ND (0.000701)	ND (0.00076)	ND (0.00069)	ND (0.000756)	ND (0.000783)	ND (0.000719)	ND (0.000847)	ND (0.000769)	ND (0.000722)	ND (0.000759)	ND (0.000667)
gamma-Chlordane (trans)	NA	NA	NA	0.0305	0.0166	ND (0.00222)	0.00533	ND (0.00206)	ND (0.00205)	0.0238	0.00681	ND (0.0021)	0.0499 IP	ND (0.00207)	ND (0.00227)	0.0161	0.00459	0.000819 JIP	0.0227	0.0103	0.00865 IP	ND (0.002)
Heptachlor	0.38	2.1	0.042	0.000862 JIP	ND (0.000993)	ND (0.000888)	ND (0.000986)	ND (0.000826)	ND (0.000818)	ND (0.000919)	ND (0.000915)	ND (0.000841)	ND (0.000912)	ND (0.000828)	ND (0.000907)	ND (0.00094)	ND (0.000863)	ND (0.00102)	ND (0.000923) IP	ND (0.000866)	ND (0.000911)	ND (0.000801)
Heptachlor epoxide	NA	NA	NA	0.00287 JIP	0.00249 J	ND (0.00333)	ND (0.0037)	ND (0.0031)	ND (0.00307)	ND (0.00345)	ND (0.00343)	ND (0.00316)	ND (0.00342)	ND (0.0031)	ND (0.0034)	ND (0.00352)	ND (0.00324)	ND (0.00381)	ND (0.00346)	ND (0.00325)	ND (0.00342)	ND (0.003)
Methoxychlor	NA	NA	NA	ND (0.00355)	ND (0.00372)	ND (0.00333)	ND (0.0037)	ND (0.0031)	ND (0.00307)	ND (0.00345)	ND (0.00343)	ND (0.00316)	ND (0.00342)	ND (0.0031)	ND (0.0034)	ND (0.00352)	ND (0.00324)	ND (0.00381)	ND (0.00346)	ND (0.00325)	ND (0.00342)	ND (0.003)
Toxaphene	NA	NA	NA	ND (0.0355)	ND (0.0372)	ND (0.0333)	ND (0.037)	ND (0.031)	ND (0.0307)	ND (0.0345)	ND (0.0343)	ND (0.0316)	ND (0.0342)	ND (0.031)	ND (0.034)	ND (0.0352)	ND (0.0324)	ND (0.0381)	ND (0.0346)	ND (0.0325)	ND (0.0342)	ND (0.03)

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

Location Name	Action Level: Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Action Level: Restricted Use Soil Cleanup Objectives - Residential	Action Level: Unrestricted Use Soil Cleanup Objectives	SB-01	SB-01	SB-01	SB-02	SB-02	SB-02	SB-03	SB-03	SB-03
Sample Name				SB-01_0-0.16	SB-01_9-11	SB-01_12-14	SB-02_0-0.16	SB-02_4-6	SB-02_11-13	SB-03_0-0.16	SB-03_13-15	SB-03_15-17
Sample Date				02/06/2025	02/06/2025	02/06/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025
Lab Sample ID				L2506692-02	L2506692-03	L2506692-04	L2506469-03	L2506469-04	L2506469-05	L2506469-06	L2506469-07	L2506469-08
Sample Depth (bgs)				0 - 0.16 (ft)	9 - 11 (ft)	12 - 14 (ft)	0 - 0.16 (ft)	4 - 6 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	13 - 15 (ft)	15 - 17 (ft)
PFAS (mg/kg)												
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NA	NA	NA	ND (0.000797)	ND (0.000796)	ND (0.000798)	ND (0.000798)	ND (0.000799)	ND (0.000798)	ND (0.0008)	ND (0.000797)	ND (0.000797)
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	NA	NA	NA	ND (0.00498)	ND (0.00498)	ND (0.00498)	ND (0.00499)	ND (0.00499)	ND (0.00499)	ND (0.005)	ND (0.00498)	ND (0.00498)
3-(Perfluoroheptyl)propanoic acid (7:3 FTCA)	NA	NA	NA	ND (0.00498)	ND (0.00498)	ND (0.00498)	ND (0.00499)	ND (0.00499)	ND (0.00499)	ND (0.005)	ND (0.00498)	ND (0.00498)
3:3 Fluorotelomer carboxylic acid (3:3 FTCA)	NA	NA	NA	ND (0.000997)	ND (0.000995)	ND (0.000997)	ND (0.000998)	ND (0.000999)	ND (0.000998)	ND (0.001)	ND (0.000996)	ND (0.000996)
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	NA	NA	NA	ND (0.000797)	ND (0.000796)	ND (0.000798)	ND (0.000798)	ND (0.000799)	ND (0.000798)	ND (0.0008)	ND (0.000797)	ND (0.000797)
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	NA	NA	NA	ND (0.000797)	ND (0.000796)	ND (0.000798)	ND (0.000798)	ND (0.000799)	ND (0.000798)	ND (0.0008)	ND (0.000797)	ND (0.000797)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NA	NA	NA	ND (0.000797)	ND (0.000796)	ND (0.000798)	ND (0.000798)	0.000406 J	ND (0.000798)	ND (0.0008)	ND (0.000797)	ND (0.000797)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NA	NA	NA	ND (0.000797)	ND (0.000796)	ND (0.000798)	ND (0.000798)	ND (0.000799)	ND (0.000798)	ND (0.0008)	ND (0.000797)	ND (0.000797)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NA	NA	NA	ND (0.000797)	ND (0.000796)	ND (0.000798)	ND (0.000798)	ND (0.000799)	ND (0.000798)	ND (0.0008)	ND (0.000797)	ND (0.000797)
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	NA	NA	0.000071 J	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.00015 J	0.000051 J	ND (0.000199)
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	NA	NA	NA	ND (0.00199)	ND (0.00199)	ND (0.00199)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00199)
N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
N-Methylperfluorooctane sulfonamidoethanol (N-MeFOSE)	NA	NA	NA	ND (0.00199)	ND (0.00199)	ND (0.00199)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00199)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NA	NA	NA	ND (0.000399)	ND (0.000398)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000398)
Perfluoro(2-ethoxyethane) sulphonic acid (PFEESA)	NA	NA	NA	ND (0.000399)	ND (0.000398)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000398)
Perfluoro(4-methoxybutanoic) acid (PFMBA)	NA	NA	NA	ND (0.000399)	ND (0.000398)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000398)
Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	NA	NA	NA	ND (0.000797)	ND (0.000796)	ND (0.000798)	ND (0.000798)	ND (0.000799)	ND (0.000798)	ND (0.0008)	ND (0.000797)	ND (0.000797)
Perfluoro-3-methoxypropanoic acid (PFMPA)	NA	NA	NA	ND (0.000399)	ND (0.000398)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000398)
Perfluorobutanesulfonic acid (PFBS)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluorobutanoic acid (PFBA)	NA	NA	NA	ND (0.000797)	0.000037 J	ND (0.000798)	ND (0.000798)	ND (0.000799)	ND (0.000798)	0.000039 J	0.000044 J	ND (0.000797)
Perfluorodecanesulfonic acid (PFDS)	NA	NA	NA	0.00006 J	ND (0.000199)	ND (0.000199)	0.000235	ND (0.0002)	ND (0.0002)	0.000096 J	0.000071 J	0.000055 JF
Perfluorodecanoic acid (PFDA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluorododecane sulfonic acid (PFDoDS)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluorododecanoic acid (PFDoDA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	0.000032 J	ND (0.0002)	ND (0.0002)	0.000038 J	ND (0.000199)	ND (0.000199)
Perfluoroheptanesulfonic acid (PFHpS)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluoroheptanoic acid (PFHpA)	NA	NA	NA	ND (0.000199)	0.000072 J	ND (0.000199)	ND (0.0002)	0.000018 JF	0.000032 J	ND (0.0002)	0.000016 J	0.000018 J
Perfluorohexanesulfonic acid (PFHxS)	NA	NA	NA	ND (0.000199)	0.000054 J	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.000073 J	0.00007 J	0.000035 J
Perfluorohexanoic acid (PFHxA)	NA	NA	NA	ND (0.000199)	0.000069 J	ND (0.000199)	ND (0.0002)	ND (0.0002)	0.000018 J	ND (0.0002)	ND (0.000199)	0.000018 JF
Perfluorononane sulfonic acid (PFNS)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluorononanoic acid (PFNA)	NA	NA	NA	ND (0.000199)	0.000022 J	ND (0.000199)	ND (0.0002)	0.000019 J	ND (0.0002)	ND (0.0002)	0.000025 J	ND (0.000199)
Perfluorooctane sulfonamide (PFOSA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	0.000023 JF	ND (0.000199)	ND (0.000199)
Perfluorooctanesulfonic acid (PFOS)	0.001	0.044	0.00088	0.000158 J	***0.00503***	0.000179 J	0.000091 J	0.000113 J	0.000041 J	0.000477	***0.00127***	0.000464
Perfluorooctanoic acid (PFOA)	0.0008	0.033	0.00066	0.00003 JF	0.000509	0.000093 J	ND (0.0002)	0.000061 J	0.000042 J	0.000026 J	0.000123 J	0.000052 J
Perfluoropentanesulfonic acid (PFPeS)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluoropentanoic acid (PFPeA)	NA	NA	NA	ND (0.000399)	0.000065 J	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000398)
Perfluorotetradecanoic acid (PFTeDA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluorotridecanoic acid (PFTrDA)	NA	NA	NA	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)
Perfluoroundecanoic acid (PFUnDA)	NA	NA	NA	0.000014 J	ND (0.000199)	ND (0.000199)	0.000029 J	ND (0.0002)	ND (0.0002)	0.000031 J	0.000016 J	ND (0.000199)
US EPA PFAS (PFOS + PFOA)	NA	NA	NA	0.000188 J	0.00554	0.000272 J	0.000091 J	0.000174 J	0.000082 J	0.000503 J	0.00139 J	0.000516 J

Location Name	SB-04	SB-04	SB-04	SB-05	SB-05	SB-05	SB-06	SB-06	SB-06	SB-06
Sample Name	SB-04_0-0.16	SB-04_12-14	SB-04_14-16	SB-05_0-0.16	SB-05_8-10	SB-05_11-13	SB-06_0-0.16	DUP-02_20250207	SB-06_9-11	SB-06_11-13
Sample Date	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/07/2025	02/07/2025	02/07/2025	02/07/2025
Lab Sample ID	L2506469-09	L2506469-10	L2506469-11	L2506469-12	L2506469-13	L2506469-14	L2506987-06	L2506987-07	L2506987-08	L2506987-09
Sample Depth (bgs)	0 - 0.16 (ft)	12 - 14 (ft)	14 - 16 (ft)	0 - 16 (ft)	8 - 10 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	0 - 0.16 (ft)	9 - 11 (ft)	11 - 13 (ft)
PFAS (mg/kg)										
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND (0.000799)	ND (0.0008)	ND (0.000797)	ND (0.000803)	ND (0.0008)	ND (0.000797)	ND (0.000799)	ND (0.000794)	ND (0.000795)	ND (0.000804)
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	ND (0.00499)	ND (0.005)	ND (0.00498)	ND (0.00502)	ND (0.005)	ND (0.00498)	ND (0.00499)	ND (0.00496)	ND (0.00497)	ND (0.00503)
3-(Perfluoroheptyl)propanoic acid (7:3 FTCA)	ND (0.00499)	ND (0.005)	ND (0.00498)	ND (0.00502)	0.000487 J	ND (0.00498)	ND (0.00499)	ND (0.00496)	ND (0.00497)	ND (0.00503)
3:3 Fluorotelomer carboxylic acid (3:3 FTCA)	ND (0.000998)	ND (0.001)	ND (0.000996)	ND (0.001)	ND (0.001)	ND (0.000996)	ND (0.000999)	ND (0.000992)	ND (0.000994)	ND (0.001)
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	ND (0.000799)	ND (0.0008)	ND (0.000797)	ND (0.000803)	ND (0.0008)	ND (0.000797)	ND (0.000799)	ND (0.000794)	ND (0.000795)	ND (0.000804)
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	ND (0.000799)	ND (0.0008)	ND (0.000797)	ND (0.000803)	ND (0.0008)	ND (0.000797)	ND (0.000799)	ND (0.000794)	ND (0.000795)	ND (0.000804)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.000252 J	ND (0.0008)	ND (0.000797)	ND (0.000803)	ND (0.0008)	ND (0.000797)	ND (0.000799)	ND (0.000794)	ND (0.000795)	ND (0.000804)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	ND (0.000799)	ND (0.0008)	ND (0.000797)	ND (0.000803)	ND (0.0008)	ND (0.000797)	ND (0.000799)	ND (0.000794)	ND (0.000795)	ND (0.000804)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND (0.000799)	ND (0.0008)	ND (0.000797)	ND (0.000803)	ND (0.0008)	ND (0.000797)	ND (0.000799)	ND (0.000794)	ND (0.000795)	ND (0.000804)
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.00011 J	ND (0.0002)	ND (0.000199)	0.000627	0.00848	0.00217	0.000066 J	ND (0.000198)	ND (0.000199)	ND (0.000201)
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	ND (0.0002)	ND (0.0002)	ND (0.000199)	0.00003 J	0.000776	0.000189 J	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00201)	ND (0.002)	ND (0.00199)	ND (0.002)	ND (0.00198)	ND (0.00199)	ND (0.00201)
N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000201)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000201)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
N-Methylperfluorooctane sulfonamidoethanol (N-MeFOSE)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00201)	ND (0.002)	ND (0.00199)	ND (0.002)	ND (0.00198)	ND (0.00199)	ND (0.00201)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000401)	ND (0.0004)	ND (0.000398)	ND (0.0004)	ND (0.000397)	ND (0.000398)	ND (0.000402)
Perfluoro(2-ethoxyethane) sulphonic acid (PFEESA)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000401)	ND (0.0004)	ND (0.000398)	ND (0.0004)	ND (0.000397)	ND (0.000398)	ND (0.000402)
Perfluoro(4-methoxybutanoic) acid (PFMBA)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000401)	ND (0.0004)	ND (0.000398)	ND (0.0004)	ND (0.000397)	ND (0.000398)	ND (0.000402)
Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	ND (0.000799)	ND (0.0008)	ND (0.000797)	ND (0.000803)	ND (0.0008)	ND (0.000797)	ND (0.000799)	ND (0.000794)	ND (0.000795)	ND (0.000804)
Perfluoro-3-methoxypropanoic acid (PFMPA)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000401)	ND (0.0004)	ND (0.000398)	ND (0.0004)	ND (0.000397)	ND (0.000398)	ND (0.000402)
Perfluorobutanesulfonic acid (PFBS)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000201)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluorobutanoic acid (PFBA)	0.000041 J	ND (0.0008)	ND (0.000797)	ND (0.000803)	0.000073 J	0.000131 J	0.00003 J	ND (0.000794)	0.000028 J	ND (0.000804)
Perfluorodecanesulfonic acid (PFDS)	0.000069 J	ND (0.0002)	ND (0.000199)	0.000251	0.000079 J	0.000045 J	0.000031 J	0.000025 J	ND (0.000199)	ND (0.000201)
Perfluorodecanoic acid (PFDA)	ND (0.0002)	ND (0.0002)	ND (0.000199)	0.000127 J	0.0124	0.0223	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluorododecane sulfonic acid (PFDoDS)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000201)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluorododecanoic acid (PFDoDA)	0.000066 J	ND (0.0002)	ND (0.000199)	0.000838	0.000186 J	0.000213	0.000029 J	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluoroheptanesulfonic acid (PFHpS)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000201)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluoroheptanoic acid (PFHpA)	ND (0.0002)	ND (0.0002)	0.000022 J	0.000041 J	0.000205	0.00012 J	ND (0.0002)	ND (0.000198)	0.000049 J	ND (0.000201)
Perfluorohexanesulfonic acid (PFHxS)	0.000083 J	0.000024 J	0.000025 J	0.00005 J	0.000054 J	0.000024 J	0.000059 J	0.000027 J	0.000026 J	ND (0.000201)
Perfluorohexanoic acid (PFHxA)	ND (0.0002)	0.000022 J	0.000023 J	0.000072 J	0.000241	0.0002	ND (0.0002)	ND (0.000198)	0.000048 J	ND (0.000201)
Perfluorononane sulfonic acid (PFNS)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000201)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluorononanoic acid (PFNA)	0.000018 J	ND (0.0002)	ND (0.000199)	0.000039 J	0.000716	0.00108	0.000027 J	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluorooctane sulfonamide (PFOSA)	0.000022 JF	ND (0.0002)	ND (0.000199)	0.000072 J	0.00134	0.000481 F	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluorooctanesulfonic acid (PFOS)	0.000685	0.000822	0.000379	0.000385	***0.00433***	***0.00329***	0.000597	0.000432	0.000708	0.000229
Perfluorooctanoic acid (PFOA)	0.000037 J	0.000074 J	0.000044 J	0.000112 J	0.000595	0.000414	0.000059 J	0.000043 J	0.000396	0.000044 J
Perfluoropentanesulfonic acid (PFPeS)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000201)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluoropentanoic acid (PFPeA)	ND (0.000399)	ND (0.0004)	ND (0.000398)	0.000039 J	0.000198 J	0.000195 J	ND (0.0004)	ND (0.000397)	ND (0.000398)	ND (0.000402)
Perfluorotetradecanoic acid (PFTeDA)	0.000031 J	ND (0.0002)	ND (0.000199)	0.000263	0.000035 J	0.000031 J	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluorotridecanoic acid (PFTrDA)	0.000033 J	ND (0.0002)	ND (0.000199)	0.000108 J	0.000145 J	0.000017 J	ND (0.0002)	ND (0.000198)	ND (0.000199)	ND (0.000201)
Perfluoroundecanoic acid (PFUnDA)	0.000064 J	ND (0.0002)	ND (0.000199)	0.000102 J	0.000765	0.00023	0.00003 J	0.000018 JF	ND (0.000199)	ND (0.000201)
US EPA PFAS (PFOS + PFOA)	0.000722 J	0.000896 J	0.000423 J	0.000497 J	0.00493	0.0037	-	-	-	-

ABBREVIATIONS AND NOTES:
mg/kg: milligram per kilogram

-: Not Analyzed
bgs: below ground surface
F: Results are considered to be an estimated maximum concentration
ft: feet
I: The lower value for the two columns has been reported due to obvious interference.
J: Value is estimated.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
P: The RPD between the results for the two columns exceeds the method-specified criteria.

- For test methods used, see the laboratory data sheets.
- Soil analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (SCO), Restricted-Use Residential SCOs, and Protection of Groundwater SCO's.
*- **Bold italic** values indicate an exceedance of the Protection of Groundwater Criteria.*
- Grey shading indicates an exceedance of the Unrestricted Use Soil Cleanup Objectives.
- Yellow shading indicates an exceedance of the Restricted Use Residential Soil Cleanup Objectives.

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level																		
Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Restricted Use Soil Cleanup Objectives - Residential	Unrestricted Use Soil Cleanup Objectives	SB-07 SB-07_0-0.16 02/07/2025 L2506987-03 0 - 0.16 (ft)	SB-07 SB-07_5-7 02/07/2025 L2506987-04 5 - 7 (ft)	SB-07 SB-07_11-13 02/07/2025 L2506987-05 11 - 13 (ft)	SB-08 SB-08_0-0.16 02/05/2025 L2506469-15 0 - 0.16 (ft)	SB-08 SB-08_11-13 02/05/2025 L2506469-16 11 - 13 (ft)	SB-08 SB-08_13-15 02/05/2025 L2506469-17 13 - 15 (ft)	SB-09 SB-09_0-0.16 02/05/2025 L2506469-18 0 - 0.16 (ft)	SB-09 DUP-01_20250205 02/05/2025 L2506469-24 11 - 13 (ft)	SB-09 SB-09_11-13 02/05/2025 L2506469-19 11 - 13 (ft)	SB-09 SB-09_13-15 02/05/2025 L2506469-20 13 - 15 (ft)	SB-10 SB-10_0-0.16 02/05/2025 L2506469-21 0 - 0.16 (ft)	SB-10 SB-10_8-10 02/05/2025 L2506469-22 8 - 10 (ft)	SB-10 SB-10_12-14 02/05/2025 L2506469-23 12 - 14 (ft)	SB-11 SB-11_0-0.16 02/06/2025 L2506692-05 0 - 0.16 (ft)	SB-11 SB-11_4-6 02/06/2025 L2506692-06 4 - 6 (ft)	SB-11 SB-11_11-13 02/06/2025 L2506692-07 11 - 13 (ft)
Volatile Organic Compounds (mg/kg)																			
1,1,1,2-Tetrachloroethane	NA	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
1,1,1-Trichloroethane	0.68	100	0.68	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
1,1,2-Trichloroethane	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,1-Dichloroethane	0.27	26	0.27	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,1-Dichloroethene	0.33	100	0.33	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,1-Dichloropropene	NA	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
1,2,3-Trichlorobenzene	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,2,3-Trichloropropane	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,2,4,5-Tetramethylbenzene	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	0.00024 J	ND (0.0021)	ND (0.002)
1,2,4-Trichlorobenzene	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,2,4-Trimethylbenzene	3.6	52	3.6	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	0.0005 J	ND (0.0021)	ND (0.002)
1,2-Dibromo-3-chloropropane (DBCP)	NA	NA	NA	ND (0.0031)	ND (0.0035)	ND (0.0034)	ND (0.0045)	ND (0.0034)	ND (0.004)	ND (0.0029)	ND (0.0033)	ND (0.0071)	ND (0.0032)	ND (0.0034)	ND (0.0031)	ND (0.0032)	ND (0.0033)	ND (0.0032)	ND (0.0031)
1,2-Dibromoethane (Ethylene Dibromide)	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,2-Dichlorobenzene	1.1	100	1.1	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,2-Dichloroethane	0.02	3.1	0.02	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,2-Dichloroethene (total)	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,2-Dichloropropane	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
1,3,5-Trimethylbenzene	8.4	52	8.4	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,3-Dichlorobenzene	2.4	49	2.4	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,3-Dichloropropane	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,3-Dichloropropene	NA	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
1,4-Dichlorobenzene	1.8	13	1.8	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
1,4-Diethylbenzene	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	0.00029 J	ND (0.0021)	ND (0.002)
1,4-Dioxane	0.1	13	0.1	ND (0.083)	ND (0.093)	ND (0.09)	ND (0.12)	ND (0.09)	ND (0.1)	ND (0.078)	ND (0.089)	ND (0.19)	ND (0.086)	ND (0.092)	ND (0.083)	ND (0.084)	ND (0.088)	ND (0.086)	ND (0.082)
2,2-Dichloropropane	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
2-Butanone (Methyl Ethyl Ketone)	0.12	100	0.12	ND (0.01)	ND (0.012)	ND (0.011)	ND (0.015)	ND (0.011)	ND (0.013)	ND (0.0097)	ND (0.011)	ND (0.024)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.01)
2-Chlorotoluene	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
2-Hexanone (Methyl Butyl Ketone)	NA	NA	NA	ND (0.01)	ND (0.012)	ND (0.011)	ND (0.015)	ND (0.011)	ND (0.013)	ND (0.0097)	ND (0.011)	ND (0.024)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.01)
2-Phenylbutane (sec-Butylbenzene)	11	100	11	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
4-Chlorotoluene	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	NA	ND (0.01)	ND (0.012)	ND (0.011)	ND (0.015)	ND (0.011)	ND (0.013)	ND (0.0097)	ND (0.011)	ND (0.024)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.01)
Acetone	0.05	100	0.05	0.007 J	0.015	ND (0.011)	0.0074 J	ND (0.011)	ND (0.013)	ND (0.0097)	ND (0.011)	0.017 J	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.01)	0.016	ND (0.011)	ND (0.01)
Acrylonitrile	NA	NA	NA	ND (0.0042)	ND (0.0046)	ND (0.0045)	ND (0.006)	ND (0.0045)	ND (0.0053)	ND (0.0039)	ND (0.0044)	ND (0.0095)	ND (0.0043)	ND (0.0046)	ND (0.0042)	ND (0.0042)	ND (0.0044)	ND (0.0043)	ND (0.0041)
Benzene	0.06	4.8	0.06	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
Bromobenzene	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Bromodichloromethane	NA	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
Bromoform	NA	NA	NA	ND (0.0042)	ND (0.0046)	ND (0.0045)	ND (0.006)	ND (0.0045)	ND (0.0053)	ND (0.0039)	ND (0.0044)	ND (0.0095)	ND (0.0043)	ND (0.0046)	ND (0.0042)	ND (0.0042)	ND (0.0044)	ND (0.0043)	ND (0.0041)
Bromomethane (Methyl Bromide)	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Carbon disulfide	NA	NA	NA	ND (0.01)	ND (0.012)	ND (0.011)	ND (0.015)	ND (0.011)	ND (0.013)	ND (0.0097)	ND (0.011)	ND (0.024)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.01)
Carbon tetrachloride	0.76	2.4	0.76	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
Chlorobenzene	1.1	100	1.1	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
Chlorobromomethane	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Chloroethane	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Chloroform (Trichloromethane)	0.37	49	0.37	ND (0.0016)	ND (0.0017)	ND (0.0017)	ND (0.0023)	ND (0.0017)	ND (0.002)	ND (0.0014)	ND (0.0017)	ND (0.0036)	ND (0.0016)	ND (0.0017)	ND (0.0016)	ND (0.0016)	ND (0.0016)	ND (0.0016)	ND (0.0015)
Chloromethane (Methyl Chloride)	NA	NA	NA	ND (0.0042)	ND (0.0046)	ND (0.0045)	ND (0.006)	ND (0.0045)	ND (0.0053)	ND (0.0039)	ND (0.0044)	ND (0.0095)	ND (0.0043)	ND (0.0046)	ND (0.0042)	ND (0.0042)	ND (0.0044)	ND (0.0043)	ND (0.0041)
cis-1,2-Dichloroethene	0.25	100	0.25	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
cis-1,3-Dichloropropene	NA	NA	NA	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
Cymene (p-Isopropyltoluene)	NA	NA	NA	0.00025 J	ND (0.0012)	ND (0.0011)	0.00041 J	ND (0.0011)	ND (0.0013)	0.00072 J	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
Dibromochloromethane	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
Dibromomethane	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Dichlorodifluoromethane (CFC-12)	NA	NA	NA	ND (0.01)	ND (0.012)	ND (0.011)	ND (0.015)	ND (0.011)	ND (0.013)	ND (0.0097)	ND (0.011)	ND (0.024)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.01)
Ethyl Ether	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Ethylbenzene	1	41	1	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
Hexachlorobutadiene	NA	NA	NA	ND (0.0042)	ND (0.0046)	ND (0.0045)	ND (0.006)	ND (0.0045)	ND (0.0053)	ND (0.0039)	ND (0.0044)	ND (0.0095)	ND (0.0043)	ND (0.0046)	ND (0.0042)	ND (0.0042)	ND (0.0044)	ND (0.0043)	ND (0.0041)
Isopropylbenzene (Cumene)	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
m,p-Xylenes	NA	NA	NA	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Methyl Tert Butyl Ether (MTBE)	0.93	100	0.93	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Methylene chloride (Dichloromethane)	0.05	100	0.05	ND (0.0052)	ND (0.0058)	ND (0.0056)	ND (0.0076)	ND (0.0056)	ND (0.0066)	ND (0.0048)	ND (0.0056)	ND (0.012)	ND (0.0054)	ND (0.0057)	ND (0.0052)	ND (0.0053)	ND (0.0055)	ND (0.0054)	ND (0.0051)
Naphthalene	12	100	12	0.0023 J	0.00099 J	ND (0.0045)	ND (0.006)	ND (0.0045)	ND (0.0053)	ND (0.0039)	ND (0.0044)	0.0044 J	ND (0.0043)	ND (0.0046)	ND (0.0042)	ND (0.0042)	0.0098	ND (0.0043)	ND (0.0041)
n-Butylbenzene	12	100	12	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
n-Propylbenzene	3.9	100	3.9	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
o-Xylene	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
Styrene	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
tert-Butylbenzene	5.9	100	5.9	ND (0.0021)	ND (0.0023)	ND (0.0022)	ND (0.003)	ND (0.0022)	ND (0.0026)	ND (0.0019)	ND (0.0022)	ND (0.0047)	ND (0.0022)	ND (0.0023)	ND (0.0021)	ND (0.0021)	ND (0.0022)	ND (0.0021)	ND (0.002)
Tetrachloroethene	1.3	19	1.3	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	0.00049 J	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
Toluene	0.7	100	0.7	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
trans-1,2-Dichloroethene	0.19	100	0.19	ND (0.0016)	ND (0.0017)	ND (0.0017)	ND (0.0023)	ND (0.0017)	ND (0.002)	ND (0.0014)	ND (0.0017)	ND (0.0036)	ND (0.0016)	ND (0.0017)	ND (0.0016)	ND (0.0016)	ND (0.0016)	ND (0.0016)	ND (0.0015)
trans-1,3-Dichloropropene	NA	NA	NA	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
trans-1,4-Dichloro-2-butene	NA	NA	NA	ND (0.0052)	ND (0.0058)	ND (0.0056)	ND (0.0076)	ND (0.0056)	ND (0.0066)	ND (0.0048)	ND (0.0056)	ND (0.012)	ND (0.0054)	ND (0.0057)	ND (0.0052)	ND (0.0053)	ND (0.0055)	ND (0.0054)	ND (0.0051)
Trichloroethene	0.47	21	0.47	ND (0.00052)	ND (0.00058)	ND (0.00056)	ND (0.00076)	ND (0.00056)	ND (0.00066)	ND (0.00048)	ND (0.00056)	ND (0.0012)	ND (0.00054)	ND (0.00057)	ND (0.00052)	ND (0.00053)	ND (0.00055)	ND (0.00054)	ND (0.00051)
Trichlorofluoromethane (CFC-11)	NA	NA	NA	ND (0.0042)	ND (0.0046)	ND (0.0045)	ND (0.006)	ND (0.0045)	ND (0.0053)	ND (0.0039)	ND (0.0044)	ND (0.0095)	ND (0.0043)	ND (0.0046)	ND (0.0042)	ND (0.0042)	ND (0.0044)	ND (0.0043)	ND (0.0041)
Vinyl acetate	NA	NA	NA	ND (0.01)	ND (0.012)	ND (0.011)	ND (0.015)	ND (0.011)	ND (0.013)	ND (0.0097)	ND (0.011)	ND (0.024)	ND (0.011)	ND (0.011)	ND (0.01)	ND (0.01)	ND (0.011)	ND (0.011)	ND (0.01)
Vinyl chloride	0.02	0.9	0.02	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)
Xylene (Total)	1.6	100	0.26	ND (0.001)	ND (0.0012)	ND (0.0011)	ND (0.0015)	ND (0.0011)	ND (0.0013)	ND (0.00097)	ND (0.0011)	ND (0.0024)	ND (0.0011)	ND (0.0011)	ND (0.001)	ND (0.001)	ND (0.0011)	ND (0.0011)	ND (0.001)

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level																		
Location Name Sample Name Sample Date Lab Sample ID Sample Depth (bgs)	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Restricted Use Soil Cleanup Objectives - Residential	Unrestricted Use Soil Cleanup Objectives	SB-07 SB-07_0-0.16 02/07/2025 L2506987-03 0 - 0.16 (ft)	SB-07 SB-07_5-7 02/07/2025 L2506987-04 5 - 7 (ft)	SB-07 SB-07_11-13 02/07/2025 L2506987-05 11 - 13 (ft)	SB-08 SB-08_0-0.16 02/05/2025 L2506469-15 0 - 0.16 (ft)	SB-08 SB-08_11-13 02/05/2025 L2506469-16 11 - 13 (ft)	SB-08 SB-08_13-15 02/05/2025 L2506469-17 13 - 15 (ft)	SB-09 SB-09_0-0.16 02/05/2025 L2506469-18 0 - 0.16 (ft)	SB-09 DUP-01_20250205 02/05/2025 L2506469-24 11 - 13 (ft)	SB-09 SB-09_11-13 02/05/2025 L2506469-19 11 - 13 (ft)	SB-09 SB-09_13-15 02/05/2025 L2506469-20 13 - 15 (ft)	SB-10 SB-10_0-0.16 02/05/2025 L2506469-21 0 - 0.16 (ft)	SB-10 SB-10_8-10 02/05/2025 L2506469-22 8 - 10 (ft)	SB-10 SB-10_12-14 02/05/2025 L2506469-23 12 - 14 (ft)	SB-11 SB-11_0-0.16 02/06/2025 L2506692-05 0 - 0.16 (ft)	SB-11 SB-11_4-6 02/06/2025 L2506692-06 4 - 6 (ft)	SB-11 SB-11_11-13 02/06/2025 L2506692-07 11 - 13 (ft)
Semi-Volatile Organic Compounds (mg/kg)																			
1,2,4,5-Tetrachlorobenzene	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
1,2,4-Trichlorobenzene	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
1,2-Dichlorobenzene	1.1	100	1.1	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	0.039 J	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
1,3-Dichlorobenzene	2.4	49	2.4	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
1,4-Dichlorobenzene	1.8	13	1.8	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
1,4-Dioxane	0.1	13	0.1	ND (0.027)	ND (0.028)	ND (0.027)	ND (0.061)	ND (0.028)	ND (0.028)	ND (0.027)	ND (0.027)	ND (0.056)	ND (0.027)	ND (0.028)	ND (0.026)	ND (0.026)	ND (0.028) ND (0.028)	ND (0.028)	ND (0.026)
2,2'-oxybis(1-Chloropropane)	NA	NA	NA	ND (0.21)	ND (0.22)	ND (0.21)	ND (0.49)	ND (0.23)	ND (0.23)	ND (0.22)	ND (0.22)	ND (0.45)	ND (0.22)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.23) ND (0.22)	ND (0.22)	ND (0.21)
2,4,5-Trichlorophenol	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2,4,6-Trichlorophenol	NA	NA	NA	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.24)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.22)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.11) ND (0.11)	ND (0.11)	ND (0.11)
2,4-Dichlorophenol	NA	NA	NA	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.36)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.34)	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.17) ND (0.17)	ND (0.17)	ND (0.16)
2,4-Dimethylphenol	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2,4-Dinitrophenol	NA	NA	NA	ND (0.86)	ND (0.9)	ND (0.86)	ND (2)	ND (0.91)	ND (0.91)	ND (0.87)	ND (0.86)	ND (1.8)	ND (0.87)	ND (0.91)	ND (0.82)	ND (0.82)	ND (0.91) ND (0.9)	ND (0.9)	ND (0.85)
2,4-Dinitrotoluene	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2,6-Dinitrotoluene	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2-Chloronaphthalene	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2-Chlorophenol	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2-Methylnaphthalene	NA	NA	NA	0.094 J	0.044 J	ND (0.21)	0.066 J	0.1 J	ND (0.23)	0.029 J	0.052 J	0.21 J	ND (0.22)	0.078 J	ND (0.21)	ND (0.21)	0.094 J 0.092 J	ND (0.22)	ND (0.21)
2-Methylphenol (o-Cresol)	0.33	100	0.33	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2-Nitroaniline	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
2-Nitrophenol	NA	NA	NA	ND (0.39)	ND (0.4)	ND (0.39)	ND (0.88)	ND (0.41)	ND (0.41)	ND (0.39)	ND (0.39)	ND (0.81)	ND (0.39)	ND (0.41)	ND (0.37)	ND (0.37)	ND (0.41) ND (0.4)	ND (0.4)	ND (0.38)
3&4-Methylphenol	NA	NA	NA	ND (0.26)	ND (0.27)	ND (0.26)	ND (0.58)	0.063 J	ND (0.27)	ND (0.26)	ND (0.26)	0.12 J	ND (0.26)	0.057 J	ND (0.25)	ND (0.25)	ND (0.27) ND (0.27)	ND (0.27)	ND (0.25)
3,3'-Dichlorobenzidine	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
3-Nitroaniline	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
4,6-Dinitro-2-methylphenol	NA	NA	NA	ND (0.46)	ND (0.48)	ND (0.46)	ND (1)	ND (0.5)	ND (0.49)	ND (0.47)	ND (0.47)	ND (0.98)	ND (0.47)	ND (0.49)	ND (0.45)	ND (0.45)	ND (0.49) ND (0.49)	ND (0.49)	ND (0.46)
4-Bromophenyl phenyl ether (BDE-3)	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
4-Chloro-3-methylphenol	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
4-Chloroaniline	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
4-Chlorophenyl phenyl ether	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
4-Nitroaniline	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
4-Nitrophenol	NA	NA	NA	ND (0.25)	ND (0.26)	ND (0.25)	ND (0.57)	ND (0.27)	ND (0.26)	ND (0.25)	ND (0.25)	ND (0.53)	ND (0.25)	ND (0.26)	ND (0.24)	ND (0.24)	ND (0.27) ND (0.26)	ND (0.26)	ND (0.25)
Acenaphthene	98	100	20	0.12 J	0.08 J	ND (0.14)	0.15 J	0.14 J	ND (0.15)	0.14	0.097 J	0.21 J	ND (0.14)	0.16	ND (0.14)	ND (0.14)	0.089 J 0.09 J	ND (0.15)	ND (0.14)
Acenaphthylene	107	100	100	0.15	0.11 J	ND (0.14)	0.63	1.4	0.046 J	0.17	0.31	2	ND (0.14)	0.67	ND (0.14)	ND (0.14)	0.079 J 0.059 J	ND (0.15)	ND (0.14)
Acetophenone	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Anthracene	1000	100	100	0.37	0.25	ND (0.11)	0.73	0.91	0.051 J	0.37	0.4	1.9	ND (0.11)	0.91	ND (0.1)	ND (0.1)	0.16 0.21	ND (0.11)	ND (0.11)
Benzo(a)anthracene	1	1	1	0.82	0.76	ND (0.11)	***3***	***3.3***	0.13	***1.1***	***1.1***	***5.8***	ND (0.11)	***2.8***	ND (0.1)	ND (0.1)	0.28 0.34	0.033 J	ND (0.11)
Benzo(a)pyrene	22	1	1	0.85	0.78	ND (0.14)	3.2	3.4	0.074 J	1.1	1.3	5.6	ND (0.14)	2.8	ND (0.14)	ND (0.14)	0.3 0.29	ND (0.15)	ND (0.14)
Benzo(b)fluoranthene	1.7	1	1	0.98	0.92	ND (0.11)	***4.4***	***4.2***	0.1 J	1.5	1.6	***7.4***	ND (0.11)	***3.6***	ND (0.1)	ND (0.1)	0.32 0.37	0.05 J	ND (0.11)
Benzo(g,h,i)perylene	1000	100	100	0.58	0.58	ND (0.14)	2.3	2.3	0.061 J	0.75	1.2	3.8	ND (0.14)	1.7	ND (0.14)	ND (0.14)	0.32 0.18	0.047 J	ND (0.14)
Benzo(k)fluoranthene	1.7	3.9	0.8	0.34	0.37	ND (0.11)	1.1	1.2	0.035 J	0.47	0.58	***2.1***	ND (0.11)	1.2	ND (0.1)	ND (0.1)	0.13 0.12	ND (0.11)	ND (0.11)
Benzoic acid	NA	NA	NA	ND (0.58)	ND (0.6)	ND (0.58)	ND (1.3)	ND (0.62)	ND (0.62)	ND (0.58)	ND (0.58)	ND (1.2)	ND (0.59)	ND (0.61)	ND (0.56)	ND (0.56)	ND (0.62) ND (0.61)	ND (0.61)	ND (0.57)
Benzyl Alcohol	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Biphenyl	NA	NA	NA	0.024 J	ND (0.43)	ND (0.41)	ND (0.93)	0.03 J	ND (0.43)	ND (0.41)	ND (0.41)	0.058 J	ND (0.41)	0.026 J	ND (0.39)	ND (0.39)	ND (0.43) ND (0.43)	ND (0.43)	ND (0.4)
bis(2-Chloroethoxy)methane	NA	NA	NA	ND (0.19)	ND (0.2)	ND (0.19)	ND (0.44)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.19)	ND (0.41)	ND (0.2)	ND (0.2)	ND (0.18)	ND (0.18)	ND (0.2) ND (0.2)	ND (0.2)	ND (0.19)
bis(2-Chloroethyl)ether	NA	NA	NA	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.36)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.34)	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.17) ND (0.17)	ND (0.17)	ND (0.16)
bis(2-Ethylhexyl)phthalate	NA	NA	NA	0.17 J	0.081 J	ND (0.18)	0.51	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	0.51	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Butyl benzylphthalate (BBP)	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	0.79	ND (0.19)	ND (0.19)	ND (0.18)	0.13 J	0.34 J	ND (0.18)	0.062 J	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Carbazole	NA	NA	NA	0.14 J	0.12 J	ND (0.18)	0.29 J	0.27	0.026 J	0.16 J	0.24	1	ND (0.18)	0.39	ND (0.17)	ND (0.17)	0.056 J 0.055 J	ND (0.19)	ND (0.18)
Chrysene	1	3.9	1	0.8	0.79	ND (0.11)	***3.2***	***3.2***	0.13	***1.1***	***1.1***	***5.2***	ND (0.11)	***2.8***	ND (0.1)	ND (0.1)	0.26 0.34	0.039 J	ND (0.11)
Dibenz(a,h)anthracene	1000	0.33	0.33	0.12	0.12	ND (0.11)	0.51	0.52	ND (0.11)	0.16	0.21	0.85	ND (0.11)	0.41	ND (0.1)	ND (0.1)	0.036 J 0.043 J	ND (0.11)	ND (0.11)
Dibenzofuran	210	59	7	0.1 J	0.066 J	ND (0.18)	0.1 J	0.16 J	ND (0.19)	0.063 J	0.078 J	0.4	ND (0.18)	0.16 J	ND (0.17)	ND (0.17)	0.063 J 0.074 J	ND (0.19)	ND (0.18)
Diethyl phthalate	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Dimethyl phthalate	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Di-n-butylphthalate (DBP)	NA	NA	NA	0.068 J	0.068 J	0.073 J	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) 0.06 J	0.054 J	0.043 J
Di-n-octyl phthalate (DnOP)	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Fluoranthene	1000	100	100	1.7	1.6	ND (0.11)	5.1	4.2	0.26	2.1	2.5	12	ND (0.11)	5	ND (0.1)	ND (0.1)	0.62 0.82	0.063 J	ND (0.11)
Fluorene	386	100	30	0.15 J	0.081 J	ND (0.18)	0.17 J	0.21	ND (0.19)	0.13 J	0.096 J	0.38	ND (0.18)	0.18 J	ND (0.17)	ND (0.17)	0.11 J 0.11 J	ND (0.19)	ND (0.18)
Hexachlorobenzene	3.2	1.2	0.33	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.24)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.22)	ND (0.11)	ND (0.11)	ND (0.1)	ND (0.1)	ND (0.11) ND (0.11)	ND (0.11)	ND (0.11)
Hexachlorobutadiene	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Hexachlorocyclopentadiene	NA	NA	NA	ND (0.51)	ND (0.53)	ND (0.51)	ND (1.2)	ND (0.54)	ND (0.54)	ND (0.52)	ND (0.52)	ND (1.1)	ND (0.52)	ND (0.54)	ND (0.49)	ND (0.49)	ND (0.54) ND (0.54)	ND (0.54)	ND (0.5)
Hexachloroethane	NA	NA	NA	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.32)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.3)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15) ND (0.15)	ND (0.15)	ND (0.14)
Indeno(1,2,3-cd)pyrene	8.2	0.5	0.5	0.54	0.5	ND (0.14)	2.2	2.3	0.063 J	0.74	1	3.9	ND (0.14)	1.7	ND (0.14)	ND (0.14)	0.19 0.16	0.035 J	ND (0.14)
Isophorone	NA	NA	NA	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.36)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.34)	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.17) ND (0.17)	ND (0.17)	ND (0.16)
Naphthalene	12	100	12	0.23	0.099 J	ND (0.18)	0.15 J	0.33	ND (0.19)	0.045 J	0.12 J	0.51	ND (0.18)	0.29	ND (0.17)	ND (0.17)	0.18 J 0.16 J	ND (0.19)	ND (0.18)
Nitrobenzene	NA	NA	NA	ND (0.16)	ND (0.17)	ND (0.16)	ND (0.36)	ND (0.17)	ND (0.17)	ND (0.16)	ND (0.16)	ND (0.34)	ND (0.16)	ND (0.17)	ND (0.15)	ND (0.15)	ND (0.17) ND (0.17)	ND (0.17)	ND (0.16)
N-Nitrosodi-n-propylamine	NA	NA	NA	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	ND (0.18)	ND (0.38)	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
N-Nitrosodiphenylamine	NA	NA	NA	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.32)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.3)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15) ND (0.15)	ND (0.15)	ND (0.14)
Pentachlorophenol	0.8	6.7	0.8	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.32)	ND (0.15)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.3)	ND (0.14)	ND (0.15)	ND (0.14)	ND (0.14)	ND (0.15) ND (0.15)	ND (0.15)	ND (0.14)
Phenanthrene	1000	100	100	1.3	1	ND (0.11)	2.3	3.5	0.2	1.3	1.6	8.2	ND (0.11)	2.9	ND (0.1)	ND (0.1)	0.54 0.61	0.035 J	ND (0.11)
Phenol	0.33	100	0.33	ND (0.18)	ND (0.19)	ND (0.18)	ND (0.41)	ND (0.19)	ND (0.19)	ND (0.18)	0.14 J	0.074 J	ND (0.18)	ND (0.19)	ND (0.17)	ND (0.17)	ND (0.19) ND (0.19)	ND (0.19)	ND (0.18)
Pyrene	1000	100	100	1.6	1.4	ND (0.11)	4.7	3.9	0.21	1.8	2.2	9.3	ND (0.11)	4.4	ND (0.1)	ND (0.1)	0.56 0.69	0.059 J	ND (0.11)

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level																				
Location Name	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Restricted Use Soil Cleanup Objectives - Residential	Unrestricted Use Soil Cleanup Objectives	SB-07	SB-07	SB-07	SB-08	SB-08	SB-08	SB-09	SB-09	SB-09	SB-09	SB-10	SB-10	SB-10	SB-11	SB-11	SB-11
Sample Name				SB-07_0-0.16	SB-07_5-7	SB-07_11-13	SB-08_0-0.16	SB-08_11-13	SB-08_13-15	SB-09_0-0.16	DUP-01_20250205	SB-09_11-13	SB-09_13-15	SB-10_0-0.16	SB-10_8-10	SB-10_12-14	SB-11_0-0.16	SB-11_4-6	SB-11_11-13
Sample Date				02/07/2025	02/07/2025	02/07/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/06/2025	02/06/2025	02/06/2025
Lab Sample ID				L2506987-03	L2506987-04	L2506987-05	L2506469-15	L2506469-16	L2506469-17	L2506469-18	L2506469-24	L2506469-19	L2506469-20	L2506469-21	L2506469-22	L2506469-23	L2506692-05	L2506692-06	L2506692-07
Sample Depth (bgs)				0 - 0.16 (ft)	5 - 7 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	11 - 13 (ft)	13 - 15 (ft)	0 - 0.16 (ft)	11 - 13 (ft)	11 - 13 (ft)	13 - 15 (ft)	0 - 0.16 (ft)	8 - 10 (ft)	12 - 14 (ft)	0 - 0.16 (ft)	4 - 6 (ft)	11 - 13 (ft)
Inorganic Compounds (mg/kg)																			
Aluminum	NA	NA	NA	5380	7060	2990	6620	7660	1940	4840	4680	3220	5920	6130	5540	2250	6540	8740	3430
Antimony	NA	NA	NA	ND (4.31)	ND (4.35)	ND (4.24)	ND (4.88)	ND (4.51)	ND (4.61)	ND (4.25)	ND (4.12)	ND (4.5)	ND (4.17)	ND (4.54)	ND (4)	ND (4.01)	ND (4.47)	ND (4.49)	ND (4.14)
Arsenic	16	16	13	3.5	3.34	0.728 J	4.84	5.12	ND (0.923)	1.96	0.449 J	1.06	0.459 J	6.48	0.364 J	0.594 J	1.95	1.9	ND (0.828)
Barium	820	400	350	110	200	22	494	731	16.3	131	31	42.7	27.2	384	37.6	19.7	145	191	20.4
Beryllium	47	72	7.2	0.226 J	0.274 J	0.126 J	0.313 J	0.343 J	0.096 J	0.186 J	0.194 J	0.139 J	0.192 J	0.281 J	0.167 J	0.083 J	0.27 J	0.349 J	0.224 J
Cadmium	7.5	4.3	2.5	0.198 J	0.202 J	ND (0.847)	0.575 J	0.814 J	ND (0.923)	0.205 J	ND (0.825)	ND (0.901)	ND (0.834)	0.237 J	ND (0.8)	ND (0.802)	0.081 J	0.139 J	ND (0.828)
Calcium	NA	NA	NA	19900	34700	35700	51000	45800	77100	11600	51700	66200	34000	37100	62100	38700	23400	22400	21200
Chromium	NA	NA	NA	16.5	18.6	6.54	18.4	12.6	3.85	10.5	9.27	7.87	10.2	15.3	10.1	4.4	14.9	23.7	6.76
Cobalt	NA	NA	NA	5.2	5.48	3.37	5.89	3.74	1.98	3.86	3.41	3.16	8.29	4.5	7.11	2.9	5.39	7.04	3.2
Copper	1720	270	50	25.6	34.6	13.7	41.8	13.8	8.86	19.3	20.9	25.2	18.7	38.9	39.8	14.8	24.7	45.6	11.7
Iron	NA	NA	NA	11700	11500	7510	12800	9640	4290	8970	8040	8630	10300	11000	10400	5300	11500	15800	6600
Lead	450	400	63	109	177	6.57	***471***	***479***	32.6	89.5	42.7	46.9	7.8	291	5.52	3.86 J	87.5	93.4	3.06 J
Magnesium	NA	NA	NA	5820	8820	23100	5050	3330	43000	4570	32800	36800	21300	8540	39500	24200	6110	7480	14600
Manganese	2000	2000	1600	212	229	144	249	223	140	180	165	153	258	211	114	115	228	288	180
Mercury	0.73	0.81	0.18	0.15	0.511	ND (0.073)	0.442	0.247	ND (0.08)	0.148	ND (0.086)	0.148	ND (0.072)	0.709	ND (0.087)	ND (0.071)	0.336	0.252	ND (0.068)
Nickel	130	310	30	14.2	15.7	7.57	13.4	8.26	4.48	8.38	9.7	8.97	20.5	13.9	9.42	5.87	13.2	16.5	8.95
Potassium	NA	NA	NA	1570	2200	708	1130	848	469	1230	1130	1050	2030	1220	1510	449	2240	2780	1080
Selenium	4	180	3.9	0.288 J	0.648 J	0.388 J	ND (1.95)	ND (1.8)	ND (1.84)	ND (1.7)	ND (1.65)	ND (1.8)	ND (1.67)	ND (1.82)	ND (1.6)	ND (1.6)	0.405 J	ND (1.8)	ND (1.66)
Silver	8.3	180	2	ND (0.431)	ND (0.435)	ND (0.424)	ND (0.488)	ND (0.451)	ND (0.461)	ND (0.425)	ND (0.412)	ND (0.45)	ND (0.417)	2.2	ND (0.4)	ND (0.401)	ND (0.447)	ND (0.449)	ND (0.414)
Sodium	NA	NA	NA	291	268	108 J	243	728	ND (184)	107 J	119 J	108 J	ND (167)	197	87.6 J	ND (160)	470	192	ND (166)
Thallium	NA	NA	NA	ND (1.72)	ND (1.74)	ND (1.69)	ND (1.95)	ND (1.8)	ND (1.84)	ND (1.7)	ND (1.65)	ND (1.8)	0.828 J	ND (1.82)	0.979 J	ND (1.6)	ND (1.79)	0.978 J	ND (1.66)
Vanadium	NA	NA	NA	26.3	27.6	8.86	29	21.6	6.28	14.4	12.8	10.8	15	23.4	16.8	7.53	18.6	26	10.2
Zinc	2480	10000	109	231	175	17.9	504	535	17.7	106	32.8	57.6	42.3	342	28.7	13.9	96.4	120	32.8
PCBs (mg/kg)																			
Aroclor-1016 (PCB-1016)	NA	NA	NA	ND (0.054)	ND (0.0548)	ND (0.0531)	ND (0.0599)	ND (0.0557)	ND (0.0548)	ND (0.0517)	ND (0.0524)	ND (0.053)	ND (0.0514)	ND (0.0545)	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Aroclor-1221 (PCB-1221)	NA	NA	NA	ND (0.054)	ND (0.0548)	ND (0.0531)	ND (0.0599)	ND (0.0557)	ND (0.0548)	ND (0.0517)	ND (0.0524)	ND (0.053)	ND (0.0514)	ND (0.0545)	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Aroclor-1232 (PCB-1232)	NA	NA	NA	ND (0.054)	ND (0.0548)	ND (0.0531)	ND (0.0599)	ND (0.0557)	ND (0.0548)	ND (0.0517)	ND (0.0524)	ND (0.053)	ND (0.0514)	ND (0.0545)	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Aroclor-1242 (PCB-1242)	NA	NA	NA	ND (0.054)	ND (0.0548)	ND (0.0531)	ND (0.0599)	ND (0.0557)	ND (0.0548)	ND (0.0517)	ND (0.0524)	ND (0.053)	ND (0.0514)	ND (0.0545)	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Aroclor-1248 (PCB-1248)	NA	NA	NA	ND (0.054)	ND (0.0548)	ND (0.0531)	ND (0.0599)	ND (0.0557)	ND (0.0548)	0.0434 J	ND (0.0524)	ND (0.053)	ND (0.0514)	ND (0.0545)	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Aroclor-1254 (PCB-1254)	NA	NA	NA	0.0545	0.00956 J	ND (0.0531)	0.101	0.0886	ND (0.0548)	0.0216 J	ND (0.0524)	0.0382 J	ND (0.0514)	0.088	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Aroclor-1260 (PCB-1260)	NA	NA	NA	0.0144 J	ND (0.0548)	ND (0.0531)	0.0407 J	0.0388 J	ND (0.0548)	ND (0.0517)	0.0124 J	0.0201 J	ND (0.0514)	0.0371 J	ND (0.0508)	ND (0.0504)	0.0495 J	ND (0.0553)	ND (0.0507)
Aroclor-1262 (PCB-1262)	NA	NA	NA	ND (0.054)	ND (0.0548)	ND (0.0531)	ND (0.0599)	ND (0.0557)	ND (0.0548)	ND (0.0517)	ND (0.0524)	ND (0.053)	ND (0.0514)	ND (0.0545)	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Aroclor-1268 (PCB-1268)	NA	NA	NA	ND (0.054)	ND (0.0548)	ND (0.0531)	0.016 J	0.0253 J	ND (0.0548)	ND (0.0517)	ND (0.0524)	0.0067 J	ND (0.0514)	0.0171 J	ND (0.0508)	ND (0.0504)	ND (0.0569)	ND (0.0553)	ND (0.0507)
Polychlorinated biphenyls (PCBs)	3.2	1	0.1	0.0689 J	0.00956 J	ND (0.0531)	0.158 J	0.153 J	ND (0.0548)	0.065 J	0.0124 J	0.065 J	ND (0.0514)	0.142 J	ND (0.0508)	ND (0.0504)	0.0495 J	ND (0.0553)	ND (0.0507)
Other																			
Total Solids (%)	NA	NA	NA	90.1	87.5	91.8	81.7	86.9	86.5	89.9	91.4	86	91.1	87	95.3	96.2	86.3	87.6	93.5
Pesticides (mg/kg)																			
4,4'-DDD	14	13	0.0033	ND (0.0017)	ND (0.0018)	ND (0.00174)	0.0361	0.0776	ND (0.00178)	ND (0.00169)	0.00281	0.00252	ND (0.00172)	0.0183	ND (0.00163)	ND (0.00157)	0.00102 J	ND (0.00173)	ND (0.00167)
4,4'-DDE	17	8.9	0.0033	0.00451	0.0116	ND (0.00174)	0.0275	0.0324	ND (0.00178)	0.00895	0.0292	0.0184	ND (0.00172)	0.0107	ND (0.00163)	ND (0.00157)	0.00459	0.00056 J	0.000632 J
4,4'-DDT	136	7.9	0.0033	0.0126 IP	0.021 IP	ND (0.00174)	0.0516	0.0378	ND (0.00178)	0.00344 IP	0.0891	0.0105 IP	ND (0.00172)	0.0132 IP	ND (0.00163)	ND (0.00157)	0.00582	ND (0.00173)	ND (0.00167)
Aldrin	0.19	0.097	0.005	ND (0.0017)	ND (0.0018)	ND (0.00174)	0.00147 J	ND (0.0018)	ND (0.00178)	ND (0.00169)	ND (0.00174)	ND (0.00185)	ND (0.00172)	ND (0.00182)	ND (0.00163)	ND (0.00157)	ND (0.00179)	ND (0.00173)	ND (0.00167)
alpha-BHC	0.02	0.48	0.02	ND (0.000708)	ND (0.000748)	ND (0.000725)	ND (0.000808)	ND (0.000751)	ND (0.000744)	ND (0.000706)	ND (0.000725)	ND (0.00077)	ND (0.000716)	ND (0.00076)	ND (0.00068)	ND (0.000655)	ND (0.000748)	ND (0.000721)	ND (0.000697)
alpha-Chlordane (cis)	2.9	4.2	0.094	0.00274 IP	0.00496 IP	ND (0.00217)	0.055	0.0623	ND (0.00223)	0.002 J	0.00203 JIP	ND (0.00231) IP	ND (0.00215)	0.0224	ND (0.00204)	ND (0.00196)	0.00162 J	ND (0.00216)	ND (0.00209)
beta-BHC	0.09	0.36	0.036	ND (0.0017)	ND (0.0018)	ND (0.00174)	ND (0.00194)	ND (0.0018)	ND (0.00178)	ND (0.00169)	ND (0.00174)	ND (0.00185)	ND (0.00172)	ND (0.00182)	ND (0.00163)	ND (0.00157)	ND (0.00179)	ND (0.00173)	ND (0.00167)
Chlordane	NA	NA	NA	0.0234 IP	ND (0.015)	ND (0.0145)	0.25	0.243	ND (0.0149)	ND (0.0141)	ND (0.0145)	ND (0.0154)	ND (0.0143)	0.1 IP	ND (0.0136)	ND (0.0131)	ND (0.015)	ND (0.0144)	ND (0.0139)
delta-BHC	0.25	100	0.04	ND (0.0017)	ND (0.0018)	ND (0.00174)	ND (0.00194)	ND (0.0018)	ND (0.00178)	ND (0.00169)	ND (0.00174)	ND (0.00185)	ND (0.00172)	ND (0.00182)	ND (0.00163)	ND (0.00157)	ND (0.00179)	ND (0.00173)	ND (0.00167)
Dieldrin	0.1	0.2	0.005	0.00361	ND (0.00112)	ND (0.00109)	0.0181	0.0476	ND (0.00112)	ND (0.00106)	0.00641	ND (0.00116)	ND (0.00107)	0.0229	ND (0.00102)	ND (0.000982)	ND (0.00112)	ND (0.00108)	ND (0.00104)
Endosulfan I	102	24	2.4	ND (0.0017)	ND (0.0018)	ND (0.00174)	ND (0.00194)	ND (0.0018)	ND (0.00178)	ND (0.00169)	ND (0.00174)	ND (0.00185)	ND (0.00172)	ND (0.00182)	ND (0.00163)	ND (0.00157)	ND (0.00179)	ND (0.00173)	ND (0.00167)
Endosulfan II	102	24	2.4	ND (0.0017)	ND (0.0018)	ND (0.00174)	ND (0.00194)	ND (0.0018)	ND (0.00178)	ND (0.00169)	ND (0.00174)	ND (0.00185)	ND (0.00172)	ND (0.00182)	ND (0.00163)	ND (0.00157)	ND (0.00179)	ND (0.00173)	ND (0.00167)
Endosulfan sulfate	1000	24	2.4	ND (0.000708)	ND (0.000748)	ND (0.000725)	ND (0.000808)	ND (0.000751)	ND (0.000744)	ND (0.000706)	ND (0.000725)	ND (0.00077)	ND (0.000716)	ND (0.00076)	ND (0.00068)	ND (0.000655)	ND (0.000748)	ND (0.000721)	ND (0.000697)
Endrin	0.06	11	0.014	ND (0.000708)	ND (0.000748)	ND (0.000725)	ND (0.000808)	ND (0.000751)	ND (0.000744)	ND (0.000706)	ND (0.000725)	ND (0.00077)	ND (0.000716)	ND (0.00076)	ND (0.00068)	ND (0.000655)	ND (0.000748)	ND (0.000721)	ND (0.000697)
Endrin aldehyde	NA	NA	NA	ND (0.00212)	ND (0.00224)	ND (0.00217)	ND (0.00242)	ND (0.00225)	ND (0.00223)	ND (0.00212)	ND (0.00218)	ND (0.00231)	ND (0.00215)	ND (0.00228)	ND (0.00204)	ND (0.00196)	ND (0.00224)	ND (0.00216)	ND (0.00209)
Endrin ketone	NA	NA	NA	ND (0.0017)	ND (0.0018)	ND (0.00174)	ND (0.00194)	ND (0.0018)	ND (0.00178)	ND (0.00169)	ND (0.00174)	ND (0.00185)	ND (0.00172)	ND (0.00182)	ND (0.00163)	ND (0.00157)	ND (0.00179)	ND (0.00173)	ND (0.00167)
gamma-BHC (Lindane)	0.1	1.3	0.1	ND (0.000708)	ND (0.000748)	ND (0.000725)	ND (0.000808)	ND (0.000751)	ND (0.000744)	ND (0.000706)	ND (0.000725)	ND (0.00077)	ND (0.000716)	ND (0.00076)	ND (0.00068)	ND (0.000655)	ND (0.000748)	ND (0.000721)	ND (0.000697)
gamma-Chlordane (trans)	NA	NA	NA	0.00334 IP	0.00823	ND (0.00217)	0.0486	0.0523	ND (0.00223)	0.00213 IP	0.00291 IP	0.00308	ND (0.00215)	0.017 IP	ND (0.00204)	ND (0.00196) IP	0.00186 J	ND (0.00216)	ND (0.00209)
Heptachlor	0.38	2.1	0.042	ND (0.000849)	ND (0.000898)	ND (0.00087)	ND (0.00097)	ND (0.000901)	ND (0.000893)	ND (0.000847)	ND (0.00087)	ND (0.000925)	ND (0.000859)	ND (0.000912)	ND (0.000816)	ND (0.000786)	ND (0.000897)	ND (0.000865)	ND (0.000836)
Heptachlor epoxide	NA	NA	NA	ND (0.00318)	ND (0.00336)	ND (0.00326)	ND (0.00364)	ND (0.00338)	ND (0.00335)	ND (0.00318)	ND (0.00326)	ND (0.00347)	ND (0.00322)	ND (0.00342)	ND (0.00306)	ND (0.00295)	ND (0.00336)	ND (0.00324)	ND (0.00314)
Methoxychlor	NA	NA	NA	ND (0.00318)	ND (0.00336)	ND (0.00326)	ND (0.00364)	ND (0.00338)	ND (0.00335)	ND (0.00318)	ND (0.00326)	ND (0.00347)	ND (0.00322)	ND (0.00342)	ND (0.00306)	ND (0.00295)	ND (0.00336)	ND (0.00324)	ND (0.00314)
Toxaphene	NA	NA	NA	ND (0.0318)	ND (0.0336)	ND (0.0326)	ND (0.0364)	ND (0.0338)	ND (0.0335)	ND (0.0318)	ND (0.0326)	ND (0.0347)	ND (0.0322)	ND (0.0342)	ND (0.0306)	ND (0.0295)	ND (0.0336)	ND (0.0324)	ND (0.0314)

TABLE 2
SUMMARY OF SOIL QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level																		
Location Name	Restricted Use Soil Cleanup Objectives - Protection of Groundwater	Restricted Use Soil Cleanup Objectives - Residential	Unrestricted Use Soil Cleanup Objectives	SB-07	SB-07	SB-07	SB-08	SB-08	SB-08	SB-09	SB-09	SB-09	SB-09	SB-10	SB-10	SB-10	SB-11	SB-11	SB-11
Sample Name				SB-07_0-0.16	SB-07_5-7	SB-07_11-13	SB-08_0-0.16	SB-08_11-13	SB-08_13-15	SB-09_0-0.16	DUP-01_20250205	SB-09_11-13	SB-09_13-15	SB-10_0-0.16	SB-10_8-10	SB-10_12-14	SB-11_0-0.16	SB-11_4-6	SB-11_11-13
Sample Date				02/07/2025	02/07/2025	02/07/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/05/2025	02/06/2025	02/06/2025	02/06/2025
Lab Sample ID				L2506987-03	L2506987-04	L2506987-05	L2506469-15	L2506469-16	L2506469-17	L2506469-18	L2506469-24	L2506469-19	L2506469-20	L2506469-21	L2506469-22	L2506469-23	L2506692-05	L2506692-06	L2506692-07
Sample Depth (bgs)				0 - 0.16 (ft)	5 - 7 (ft)	11 - 13 (ft)	0 - 0.16 (ft)	11 - 13 (ft)	13 - 15 (ft)	0 - 0.16 (ft)	11 - 13 (ft)	11 - 13 (ft)	13 - 15 (ft)	0 - 0.16 (ft)	8 - 10 (ft)	12 - 14 (ft)	0 - 0.16 (ft)	4 - 6 (ft)	11 - 13 (ft)
PFAS (mg/kg)																			
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	ND (0.0008)	ND (0.000796)	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.000797)
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	NA	NA	NA	ND (0.00498)	ND (0.005)	ND (0.00498)	ND (0.00499)	ND (0.005)	ND (0.00497)	ND (0.00496)	ND (0.00501)	ND (0.00499)	ND (0.00499)	ND (0.00499)	ND (0.00499)	ND (0.00497)	ND (0.00498)	ND (0.00501)	ND (0.0265)
3-(Perfluoroheptyl)propanoic acid (7:3 FTCA)	NA	NA	NA	ND (0.00498)	ND (0.005)	ND (0.00498)	ND (0.00499)	ND (0.005)	ND (0.00497)	ND (0.00496)	ND (0.00501)	ND (0.00499)	ND (0.00499)	ND (0.00499)	ND (0.00499)	ND (0.00497)	ND (0.00498)	ND (0.00501)	ND (0.00498)
3:3 Fluorotelomer carboxylic acid (3:3 FTCA)	NA	NA	NA	ND (0.000996)	ND (0.000999)	ND (0.000996)	ND (0.000998)	ND (0.001)	ND (0.000995)	ND (0.000993)	ND (0.001)	ND (0.000997)	ND (0.000998)	ND (0.000998)	ND (0.000997)	ND (0.000994)	ND (0.000995)	ND (0.001)	ND (0.00529)
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	ND (0.0008)	ND (0.000796)	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.000797)
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	ND (0.0008)	ND (0.000796)	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.00424)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	ND (0.0008)	ND (0.000796)	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.000797)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	ND (0.0008)	ND (0.000796)	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.000797)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	ND (0.0008)	ND (0.000796)	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.000797)
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	NA	NA	ND (0.000199)	0.00019 J	ND (0.000199)	0.00014 J	0.000062 J	ND (0.000199)	0.000144 J	ND (0.0002)	0.000237	ND (0.0002)	0.000077 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	0.000086 J	ND (0.000199)
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	0.000035 J	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	NA	NA	NA	ND (0.00199)	0.000167 J	ND (0.00199)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00199)	ND (0.002)	ND (0.00199)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00199)	ND (0.00199)	ND (0.002)	ND (0.00199)
N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	NA	NA	NA	ND (0.000199)	0.000092 J	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
N-Methylperfluorooctane sulfonamidoethanol (N-MeFOSE)	NA	NA	NA	ND (0.00199)	0.000167 J	ND (0.00199)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00199)	ND (0.002)	ND (0.00199)	ND (0.002)	ND (0.002)	ND (0.00199)	ND (0.00199)	ND (0.00199)	ND (0.002)	ND (0.00199)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NA	NA	NA	ND (0.000398)	ND (0.0004)	ND (0.000398)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000397)	ND (0.000401)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000398)	ND (0.000398)	ND (0.0004)	ND (0.00212)
Perfluoro(2-ethoxyethane) sulphonic acid (PFEESA)	NA	NA	NA	ND (0.000398)	ND (0.0004)	ND (0.000398)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000397)	ND (0.000401)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000398)	ND (0.000398)	ND (0.0004)	ND (0.00212)
Perfluoro(4-methoxybutanoic) acid (PFMBA)	NA	NA	NA	ND (0.000398)	ND (0.0004)	ND (0.000398)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000397)	ND (0.000401)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000398)	ND (0.000398)	ND (0.0004)	ND (0.00212)
Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	ND (0.0008)	ND (0.000796)	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.00424)
Perfluoro-3-methoxypropanoic acid (PFMPA)	NA	NA	NA	ND (0.000398)	ND (0.0004)	ND (0.000398)	ND (0.000399)	ND (0.0004)	ND (0.000398)	ND (0.000397)	ND (0.000401)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000398)	ND (0.000398)	ND (0.0004)	ND (0.000398)
Perfluorobutanesulfonic acid (PFBS)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.00106)
Perfluorobutanoic acid (PFBA)	NA	NA	NA	ND (0.000797)	ND (0.000799)	ND (0.000796)	ND (0.000799)	0.000037 J	0.000038 J	ND (0.000794)	ND (0.000802)	ND (0.000798)	ND (0.000798)	0.000038 J	ND (0.000798)	ND (0.000795)	ND (0.000796)	ND (0.000801)	ND (0.000797)
Perfluorodecanesulfonic acid (PFDS)	NA	NA	NA	0.00003 J	0.00004 J	ND (0.000199)	0.000071 J	0.000074 J	ND (0.000199)	0.000733	ND (0.0002)	0.000318	ND (0.0002)	0.000076 J	ND (0.000199)	ND (0.000199)	0.000031 J	0.000077 J	ND (0.000199)
Perfluorodecanoic acid (PFDA)	NA	NA	NA	ND (0.000199)	0.000042 JF	ND (0.000199)	0.000058 J	0.000091 J	0.000036 J	0.000075 J	ND (0.0002)	0.000092 J	ND (0.0002)	0.00004 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluorododecane sulfonic acid (PFDoDS)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluorododecanoic acid (PFDoDA)	NA	NA	NA	ND (0.000199)	0.000022 J	ND (0.000199)	0.000053 J	0.000041 J	ND (0.000199)	0.000052 J	ND (0.0002)	ND (0.000199)	ND (0.0002)	0.000038 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluoroheptanesulfonic acid (PFHpS)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluoroheptanoic acid (PFHpA)	NA	NA	NA	ND (0.000199)	0.000022 J	0.00002 J	0.00002 J	0.000048 J	0.000066 J	ND (0.000199)	ND (0.0002)	0.000051 J	ND (0.0002)	0.000028 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluorohexanesulfonic acid (PFHxS)	NA	NA	NA	ND (0.000199)	0.000051 J	0.000036 J	0.000057 J	0.000073 J	0.000047 J	ND (0.000199)	ND (0.0002)	0.000054 J	ND (0.0002)	0.00008 J	0.000041 J	0.000033 JF	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluorohexanoic acid (PFHxA)	NA	NA	NA	ND (0.000199)	ND (0.0002)	0.000022 J	ND (0.0002)	ND (0.0002)	0.000084 J	ND (0.000199)	0.000027 J	0.000055 J	ND (0.0002)	0.000032 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.00106)
Perfluorononane sulfonic acid (PFNS)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluorononanoic acid (PFNA)	NA	NA	NA	ND (0.000199)	0.000038 J	0.000021 J	0.000024 J	0.000051 J	0.000094 JF	ND (0.000199)	ND (0.0002)	0.000073 J	ND (0.0002)	0.000026 JF	0.000031 J	0.000028 J	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluorooctane sulfonamide (PFOSA)	NA	NA	NA	ND (0.000199)	0.000056 JF	ND (0.000199)	0.000018 JF	0.000074 JF	ND (0.000199)	ND (0.000199)	ND (0.0002)	0.000035 JF	ND (0.0002)	0.00003 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.00106)
Perfluorooctanesulfonic acid (PFOS)	0.001	0.044	0.00088	0.000242	***0.00236***	0.000178 J	0.000592	***0.00238***	***0.00298***	0.000106 J	0.000175 J	***0.00137***	0.000239	0.000975	***0.00159***	***0.00109***	0.000049 J	0.000034 J	0.000584
Perfluorooctanoic acid (PFOA)	0.0008	0.033	0.00066	ND (0.000199)	0.000159 J	0.000182 J	0.000114 J	0.000092 J	0.00033	ND (0.000199)	0.000064 J	0.000298	0.000054 J	0.000059 J	0.000038 J	0.000056 J	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluoropentanesulfonic acid (PFPeS)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluoropentanoic acid (PFPeA)	NA	NA	NA	ND (0.000398)	ND (0.0004)	ND (0.000398)	ND (0.000399)	ND (0.0004)	0.000093 J	ND (0.000397)	ND (0.000401)	0.000058 J	ND (0.000399)	ND (0.000399)	ND (0.000399)	ND (0.000398)	ND (0.000398)	ND (0.0004)	ND (0.00212)
Perfluorotetradecanoic acid (PFTeDA)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	0.000026 J	ND (0.0002)	ND (0.000199)	0.000025 J	ND (0.0002)	ND (0.000199)	ND (0.0002)	ND (0.0002)	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluorotridecanoic acid (PFTrDA)	NA	NA	NA	ND (0.000199)	ND (0.0002)	ND (0.000199)	0.000028 J	0.000021 J	ND (0.000199)	0.000018 J	ND (0.0002)	ND (0.000199)	ND (0.0002)	0.000022 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
Perfluoroundecanoic acid (PFUnDA)	NA	NA	NA	ND (0.000199)	0.000042 J	ND (0.000199)	0.000046 J	0.00005 J	0.000013 J	0.000042 J	ND (0.0002)	0.000023 J	ND (0.0002)	0.000049 J	ND (0.000199)	ND (0.000199)	ND (0.000199)	ND (0.0002)	ND (0.000199)
US EPA PFAS (PFOS + PFOA)	NA	NA	NA	-	-	-	0.000706 J	0.00247 J	0.00331	0.000106 J	0.000239 J	0.00167	0.000293 J	0.00103 J	0.00163 J	0.00115 J	0.000049 J	0.000034 J	0.000584

ABBREVIATIONS AND NOTES:

mg/kg: milligram per kilogram

-: Not Analyzed
bgs: below ground surface
F: Results are considered to be an estimated maximum concentration
ft: feet
I: The lower value for the two columns has been reported due to obvious interference.
J: Value is estimated.
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
P: The RPD between the results for the two columns exceeds the method-specified criteria.

- For test methods used, see the laboratory data sheets.
- Soil analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (SCO), Restricted-Use Residential SCOs, and Protection of Groundwater SCO's.
*- **Bold italic** values indicate an exceedance of the Protection of Groundwater Criteria.*
- Grey shading indicates an exceedance of the Unrestricted Use Soil Cleanup Objectives.
- Yellow shading indicates an exceedance of the Restricted Use Residential Soil Cleanup Objectives.

TABLE 3
SUMMARY OF GROUNDWATER QUALITY DATA
180 EAST 125TH STREET DEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

Location Name / Sample Name / Sample Date / Lab Sample ID	Action Level New York TOGS 111 Ambient Water Quality Standards	MW-01 MW-01_20250213 02/13/2025 L2508240-01	MW-02 MW-02_20250213 02/13/2025 L2508240-02	MW-02 DUP-01_20250213 02/13/2025 L2508240-03	MW-03 MW-03_20250213 02/13/2025 L2508240-04	MW-04 MW-04_20250213 02/13/2025 L2508240-06	MW-05 MW-05_20250213 02/13/2025 L2508240-05
Volatile Organic Compounds (ug/L)							
1,1,1,2-Tetrachloroethane	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,1,1-Trichloroethane	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,1,2,2-Tetrachloroethane	5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1,2-Trichloroethane	1	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)
1,1-Dichloroethane	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,1-Dichloroethene	5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,1-Dichloropropene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2,3-Trichlorobenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2,3-Trichloropropane	0.04	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2,4,5-Tetramethylbenzene	5	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2,4-Trichlorobenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2,4-Trimethylbenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2-Dibromo-3-chloropropane (DBCP)	0.04	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2-Dibromoethane (Ethylene Dibromide)	0.0006	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,2-Dichlorobenzene	3	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2-Dichloroethane	0.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,2-Dichloroethene (total)	NA	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,2-Dichloropropane	1	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
1,3,5-Trimethylbenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,3-Dichlorobenzene	3	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,3-Dichloropropane	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,3-Dichloropropene	0.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
1,4-Dichlorobenzene	3	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
1,4-Diethylbenzene	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,4-Dioxane	0.35	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)	ND (250)
2,2-Dichloropropane	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
2-Butanone (Methyl Ethyl Ketone)	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2-Chlorotoluene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
2-Hexanone (Methyl Butyl Ketone)	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2-Phenylbutane (sec-Butylbenzene)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
4-Chlorotoluene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Acetone	50	ND (5)	ND (5)	1.7 J	2.2 J	ND (5)	ND (5)
Acrylonitrile	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Benzene	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromobenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Bromodichloromethane	50	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Bromoform	50	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Bromomethane (Methyl Bromide)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Carbon disulfide	60	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Carbon tetrachloride	5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Chlorobenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Chlorobromomethane	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Chloroethane	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Chloroform (Trichloromethane)	7	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Chloromethane (Methyl Chloride)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
cis-1,2-Dichloroethene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
cis-1,3-Dichloropropene	0.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Cymene (p-Isopropyltoluene)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Dibromochloromethane	50	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Dibromomethane	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Dichlorodifluoromethane (CFC-12)	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Ethyl Ether	NA	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Ethylbenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Hexachlorobutadiene	0.5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Isopropylbenzene (Cumene)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
m,p-Xylenes	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Methyl Tert Butyl Ether (MTBE)	10	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Methylene chloride (Dichloromethane)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Naphthalene	10	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
n-Butylbenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
n-Propylbenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
o-Xylene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Styrene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
tert-Butylbenzene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Tetrachloroethene	5	1.6	ND (0.5)	ND (0.5)	0.63	5.6	3.8
Toluene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
trans-1,2-Dichloroethene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
trans-1,3-Dichloropropene	0.4	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
trans-1,4-Dichloro-2-butene	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Trichloroethene	5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	1.1	0.96
Trichlorofluoromethane (CFC-11)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)
Vinyl acetate	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Vinyl chloride	2	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Xylene (Total)	5	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)	ND (2.5)

TABLE 3
SUMMARY OF GROUNDWATER QUALITY DATA
180 EAST 125TH STREET DEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level						
Location Name	New York TOGS	MW-01	MW-02	MW-02	MW-03	MW-04	MW-05
Sample Name	111 Ambient	MW-01_20250213	MW-02_20250213	DUP-01_20250213	MW-03_20250213	MW-04_20250213	MW-05_20250213
Sample Date	Water Quality	02/13/2025	02/13/2025	02/13/2025	02/13/2025	02/13/2025	02/13/2025
Lab Sample ID	Standards	L2508240-01	L2508240-02	L2508240-03	L2508240-04	L2508240-06	L2508240-05
Semi-Volatile Organic Compounds (ug/L)							
1,2,4,5-Tetrachlorobenzene	5	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
1,2,4-Trichlorobenzene	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
1,2-Dichlorobenzene	3	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,3-Dichlorobenzene	3	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
1,4-Dichlorobenzene	3	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2,2'-oxybis(1-Chloropropane)	5	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2,4,5-Trichlorophenol	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2,4,6-Trichlorophenol	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dichlorophenol	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dimethylphenol	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2,4-Dinitrophenol	10	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)
2,4-Dinitrotoluene	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2,6-Dinitrotoluene	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2-Chlorophenol	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Methylphenol (o-Cresol)	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitroaniline	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
2-Nitrophenol	NA	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
3&4-Methylphenol	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
3,3'-Dichlorobenzidine	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
3-Nitroaniline	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
4,6-Dinitro-2-methylphenol	NA	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
4-Bromophenyl phenyl ether (BDE-3)	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Chloro-3-methylphenol	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Chloroaniline	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
4-Chlorophenyl phenyl ether	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
4-Nitroaniline	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
4-Nitrophenol	NA	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Acetophenone	NA	ND (5)	11	9.2	ND (5)	ND (5)	ND (5)
Benzoic acid	NA	ND (50)	ND (50)	ND (50)	2.6 J	ND (50)	ND (50)
Benzyl Alcohol	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Biphenyl	5	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
bis(2-Chloroethoxy)methane	5	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
bis(2-Chloroethyl)ether	1	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
bis(2-Ethylhexyl)phthalate	5	ND (3)	ND (3)	ND (3)	ND (3)	ND (3)	ND (3)
Butyl benzylphthalate (BBP)	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Carbazole	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Dibenzofuran	NA	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Diethyl phthalate	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Dimethyl phthalate	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Di-n-butylphthalate (DBP)	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Di-n-octyl phthalate (DnOP)	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Hexachlorocyclopentadiene	5	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)	ND (20)
Isophorone	50	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Nitrobenzene	0.4	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
N-Nitrosodi-n-propylamine	NA	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
N-Nitrosodiphenylamine	50	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Phenol	1	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)	ND (5)
Inorganic Compounds (ug/L)							
Aluminum, Dissolved	NA	3.71 J	5.65 J	4.47 J	6.9 J	7.91 J	4.04 J
Antimony, Dissolved	3	0.92 J	0.61 J	0.46 J	4.24	0.86 J	0.64 J
Arsenic, Dissolved	25	0.22 J	0.26 J	0.26 J	1.69	0.22 J	ND (0.5)
Barium, Dissolved	1000	57.86	48.32	48.54	36.66	49.7	55.82
Beryllium, Dissolved	3	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Cadmium, Dissolved	5	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Calcium, Dissolved	NA	144000	98400	97100	206000	121000	107000
Chromium, Dissolved	50	1.61	4.63	5.21	0.17 J	1.03	0.41 J
Cobalt, Dissolved	NA	1.27	0.42 J	0.4 J	0.74	2.07	1.85
Copper, Dissolved	200	1.98	1.26	1.33	1.65	1.7	2.63
Iron, Dissolved	300	ND (50)	ND (50)	ND (50)	32.3 J	ND (50)	28.6 J
Lead, Dissolved	25	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Magnesium, Dissolved	35000	43100	38900	38000	41300	36400	30300
Manganese, Dissolved	300	156.7	422.9	378.4	273.8	151.1	96.68
Mercury, Dissolved	0.7	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, Dissolved	100	1.67 J	0.98 J	0.8 J	2.62	2.49	1.73 J
Potassium, Dissolved	NA	10800	7230	7060	14500	5780	4570
Selenium, Dissolved	10	5.48	3.22 J	3.17 J	ND (5)	4.17 J	3.92 J
Silver, Dissolved	50	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)
Sodium, Dissolved	20000	109000	84000	82900	97000	123000	104000
Thallium, Dissolved	0.5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Vanadium, Dissolved	NA	ND (5)	ND (5)	ND (5)	3.24 J	ND (5)	ND (5)
Zinc, Dissolved	2000	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)
Aluminum, Total	NA	18.1	21.4	7.46 J	12	9.58 J	19.4
Antimony, Total	3	0.47 J	ND (4)	ND (4)	1.29 J	ND (4)	ND (4)
Arsenic, Total	25	0.24 J	0.28 J	0.25 J	1.8	0.26 J	ND (0.5)
Barium, Total	1000	64.38	51.67	53.82	39.66	53.89	61.78
Beryllium, Total	3	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Cadmium, Total	5	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	0.06 J	0.11 J
Calcium, Total	NA	146000	95600	106000	228000	118000	107000
Chromium, Total	50	1.81	5.55	5.75	0.26 J	1.09	0.57 J
Cobalt, Total	NA	1.57	0.48 J	0.43 J	0.77	2.11	1.93
Copper, Total	200	2	1.6	1.47	2.76	1.59	2.87
Iron, Total	300	43.4 J	39.6 J	ND (50)	74.5	ND (50)	43 J
Lead, Total	25	1.23	ND (1)	ND (1)	0.73 J	0.34 J	0.35 J
Magnesium, Total	35000	48200	41100	44900	44700	38400	33400
Manganese, Total	300	199.3	462	476	293.6	161.5	109.5
Mercury, Total	0.7	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
Nickel, Total	100	1.92 J	1.1 J	0.93 J	2.86	2.61	1.91 J
Potassium, Total	NA	12000	7310	7630	15400	5800	4880
Selenium, Total	10	7.02	3.67 J	3.8 J	1.78 J	5.8	5.07
Silver, Total	50	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)	ND (0.4)
Sodium, Total	20000	122000	90400	94700	106000	128000	114000
Thallium, Total	0.5	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Vanadium, Total	NA	ND (5)	ND (5)	ND (5)	3.44 J	ND (5)	ND (5)
Zinc, Total	2000	16.4	15.8	13.29	17.79	16.9	17.76

TABLE 3
SUMMARY OF GROUNDWATER QUALITY DATA
180 EAST 125TH STREET DEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level						
Location Name	New York TOGS	MW-01	MW-02	MW-02	MW-03	MW-04	MW-05
Sample Name	111 Ambient	MW-01_20250213	MW-02_20250213	DUP-01_20250213	MW-03_20250213	MW-04_20250213	MW-05_20250213
Sample Date	Water Quality	02/13/2025	02/13/2025	02/13/2025	02/13/2025	02/13/2025	02/13/2025
Lab Sample ID	Standards	L2508240-01	L2508240-02	L2508240-03	L2508240-04	L2508240-06	L2508240-05
PCBs (ug/L)							
Aroclor-1016 (PCB-1016)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1221 (PCB-1221)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1232 (PCB-1232)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1242 (PCB-1242)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1248 (PCB-1248)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1254 (PCB-1254)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1260 (PCB-1260)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1262 (PCB-1262)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Aroclor-1268 (PCB-1268)	NA	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Polychlorinated biphenyls (PCBs)	0.09	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)	ND (0.071)
Pesticides (ug/L)							
4,4'-DDD	0.3	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
4,4'-DDE	0.2	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
4,4'-DDT	0.2	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
Aldrin	0	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)
alpha-BHC	0.01	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)
alpha-Chlordane (cis)	NA	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
beta-BHC	0.04	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Chlordane	0.05	ND (0.143)	ND (0.143)	ND (0.143)	ND (0.143)	ND (0.143)	ND (0.143)
delta-BHC	0.04	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)
Dieldrin	0.004	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
Endosulfan I	NA	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)
Endosulfan II	NA	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
Endosulfan sulfate	NA	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
Endrin	0	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
Endrin aldehyde	5	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)	ND (0.03)
Endrin ketone	5	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)	ND (0.029)
gamma-BHC (Lindane)	0.05	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)
gamma-Chlordane (trans)	NA	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)	ND (0.02)
Heptachlor	0.04	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)
Heptachlor epoxide	0.03	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)	ND (0.014)
Methoxychlor	35	ND (0.143)	ND (0.143)	ND (0.143)	ND (0.143)	ND (0.143)	ND (0.143)
Toxaphene	0.06	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
PFAS (ng/L)							
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	NA	ND (6.81)	ND (6.99)	ND (6.93)	ND (6.62)	ND (6.71)	ND (6.32)
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	NA	ND (42.6)	ND (43.7)	ND (43.3)	ND (41.3)	ND (42)	ND (39.5)
3-(Perfluoroheptyl)propanoic acid (7:3 FTCA)	NA	ND (42.6)	ND (43.7)	ND (43.3)	ND (41.3)	ND (42)	3.32 J
3:3 Fluorotelomer carboxylic acid (3:3 FTCA)	NA	ND (8.51)	ND (8.73)	ND (8.66)	ND (8.27)	ND (8.39)	ND (7.9)
4,8-Dioxa-3H-Perfluorononanoic Acid (ADONA)	NA	ND (6.81)	ND (6.99)	ND (6.93)	ND (6.62)	ND (6.71)	ND (6.32)
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	NA	ND (6.81)	ND (6.99)	ND (6.93)	ND (6.62)	ND (6.71)	ND (6.32)
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	NA	ND (6.81)	ND (6.99)	ND (6.93)	ND (6.62)	ND (6.71)	ND (6.32)
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	NA	ND (6.81)	ND (6.99)	ND (6.93)	ND (6.62)	ND (6.71)	ND (6.32)
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	NA	ND (6.81)	ND (6.99)	ND (6.93)	ND (6.62)	ND (6.71)	ND (6.32)
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	1.21 J	ND (1.68)	8.64
N-Ethylperfluorooctane sulfonamide (N-EtFOSA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	ND (1.58)
N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	NA	ND (17)	ND (17.5)	ND (17.3)	ND (16.5)	ND (16.8)	ND (15.8)
N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	ND (1.58)
N-Methylperfluorooctane sulfonamide (N-MeFOSA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	ND (1.58)
N-Methylperfluorooctane sulfonamidoethanol (N-MeFOSE)	NA	ND (17)	ND (17.5)	ND (17.3)	ND (16.5)	ND (16.8)	ND (15.8)
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	NA	ND (3.4)	ND (3.49)	ND (3.46)	ND (3.31)	ND (3.36)	ND (3.16)
Perfluoro(2-ethoxyethane) sulphonic acid (PFEESA)	NA	ND (3.4)	ND (3.49)	ND (3.46)	ND (3.31)	ND (3.36)	ND (3.16)
Perfluoro(4-methoxybutanoic) acid (PFMBA)	NA	ND (3.4)	ND (3.49)	ND (3.46)	ND (3.31)	ND (3.36)	ND (3.16)
Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	NA	ND (6.81)	ND (6.99)	ND (6.93)	ND (6.62)	ND (6.71)	ND (6.32)
Perfluoro-3-methoxypropanoic acid (PFMPA)	NA	ND (3.4)	ND (3.49)	ND (3.46)	ND (33.1)	ND (3.36)	ND (3.16)
Perfluorobutanesulfonic acid (PFBS)	NA	78.9	7.34	7.32	40.1	14.3	14.7
Perfluorobutanoic acid (PFBA)	NA	30.4	23.9	25.3	29.6 J	24.2	63.5
Perfluorodecanesulfonic acid (PFDS)	NA	ND (1.7)	ND (1.75)	ND (1.73)	0.356 J	ND (1.68)	ND (1.58)
Perfluorodecanoic acid (PFDA)	NA	0.451 J	0.865 J	0.736 J	2.21	1.96	281
Perfluorododecane sulfonic acid (PFDoDS)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	ND (1.58)
Perfluorododecanoic acid (PFDoDA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	0.34 J
Perfluoroheptanesulfonic acid (PFHpS)	NA	1.86	1.25 J	1.17 J	4.1	5.16	17.2
Perfluoroheptanoic acid (PFHpA)	NA	18.3	28.6	36	38.3	47.4	110
Perfluorohexanesulfonic acid (PFHxS)	NA	8	9.96	11.5	49.4	38.5	126
Perfluorohexanoic acid (PFHxA)	NA	23.9	45.6	48.3	57	56.8	114
Perfluorononane sulfonic acid (PFNS)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	ND (1.58)
Perfluorononanoic acid (PFNA)	NA	7.23	6.03	5.14	9.82	7.89	37.5
Perfluorooctane sulfonamide (PFOSA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	1.99 F	0.487 J	13.6
Perfluorooctanesulfonic acid (PFOS)	2.7	87.7	61.2	57.9	181	327	785
Perfluorooctanoic acid (PFOA)	6.7	71.8	35.4	35.6	122	96.7	177
Perfluoropentanesulfonic acid (PFPeS)	NA	2.63	4.15	4.85	6.49	3.33	7.47
Perfluoropentanoic acid (PFPeA)	NA	23.5	54.2	53.4	44	44.5	144
Perfluorotetradecanoic acid (PFTeDA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	ND (1.58)
Perfluorotridecanoic acid (PFTrDA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	ND (1.65)	ND (1.68)	ND (1.58)
Perfluoroundecanoic acid (PFUnDA)	NA	ND (1.7)	ND (1.75)	ND (1.73)	0.289 J	ND (1.68)	3.28

TABLE 3
SUMMARY OF GROUNDWATER QUALITY DATA
180 EAST 125TH STREET DEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

	Action Level						
Location Name	New York TOGS	MW-01	MW-02	MW-02	MW-03	MW-04	MW-05
Sample Name	111 Ambient	MW-01_20250213	MW-02_20250213	DUP-01_20250213	MW-03_20250213	MW-04_20250213	MW-05_20250213
Sample Date	Water Quality	02/13/2025	02/13/2025	02/13/2025	02/13/2025	02/13/2025	02/13/2025
Lab Sample ID	Standards	L2508240-01	L2508240-02	L2508240-03	L2508240-04	L2508240-06	L2508240-05
Semi-Volatile Organic Compounds (SIM) (ug/L)							
1,4-Dioxane	0.35	ND (0.15)	ND (0.15)	ND (0.15)	0.0772 J	ND (0.144)	0.0363 J
2-Chloronaphthalene	10	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
2-Methylnaphthalene	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.04 J	0.05 J
Acenaphthene	20	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Acenaphthylene	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Anthracene	50	0.04 J	0.04 J	0.06 J	0.11	ND (0.1)	ND (0.1)
Benzo(a)anthracene	0.002	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(a)pyrene	0	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(b)fluoranthene	0.002	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(g,h,i)perylene	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Benzo(k)fluoranthene	0.002	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Chrysene	0.002	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Dibenz(a,h)anthracene	NA	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Fluoranthene	50	0.04 J	0.03 J	0.04 J	0.13	0.03 J	0.05 J
Fluorene	50	ND (0.1)	ND (0.1)	ND (0.1)	0.09 J	ND (0.1)	ND (0.1)
Hexachlorobenzene	0.04	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Hexachlorobutadiene	0.5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)
Hexachloroethane	5	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)	ND (0.8)
Indeno(1,2,3-cd)pyrene	0.002	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)
Naphthalene	10	0.03 J	ND (0.1)	0.02 J	0.04 J	0.04 J	0.13
Pentachlorophenol	1	ND (0.8)	0.09 J	0.08 J	0.08 J	0.07 J	0.1 J
Phenanthrene	50	0.07 J	ND (0.1)	ND (0.1)	0.09 J	ND (0.1)	0.06 J
Pyrene	50	ND (0.1)	ND (0.1)	ND (0.1)	0.1 J	ND (0.1)	0.05 J

ABBREVIATIONS AND NOTES:
µg/L: micrograms per liter

-: Not Analyzed
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit

- For test methods used, see the laboratory data sheets.
- Groundwater analytical results are compared to NY-AWQS: NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values (SGVs) for Class GA Water.
- Yellow shading indicates an exceedance of the AWQS criteria.

TABLE 4
SUMMARY OF SOIL GAS QUALITY DATA
180 EAST 125TH STREET REDEVELOPMENT SITE
NEW YORK, NEW YORK
FILE NO. 0209815

Location Name	SV-01	SV-02	SV-03	SV-04	SV-05	SV-06	SV-07
Sample Name	SV-01-20250207	SV-02-20250207	SV-03-20250212	SV-04-20250207	SV-05-20250207	SV-06-20250207	SV-07-20250207
Sample Date	02/07/2025	02/07/2025	02/12/2025	02/07/2025	02/07/2025	02/07/2025	02/07/2025
Lab Sample ID	200-76909-1	200-76909-2	200-76966-1	200-76909-3	200-76909-4	200-76909-5	200-76909-6
Volatile Organic Compounds (ug/m3)							
1,1,1-Trichloroethane	ND (1.1)	0.37 J	3	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)
1,1,2,2-Tetrachloroethane	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)
1,1,2-Trichloroethane	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)
1,1-Dichloroethane	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)
1,1-Dichloroethene	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
1,2,4-Trichlorobenzene	ND (3.7)	ND (3.7)	ND (3.7)	ND (3.7)	ND (3.7)	ND (3.7)	ND (3.7)
1,2,4-Trimethylbenzene	2.8	3.3	1.4	1.5	1.2	2.5	ND (0.98)
1,2-Dibromoethane (Ethylene Dibromide)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)
1,2-Dichlorobenzene	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)
1,2-Dichloroethane	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)
1,2-Dichloropropane	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)
1,2-Dichlorotetrafluoroethane (CFC 114)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)	ND (1.4)
1,3,5-Trimethylbenzene	0.85 J	0.94 J	0.47 J	0.47 J	0.46 J	0.78 J	ND (0.98)
1,3-Butadiene	4.1	0.1 J	0.39 J	0.66	0.65	0.49	0.41 J
1,3-Dichlorobenzene	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)
1,4-Dichlorobenzene	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)	ND (1.2)
1,4-Dioxane	0.5 J	ND (18)	0.41 J	ND (18)	ND (18)	ND (18)	ND (18)
2,2,4-Trimethylpentane	1.6	0.29 J	0.46 J	6.7	0.72 J	0.27 J	6.9
2-Butanone (Methyl Ethyl Ketone)	4.2	5.4	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)	ND (1.5)
2-Chlorotoluene	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
2-Hexanone (Methyl Butyl Ketone)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
2-Phenylbutane (sec-Butylbenzene)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1.2	1.2	0.58 J	0.5 J	0.68 J	1	ND (0.98)
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Acetone	50	61	22	17	20	13	22
Allyl chloride	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)	ND (1.6)
Benzene	4.1	1.7	3.8	4.2	3.5	1.7	2.8
Benzyl Chloride (alpha-Chlorotoluene)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)
Bromodichloromethane	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)
Bromoform	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)
Bromomethane (Methyl Bromide)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)
Butane	16	3.9	31 B	35	22	7.1	28
Carbon disulfide	11	2.5	7.6	3.7	9.2	2	4.2
Carbon tetrachloride	ND (0.22)	ND (0.22)	0.28	0.32	0.24	0.33	0.18 J
Chlorobenzene	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)
Chlorodifluoromethane	9.4	2.8	1.4 J	1.3 J	1.9	1.5 J	1.5 J
Chloroethane	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)	ND (1.3)
Chloroform (Trichloromethane)	0.82 J	0.82 J	1.2	0.48 J	0.55 J	1.5	0.59 J
Chloromethane (Methyl Chloride)	0.31 J	ND (1)	ND (1)	0.78 J	0.46 J	ND (1)	0.37 J
cis-1,2-Dichloroethene	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
cis-1,3-Dichloropropene	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)
Cyclohexane	8	1.1	1.5	4.4	2.9	0.67 J	1.3
Cymene (p-Isopropyltoluene)	0.66 J	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)
Dibromochloromethane	ND (1.7)	ND (1.7)	ND (1.7)	ND (1.7)	ND (1.7)	ND (1.7)	ND (1.7)
Dichlorodifluoromethane (CFC-12)	8.1	8.3	7.7	2.5	5	2.7	2.8
Ethylbenzene	3.1	2.9	1.8	2.2	2.3	2.9	1.1
Hexachlorobutadiene	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)	ND (2.1)
Hexane	8.8	1.3 J	8.9	16	4.1	1.5 J	9.6
Isopropyl Alcohol (2-Propanol)	ND (12)	ND (12)	ND (12)	ND (12)	ND (12)	ND (12)	ND (12)
Isopropylbenzene (Cumene)	ND (0.98)	ND (0.98)	3.1	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)
m,p-Xylenes	13	12	6.8	7.3	9.4	12	2.8
Methyl methacrylate	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
Methyl Tert Butyl Ether (MTBE)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)
Methylene chloride (Dichloromethane)	1.4 J	ND (1.7)	ND (1.7)	ND (1.7)	1.9	ND (1.7)	1.1 J
Naphthalene	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)	ND (2)
n-Butylbenzene	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)
N-Heptane	7.1	2.9	2.6	8.4	3.4	2.3	4.5
n-Propylbenzene	0.85 J	0.75 J	0.43 J	0.37 J	0.52 J	0.71 J	ND (0.98)
o-Xylene	4.2	4.2	2.5	2.2	2.8	3.6	0.92
Styrene	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)
Tert-Butyl Alcohol (tert-Butanol)	5.8 J	5.5 J	5.7 J	ND (15)	3.8 J	4.8 J	5.3 J
tert-Butylbenzene	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)	ND (1.1)
Tetrachloroethene	4.5	14	7.1 B	1.4	7.3	2.6	5.7
Tetrahydrofuran	ND (15)	ND (15)	ND (15)	ND (15)	ND (15)	ND (15)	ND (15)
Toluene	21	17	11	17	17	19	11
trans-1,2-Dichloroethene	ND (0.79)	ND (0.79)	0.18 J	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)
trans-1,3-Dichloropropene	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)
Trichloroethene	0.17 J	0.39	0.35	ND (0.2)	0.13 J	ND (0.2)	ND (0.2)
Trichlorofluoromethane (CFC-11)	6.4	4.6	8	1.5	150	1.7	2.4
Trifluorotrichloroethane (Freon 113)	0.49 J	0.53 J	0.5 J	0.52 J	0.6 J	0.53 J	0.54 J
Vinyl Bromide (Bromoethene)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)
Vinyl chloride	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)
SUM of VOCs	200.45	159.79	142.15	136.4	272.71	87.18	116.01
SUM of BTEX	45.4	37.8	25.9	32.9	35	39.2	18.62
SUM of CVOCs	6.07	14.76	10.73	1.72	9.57	2.93	6.98

ABBREVIATIONS AND NOTES:

$\mu g/m^3$: micrograms per cubic meter

-: Not Analyzed
BTEX: Benzene, Toluene, Ethylbenzene, Xylenes
CVOCs: Chlorinated volatile organic compounds
NA: Not Applicable
ND (2.5): Not detected, number in parentheses is the laboratory reporting limit
VOCs: Volatile Organic Compounds

- For test methods used, see the laboratory data sheets.
- SUM of CVOCs includes the following compounds: carbon tetrachloride, 1,1-dichloroethene, cis-1,2-dichloroethene, trichloroethene, methylene chloride, tetrachloroethene, 1,1,1-trichloroethane, vinyl chloride

FIGURES

MAP SOURCE: ESRI
SITE COORDINATES: 40°48'13"N, 73°56'12"W

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
MARCH 2025

FIGURE 1

GIS: \\haleyaldrich.com\share\CF\Projects\0209815\GIS\209815_000_180_E_125TH_STREET.aprx - khensen - 6/26/2024 11:33 AM

LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024

N

0 40 80

SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SITE PLAN

MARCH 2025

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0209815\GIS\209815_000_180_E_125TH_STREET.aprx - USER: khensen - LAST SAVED: 6/26/2024 11:33 AM

LEGEND

SAMPLING LOCATIONS

- SOIL BORING
- SOIL BORING/MONITORING WELL
- SOIL VAPOR PROBE
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024

N

0 40 80

SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SAMPLE LOCATION MAP

MARCH 2025

FIGURE 3

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0209815\GIS\209815_000_180_E_125TH_STREET.aprx - USER: ayabu - LAST SAVED: 3/3/2025 9:14 AM

LEGEND

- MONITORING WELL
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER ELEVATION CONTOUR, IN FEET. DASHED WHERE INFERRED.
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024

0 40 80
SCALE IN FEET

HALEY ALDRICH

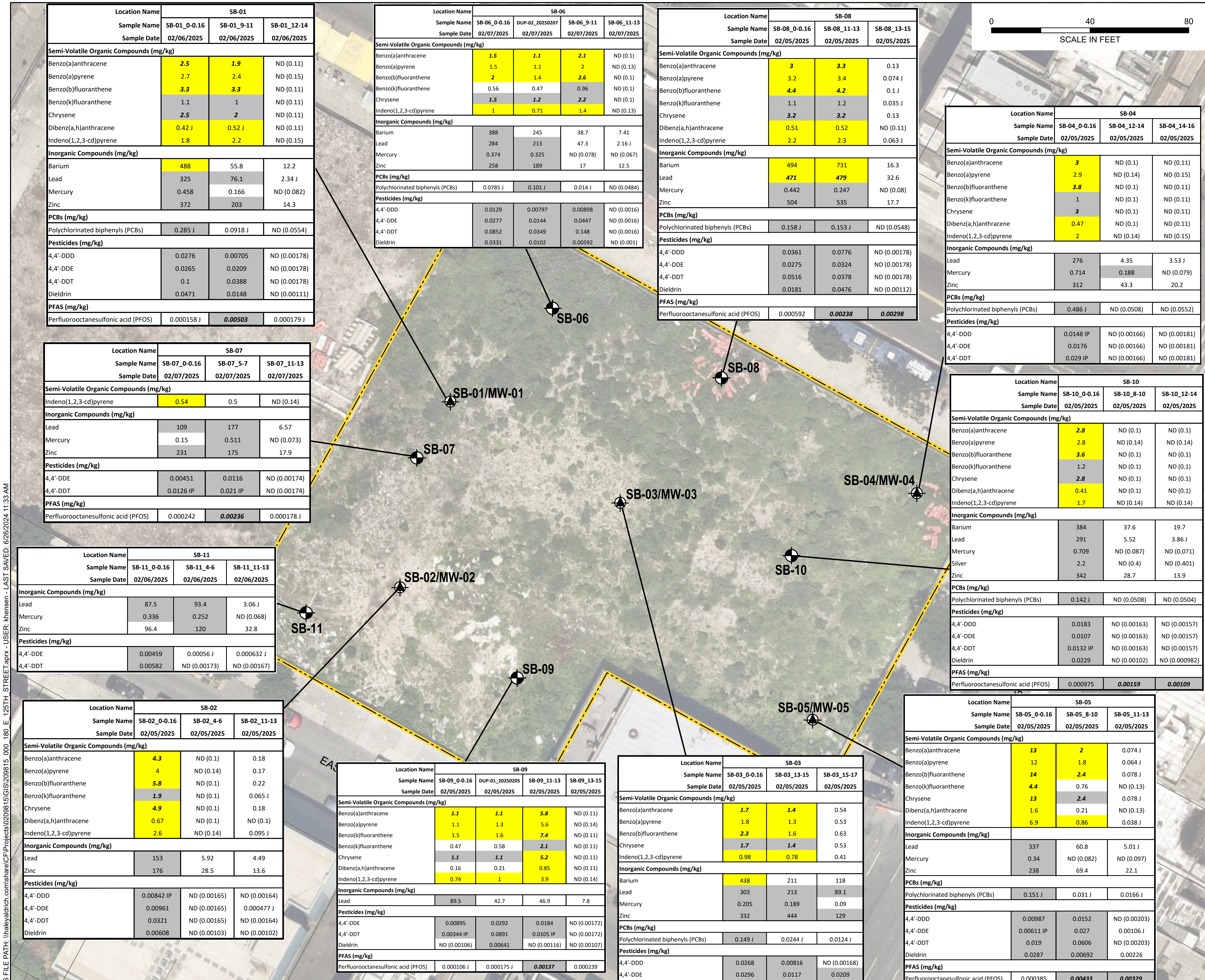
180 EAST 125TH STREET
NEW YORK, NEW YORK

GROUNDWATER CONTOUR MAP

MARCH 2025

FIGURE 4

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0209815\GIS\209815_000_180_E_125TH_STREET.aprx - USER: ayabu - LAST SAVED: 2/28/2025 1:29 PM



Location Name	SB-01		
Sample Name	SB-01_0-0.16	SB-01_9-11	SB-01_12-14
Sample Date	02/06/2025	02/06/2025	02/06/2025
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	***2.5***	***1.9***	ND (0.11)
Benzo(a)pyrene	2.7	2.4	ND (0.15)
Benzo(b)fluoranthene	***3.3***	***3.3***	ND (0.11)
Benzo(k)fluoranthene	1.1	1	ND (0.11)
Chrysene	***2.5***	***2***	ND (0.11)
Dibenz(a,h)anthracene	0.42 J	0.52 J	ND (0.11)
Indeno(1,2,3-cd)pyrene	1.8	2.2	ND (0.15)
Inorganic Compounds (mg/kg)			
Barium	488	55.8	12.2
Lead	325	76.1	2.34 J
Mercury	0.458	0.166	ND (0.082)
Zinc	372	203	14.3
PCBs (mg/kg)			
Polychlorinated biphenyls (PCBs)	0.285 J	0.0918 J	ND (0.0554)
Pesticides (mg/kg)			
4,4'-DDD	0.0276	0.00705	ND (0.00178)
4,4'-DDE	0.0265	0.0209	ND (0.00178)
4,4'-DDT	0.1	0.0388	ND (0.00178)
Dieldrin	0.0471	0.0148	ND (0.00111)
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000158 J	***0.00503***	0.000179 J

Location Name	SB-06			
Sample Name	SB-06_0-0.16	DUP-02_20250207	SB-06_9-11	SB-06_11-13
Sample Date	02/07/2025	02/07/2025	02/07/2025	02/07/2025
Semi-Volatile Organic Compounds (mg/kg)				
Benzo(a)anthracene	***1.5***	***1.1***	***2.1***	ND (0.1)
Benzo(a)pyrene	1.5	1.1	2	ND (0.13)
Benzo(b)fluoranthene	***2***	1.4	***2.6***	ND (0.1)
Benzo(k)fluoranthene	0.56	0.47	0.96	ND (0.1)
Chrysene	***1.5***	***1.2***	***2.2***	ND (0.1)
Indeno(1,2,3-cd)pyrene	1	0.71	1.4	ND (0.13)
Inorganic Compounds (mg/kg)				
Barium	388	245	38.7	7.41
Lead	284	213	47.3	2.16 J
Mercury	0.374	0.325	ND (0.078)	ND (0.067)
Zinc	258	189	17	12.5
PCBs (mg/kg)				
Polychlorinated biphenyls (PCBs)	0.0785 J	0.101 J	0.014 J	ND (0.0484)
Pesticides (mg/kg)				
4,4'-DDD	0.0129	0.00797	0.00898	ND (0.0016)
4,4'-DDE	0.0277	0.0144	0.0447	ND (0.0016)
4,4'-DDT	0.0852	0.0349	0.148	ND (0.0016)
Dieldrin	0.0331	0.0102	0.00592	ND (0.001)

Location Name	SB-08		
Sample Name	SB-08_0-0.16	SB-08_11-13	SB-08_13-15
Sample Date	02/05/2025	02/05/2025	02/05/2025
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	***3***	***3.3***	0.13
Benzo(a)pyrene	3.2	3.4	0.074 J
Benzo(b)fluoranthene	***4.4***	***4.2***	0.1 J
Benzo(k)fluoranthene	1.1	1.2	0.035 J
Chrysene	***3.2***	***3.2***	0.13
Dibenz(a,h)anthracene	0.51	0.52	ND (0.11)
Indeno(1,2,3-cd)pyrene	2.2	2.3	0.063 J
Inorganic Compounds (mg/kg)			
Barium	494	731	16.3
Lead	***471***	***479***	32.6
Mercury	0.442	0.247	ND (0.08)
Zinc	504	535	17.7
PCBs (mg/kg)			
Polychlorinated biphenyls (PCBs)	0.158 J	0.153 J	ND (0.0548)
Pesticides (mg/kg)			
4,4'-DDD	0.0361	0.0776	ND (0.00178)
4,4'-DDE	0.0275	0.0324	ND (0.00178)
4,4'-DDT	0.0516	0.0378	ND (0.00178)
Dieldrin	0.0181	0.0476	ND (0.00112)
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000592	***0.00238***	***0.00298***

Location Name	SB-04		
Sample Name	SB-04_0-0.16	SB-04_12-14	SB-04_14-16
Sample Date	02/05/2025	02/05/2025	02/05/2025
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	***3***	ND (0.1)	ND (0.11)
Benzo(a)pyrene	2.9	ND (0.14)	ND (0.15)
Benzo(b)fluoranthene	***3.8***	ND (0.1)	ND (0.11)
Benzo(k)fluoranthene	1	ND (0.1)	ND (0.11)
Chrysene	***3***	ND (0.1)	ND (0.11)
Dibenz(a,h)anthracene	0.47	ND (0.1)	ND (0.11)
Indeno(1,2,3-cd)pyrene	2	ND (0.14)	ND (0.15)
Inorganic Compounds (mg/kg)			
Lead	276	4.35	3.53 J
Mercury	0.714	0.188	ND (0.079)
Zinc	312	43.3	20.2
PCBs (mg/kg)			
Polychlorinated biphenyls (PCBs)	0.486 J	ND (0.0508)	ND (0.0552)
Pesticides (mg/kg)			
4,4'-DDD	0.0148 IP	ND (0.00166)	ND (0.00181)
4,4'-DDE	0.0176	ND (0.00166)	ND (0.00181)
4,4'-DDT	0.029 IP	ND (0.00166)	ND (0.00181)

Location Name	SB-07		
Sample Name	SB-07_0-0.16	SB-07_5-7	SB-07_11-13
Sample Date	02/07/2025	02/07/2025	02/07/2025
Semi-Volatile Organic Compounds (mg/kg)			
Indeno(1,2,3-cd)pyrene	0.54	0.5	ND (0.14)
Inorganic Compounds (mg/kg)			
Lead	109	177	6.57
Mercury	0.15	0.511	ND (0.073)
Zinc	231	175	17.9
Pesticides (mg/kg)			
4,4'-DDE	0.00451	0.0116	ND (0.00174)
4,4'-DDT	0.0126 IP	0.021 IP	ND (0.00174)
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000242	***0.00236***	0.000178 J

Location Name	SB-10		
Sample Name	SB-10_0-0.16	SB-10_8-10	SB-10_12-14
Sample Date	02/05/2025	02/05/2025	02/05/2025
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	***2.8***	ND (0.1)	ND (0.1)
Benzo(a)pyrene	2.8	ND (0.14)	ND (0.14)
Benzo(b)fluoranthene	***3.6***	ND (0.1)	ND (0.1)
Benzo(k)fluoranthene	1.2	ND (0.1)	ND (0.1)
Chrysene	***2.8***	ND (0.1)	ND (0.1)
Dibenz(a,h)anthracene	0.41	ND (0.1)	ND (0.1)
Indeno(1,2,3-cd)pyrene	1.7	ND (0.14)	ND (0.14)
Inorganic Compounds (mg/kg)			
Barium	384	37.6	19.7
Lead	291	5.52	3.86 J
Mercury	0.709	ND (0.087)	ND (0.071)
Silver	2.2	ND (0.4)	ND (0.401)
Zinc	342	28.7	13.9
PCBs (mg/kg)			
Polychlorinated biphenyls (PCBs)	0.142 J	ND (0.0508)	ND (0.0504)
Pesticides (mg/kg)			
4,4'-DDD	0.0183	ND (0.00163)	ND (0.00157)
4,4'-DDE	0.0107	ND (0.00163)	ND (0.00157)
4,4'-DDT	0.0132 IP	ND (0.00163)	ND (0.00157)
Dieldrin	0.0229	ND (0.00102)	ND (0.000982)
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000975	***0.00159***	***0.00109***

Location Name	SB-11		
Sample Name	SB-11_0-0.16	SB-11_4-6	SB-11_11-13
Sample Date	02/06/2025	02/06/2025	02/06/2025
Inorganic Compounds (mg/kg)			
Lead	87.5	93.4	3.06 J
Mercury	0.336	0.252	ND (0.068)
Zinc	96.4	120	32.8
Pesticides (mg/kg)			
4,4'-DDE	0.00459	0.00056 J	0.000632 J
4,4'-DDT	0.00582	ND (0.00173)	ND (0.00167)

Location Name	SB-02		
Sample Name	SB-02_0-0.16	SB-02_4-6	SB-02_11-13
Sample Date	02/05/2025	02/05/2025	02/05/2025
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	***4.3***	ND (0.1)	0.18
Benzo(a)pyrene	4	ND (0.14)	0.17
Benzo(b)fluoranthene	***5.8***	ND (0.1)	0.22
Benzo(k)fluoranthene	***1.9***	ND (0.1)	0.065 J
Chrysene	***4.9***	ND (0.1)	0.18
Dibenz(a,h)anthracene	0.67	ND (0.1)	ND (0.1)
Indeno(1,2,3-cd)pyrene	2.6	ND (0.14)	0.095 J
Inorganic Compounds (mg/kg)			
Lead	153	5.92	4.49
Zinc	176	28.5	13.6
Pesticides (mg/kg)			
4,4'-DDD	0.00842 IP	ND (0.00165)	ND (0.00164)
4,4'-DDE	0.00961	ND (0.00165)	0.000477 J
4,4'-DDT	0.0321	ND (0.00165)	ND (0.00164)
Dieldrin	0.00608	ND (0.00103)	ND (0.00102)

Location Name	SB-09			
Sample Name	SB-09_0-0.16	DUP-01_20250205	SB-09_11-13	SB-09_13-15
Sample Date	02/05/2025	02/05/2025	02/05/2025	02/05/2025
Semi-Volatile Organic Compounds (mg/kg)				
Benzo(a)anthracene	***1.1***	***1.1***	***5.8***	ND (0.11)
Benzo(a)pyrene	1.1	1.3	5.6	ND (0.14)
Benzo(b)fluoranthene	1.5	1.6	***7.4***	ND (0.11)
Benzo(k)fluoranthene	0.47	0.58	***2.1***	ND (0.11)
Chrysene	***1.1***	***1.1***	***5.2***	ND (0.11)
Dibenz(a,h)anthracene	0.16	0.21	0.85	ND (0.11)
Indeno(1,2,3-cd)pyrene	0.74	1	3.9	ND (0.14)
Inorganic Compounds (mg/kg)				
Lead	89.5	42.7	46.9	7.8
Pesticides (mg/kg)				
4,4'-DDE	0.00895	0.0292	0.0184	ND (0.00172)
4,4'-DDT	0.00344 IP	0.0891	0.0105 IP	ND (0.00172)
Dieldrin	ND (0.00106)	0.00641	ND (0.00116)	ND (0.00107)
PFAS (mg/kg)				
Perfluorooctanesulfonic acid (PFOS)	0.000106 J	0.000175 J	***0.00137***	0.000239

Location Name	SB-03		
Sample Name	SB-03_0-0.16	SB-03_13-15	SB-03_15-17
Sample Date	02/05/2025	02/05/2025	02/05/2025
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	***1.7***	***1.4***	0.54
Benzo(a)pyrene	1.8	1.3	0.53
Benzo(b)fluoranthene	***2.3***	1.6	0.63
Chrysene	***1.7***	***1.4***	0.53
Indeno(1,2,3-cd)pyrene	0.98	0.78	0.41
Inorganic Compounds (mg/kg)			
Barium	438	211	118
Lead	303	213	89.1
Mercury	0.205	0.189	0.09
Zinc	332	444	129
PCBs (mg/kg)			
Polychlorinated biphenyls (PCBs)	0.149 J	0.0244 J	0.0124 J
Pesticides (mg/kg)			
4,4'-DDD	0.0268	0.00816	ND (0.00168)
4,4'-DDE	0.0296	0.0117	0.0209
4,4'-DDT	0.068	0.0316	0.00441
Dieldrin	0.0307	0.0118	0.00611
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000477	***0.00127***	0.000464

Location Name	SB-05		
Sample Name	SB-05_0-0.16	SB-05_8-10	SB-05_11-13
Sample Date	02/05/2025	02/05/2025	02/05/2025
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	***13***	***2***	0.074 J
Benzo(a)pyrene	12	1.8	0.064 J
Benzo(b)fluoranthene	***14***	***2.4***	0.078 J
Benzo(k)fluoranthene	***4.4***	0.76	ND (0.13)
Chrysene	***13***	***2.4***	0.078 J
Dibenz(a,h)anthracene	1.6	0.21	ND (0.13)
Indeno(1,2,3-cd)pyrene	6.9	0.86	0.038 J
Inorganic Compounds (mg/kg)			
Lead	337	60.8	5.01 J
Mercury	0.34	ND (0.082)	ND (0.097)
Zinc	238	69.4	22.1
PCBs (mg/kg)			
Polychlorinated biphenyls (PCBs)	0.151 J	0.031 J	0.0166 J
Pesticides (mg/kg)			
4,4'-DDD	0.00987	0.0152	ND (0.00203)
4,4'-DDE	0.00611 IP	0.027	0.00106 J
4,4'-DDT	0.019	0.0606	ND (0.00203)
Dieldrin	0.0287	0.00692	0.00226
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000385	***0.00433***	***0.00329***

LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

SOIL BORING LOCATION

SOIL BORING/PERMANENT MONITORING WELL LOCATION

Analyte	*NY-PGW*	NY-RESR	NY-UNRES
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	1	1	1
Benzo(a)pyrene	22	1	1
Benzo(b)fluoranthene	1.7	1	1
Benzo(k)fluoranthene	1.7	3.9	0.8
Chrysene	1	3.9	1
Dibenz(a,h)anthracene	1000	0.33	0.33
Indeno(1,2,3-cd)pyrene	8.2	0.5	0.5
Inorganic Compounds (mg/kg)			
Barium	820	400	350
Lead	450	400	63
Mercury	0.73	0.81	0.18
Arsenic	16	16	13
Zinc	2480	10000	109
Nickel	140	310	30
Copper	270	270	50
Silver	8.3	180	2
PCBs (mg/kg)			
Polychlorinated biphenyls (PCBs)	3.2	1	0.1
Pesticides (mg/kg)			
4,4'-DDD	14	13	0.0033
4,4'-DDE	17	8.9	0.0033
4,4'-DDT	136	7.9	0.0033
Dieldrin	0.1	0.2	0.005
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.001	0.044	0.00088

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024
4. SOIL SAMPLE ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (NYCRR) PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOS), RESTRICTED-RESIDENTIAL SCOS, AND PROTECTION OF GROUNDWATER SCOS.
5. NY-RESR = NYSDEC PART 375 RESTRICTED-RESIDENTIAL USE SCO
6. NY-UNRES = NYSDEC PART 375 UNRESTRICTED USE SCO
7. NY-PGW = NYSDEC PART 375 PROTECTION OF GROUNDWATER SCOS
8. EXCEEDANCES OF THE NY-UNRES SCOS ARE SHADED GRAY
9. EXCEEDANCES OF THE NY-UNRES AND NY-RESR ARE SHADED YELLOW
10. EXCEEDANCES OF THE NY-PGW ARE BOLDED.
11. J = ESTIMATED RESULT
12. ND = NON-DETECT

N

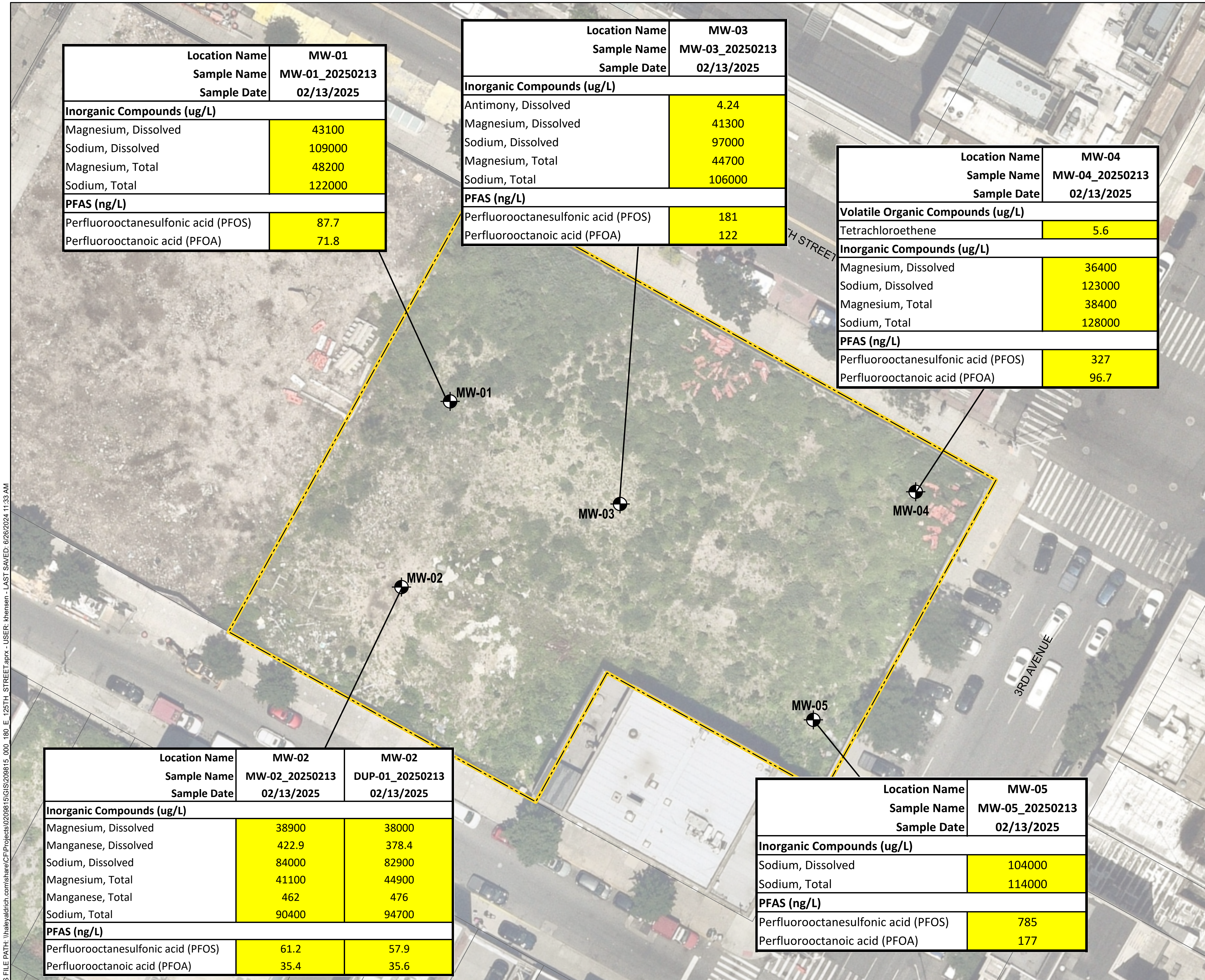
HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SOIL RESULTS EXCEEDANCE MAP

MARCH 2025

FIGURE 4



Location Name	MW-01
Sample Name	MW-01_20250213
Sample Date	02/13/2025
Inorganic Compounds (ug/L)	
Magnesium, Dissolved	43100
Sodium, Dissolved	109000
Magnesium, Total	48200
Sodium, Total	122000
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	87.7
Perfluorooctanoic acid (PFOA)	71.8

Location Name	MW-03
Sample Name	MW-03_20250213
Sample Date	02/13/2025
Inorganic Compounds (ug/L)	
Antimony, Dissolved	4.24
Magnesium, Dissolved	41300
Sodium, Dissolved	97000
Magnesium, Total	44700
Sodium, Total	106000
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	181
Perfluorooctanoic acid (PFOA)	122

Location Name	MW-04
Sample Name	MW-04_20250213
Sample Date	02/13/2025
Volatile Organic Compounds (ug/L)	
Tetrachloroethene	5.6
Inorganic Compounds (ug/L)	
Magnesium, Dissolved	36400
Sodium, Dissolved	123000
Magnesium, Total	38400
Sodium, Total	128000
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	327
Perfluorooctanoic acid (PFOA)	96.7

Location Name	MW-02	MW-02
Sample Name	MW-02_20250213	DUP-01_20250213
Sample Date	02/13/2025	02/13/2025
Inorganic Compounds (ug/L)		
Magnesium, Dissolved	38900	38000
Manganese, Dissolved	422.9	378.4
Sodium, Dissolved	84000	82900
Magnesium, Total	41100	44900
Manganese, Total	462	476
Sodium, Total	90400	94700
PFAS (ng/L)		
Perfluorooctanesulfonic acid (PFOS)	61.2	57.9
Perfluorooctanoic acid (PFOA)	35.4	35.6

Location Name	MW-05
Sample Name	MW-05_20250213
Sample Date	02/13/2025
Inorganic Compounds (ug/L)	
Sodium, Dissolved	104000
Sodium, Total	114000
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	785
Perfluorooctanoic acid (PFOA)	177

LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

PERMANENT GROUNDWATER MONITORING WELL LOCATION

Analyte	NY-AWQS
Inorganic Compounds (ug/L)	
Magnesium, Dissolved	35000
Manganese, Dissolved	300
Sodium, Dissolved	20000
Magnesium, Total	35000
Manganese, Total	300
Sodium, Total	20000
Antimony, Dissolved	3
Volatile Organic Compounds (ug/L)	
Tetrachloroethene	5
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	2.7
Perfluorooctanoic acid (PFOA)	6.7

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024
4. GROUNDWATER SAMPLE ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1. AMBIENT WATER QUALITY STANDARDS (AWQS).
5. EMERGING CONTAMINANTS ANALYTICAL RESULTS COMPARED TO THE NYSDEC APRIL 2023 GUIDANCE VALUES (NYSDEC GVS) FOR PFOA, PFOS, AND 1,4-DIOXANE.
5. RESULTS SHADED YELLOW EXCEED NYSDEC AWQS OR NYSDEC GVS.
6. RESULTS ARE DISPLAYED IN MICROGRAMS PER LITER (µg/L).
7. PFAS RESULTS ARE DISPLAYED IN NANOGRAMS PER LITER (ng/L).

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SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

GROUNDWATER RESULTS EXCEEDANCE MAP

MARCH 2025

FIGURE 5

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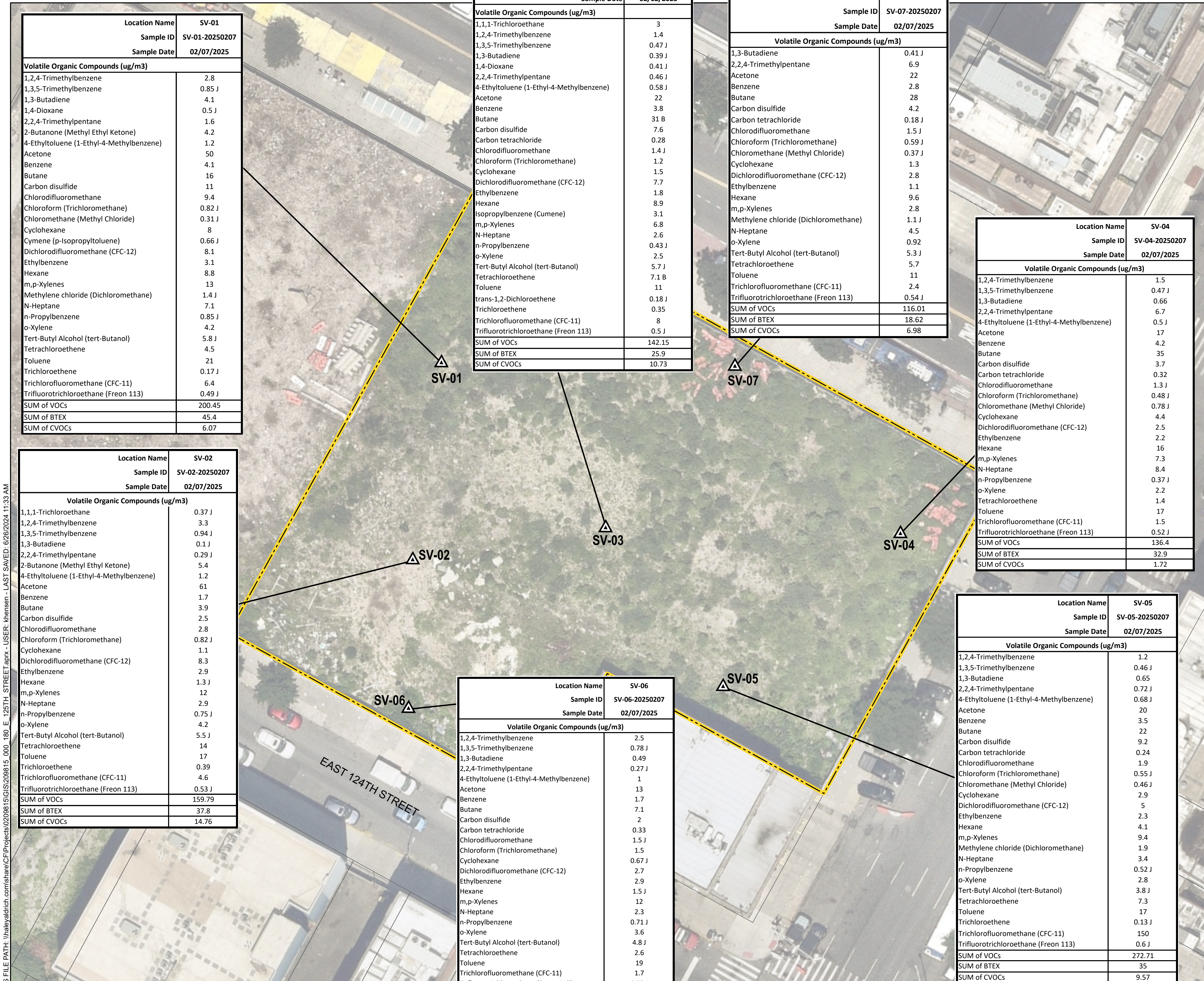

Location Name	SV-01
Sample ID	SV-01-20250207
Sample Date	02/07/2025
Volatile Organic Compounds (ug/m3)	
1,2,4-Trimethylbenzene	2.8
1,3,5-Trimethylbenzene	0.85 J
1,3-Butadiene	4.1
1,4-Dioxane	0.5 J
2,2,4-Trimethylpentane	1.6
2-Butanone (Methyl Ethyl Ketone)	4.2
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1.2
Acetone	50
Benzene	4.1
Butane	16
Carbon disulfide	11
Chlorodifluoromethane	9.4
Chloroform (Trichloromethane)	0.82 J
Chloromethane (Methyl Chloride)	0.31 J
Cyclohexane	8
Cymene (p-Isopropyltoluene)	0.66 J
Dichlorodifluoromethane (CFC-12)	8.1
Ethylbenzene	3.1
Hexane	8.8
m,p-Xylenes	13
Methylene chloride (Dichloromethane)	1.4 J
N-Heptane	7.1
n-Propylbenzene	0.85 J
o-Xylene	4.2
Tert-Butyl Alcohol (tert-Butanol)	5.8 J
Tetrachloroethene	4.5
Toluene	21
Trichloroethene	0.17 J
Trichlorofluoromethane (CFC-11)	6.4
Trifluorotrichloroethane (Freon 113)	0.49 J
SUM of VOCs	200.45
SUM of BTEX	45.4
SUM of CVOCs	6.07

Location Name	SV-03
Sample ID	SV-03-20250212
Sample Date	02/12/2025
Volatile Organic Compounds (ug/m3)	
1,1,1-Trichloroethane	3
1,2,4-Trimethylbenzene	1.4
1,3,5-Trimethylbenzene	0.47 J
1,3-Butadiene	0.39 J
1,4-Dioxane	0.41 J
2,2,4-Trimethylpentane	0.46 J
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	0.58 J
Acetone	22
Benzene	3.8
Butane	31 B
Carbon disulfide	7.6
Carbon tetrachloride	0.28
Chlorodifluoromethane	1.4 J
Chloroform (Trichloromethane)	1.2
Cyclohexane	1.5
Dichlorodifluoromethane (CFC-12)	7.7
Ethylbenzene	1.8
Hexane	8.9
Isopropylbenzene (Cumene)	3.1
m,p-Xylenes	6.8
N-Heptane	2.6
n-Propylbenzene	0.43 J
o-Xylene	2.5
Tert-Butyl Alcohol (tert-Butanol)	5.7 J
Tetrachloroethene	7.1 B
Toluene	11
trans-1,2-Dichloroethene	0.18 J
Trichloroethene	0.35
Trichlorofluoromethane (CFC-11)	8
Trifluorotrichloroethane (Freon 113)	0.5 J
SUM of VOCs	142.15
SUM of BTEX	25.9
SUM of CVOCs	10.73

Location Name	SV-07
Sample ID	SV-07-20250207
Sample Date	02/07/2025
Volatile Organic Compounds (ug/m3)	
1,3-Butadiene	0.41 J
2,2,4-Trimethylpentane	6.9
Acetone	22
Benzene	2.8
Butane	28
Carbon disulfide	4.2
Carbon tetrachloride	0.18 J
Chlorodifluoromethane	1.5 J
Chloroform (Trichloromethane)	0.59 J
Chloromethane (Methyl Chloride)	0.37 J
Cyclohexane	1.3
Dichlorodifluoromethane (CFC-12)	2.8
Ethylbenzene	1.1
Hexane	9.6
m,p-Xylenes	2.8
Methylene chloride (Dichloromethane)	1.1 J
N-Heptane	4.5
o-Xylene	0.92
Tert-Butyl Alcohol (tert-Butanol)	5.3 J
Tetrachloroethene	5.7
Toluene	11
Trichlorofluoromethane (CFC-11)	2.4
Trifluorotrichloroethane (Freon 113)	0.54 J
SUM of VOCs	116.01
SUM of BTEX	18.62
SUM of CVOCs	6.98

Location Name	SV-04
Sample ID	SV-04-20250207
Sample Date	02/07/2025
Volatile Organic Compounds (ug/m3)	
1,2,4-Trimethylbenzene	1.5
1,3,5-Trimethylbenzene	0.47 J
1,3-Butadiene	0.66
2,2,4-Trimethylpentane	6.7
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	0.5 J
Acetone	17
Benzene	4.2
Butane	35
Carbon disulfide	3.7
Carbon tetrachloride	0.32
Chlorodifluoromethane	1.3 J
Chloroform (Trichloromethane)	0.48 J
Chloromethane (Methyl Chloride)	0.78 J
Cyclohexane	4.4
Dichlorodifluoromethane (CFC-12)	2.5
Ethylbenzene	2.2
Hexane	16
m,p-Xylenes	7.3
N-Heptane	8.4
n-Propylbenzene	0.37 J
o-Xylene	2.2
Tetrachloroethene	1.4
Toluene	17
Trichlorofluoromethane (CFC-11)	1.5
Trifluorotrichloroethane (Freon 113)	0.52 J
SUM of VOCs	136.4
SUM of BTEX	32.9
SUM of CVOCs	1.72

Location Name	SV-02
Sample ID	SV-02-20250207
Sample Date	02/07/2025
Volatile Organic Compounds (ug/m3)	
1,1,1-Trichloroethane	0.37 J
1,2,4-Trimethylbenzene	3.3
1,3,5-Trimethylbenzene	0.94 J
1,3-Butadiene	0.1 J
2,2,4-Trimethylpentane	0.29 J
2-Butanone (Methyl Ethyl Ketone)	5.4
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1.2
Acetone	61
Benzene	1.7
Butane	3.9
Carbon disulfide	2.5
Chlorodifluoromethane	2.8
Chloroform (Trichloromethane)	0.82 J
Cyclohexane	1.1
Dichlorodifluoromethane (CFC-12)	8.3
Ethylbenzene	2.9
Hexane	1.3 J
m,p-Xylenes	12
N-Heptane	2.9
n-Propylbenzene	0.75 J
o-Xylene	4.2
Tert-Butyl Alcohol (tert-Butanol)	5.5 J
Tetrachloroethene	14
Toluene	17
Trichloroethene	0.39
Trichlorofluoromethane (CFC-11)	4.6
Trifluorotrichloroethane (Freon 113)	0.53 J
SUM of VOCs	159.79
SUM of BTEX	37.8
SUM of CVOCs	14.76

Location Name	SV-06
Sample ID	SV-06-20250207
Sample Date	02/07/2025
Volatile Organic Compounds (ug/m3)	
1,2,4-Trimethylbenzene	2.5
1,3,5-Trimethylbenzene	0.78 J
1,3-Butadiene	0.49
2,2,4-Trimethylpentane	0.27 J
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	1
Acetone	13
Benzene	1.7
Butane	7.1
Carbon disulfide	2
Carbon tetrachloride	0.33
Chlorodifluoromethane	1.5 J
Chloroform (Trichloromethane)	1.5
Cyclohexane	0.67 J
Dichlorodifluoromethane (CFC-12)	2.7
Ethylbenzene	2.9
Hexane	1.5 J
m,p-Xylenes	12
N-Heptane	2.3
n-Propylbenzene	0.71 J
o-Xylene	3.6
Tert-Butyl Alcohol (tert-Butanol)	4.8 J
Tetrachloroethene	2.6
Toluene	19
Trichlorofluoromethane (CFC-11)	1.7
Trifluorotrichloroethane (Freon 113)	0.53 J
SUM of VOCs	87.18
SUM of BTEX	39.2
SUM of CVOCs	2.93

Location Name	SV-05
Sample ID	SV-05-20250207
Sample Date	02/07/2025
Volatile Organic Compounds (ug/m3)	
1,2,4-Trimethylbenzene	1.2
1,3,5-Trimethylbenzene	0.46 J
1,3-Butadiene	0.65
2,2,4-Trimethylpentane	0.72 J
4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	0.68 J
Acetone	20
Benzene	3.5
Butane	22
Carbon disulfide	9.2
Carbon tetrachloride	0.24
Chlorodifluoromethane	1.9
Chloroform (Trichloromethane)	0.55 J
Chloromethane (Methyl Chloride)	0.46 J
Cyclohexane	2.9
Dichlorodifluoromethane (CFC-12)	5
Ethylbenzene	2.3
Hexane	4.1
m,p-Xylenes	9.4
Methylene chloride (Dichloromethane)	1.9
N-Heptane	3.4
n-Propylbenzene	0.52 J
o-Xylene	2.8
Tert-Butyl Alcohol (tert-Butanol)	3.8 J
Tetrachloroethene	7.3
Toluene	17
Trichloroethene	0.13 J
Trichlorofluoromethane (CFC-11)	150
Trifluorotrichloroethane (Freon 113)	0.6 J
SUM of VOCs	272.71
SUM of BTEX	35
SUM of CVOCs	9.57

LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

SOIL VAPOR PROBE LOCATION

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024
4. ALL DETECTED ANALYTES ARE SHOWN ON FIGURE
5. RESULTS ARE DISPLAYED IN MICROGRAMS PER CUBIC METER (ug/m3)
6. TOTAL DETECTED CONCENTRATIONS OF BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES (BTEX)
7. TOTAL VOCs IS THE SUM OF ALL DETECTED CONCENTRATIONS.
8. SUM OF CVOCS IS THE SUM OF ALL DETECTED CHLORINATED VOCS
9. J = ESTIMATED RESULT
10. B = COMPOUND DETECTED IN THE BLANK AND THE SAMPLE

N

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SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SOIL VAPOR RESULTS SUMMARY MAP

MARCH 2025

FIGURE 7

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APPENDIX A
Remedial Investigation Work Plan

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REMEDIAL INVESTIGATION WORK PLAN
180 EAST 125TH STREET DEVELOPMENT SITE
BCP SITE C231160
180 EAST 125TH STREET
NEW YORK, NEW YORK

by
H & A of New York Engineering and Geology LLP
New York, New York

for
180 E125th Realty LLC
300 Penn Street, Suite 321
Brooklyn, New York 11211

File No. 0209815
January 2025

Certification

I, James M. Bellew, certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan[1] 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).

James M. Bellew

23 January 2025

James M. Bellew *Date*

[1] Certification applies to remedial investigation activities conducted after the execution of a Brownfield Cleanup Agreement (BCA).

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List of Acronyms and Abbreviations

A	
Alpha	Alpha Analytical Laboratories, Inc.
Applicant	180 E 125th Realty LLC
ASP	Analytical Services Protocol
AST	Aboveground Storage Tank
ASTM	American Society for Testing and Materials
AWQS	Ambient Water Quality Standards
B	
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BER	Business Environmental Risk
bgs	Below Ground Surface
BTEX	Benzene, toluene, ethylbenzene, and xylenes
C	
CAMP	Community Air Monitoring Plan
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CREC	Controlled Recognized Environmental Condition
Cu yd	Cubic Yard(s)
CVOC	Chlorinated Volatile Organic Compound
D	
DER-10	Division of Environmental Remediation-10 *(specifically "May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation")*
DUSR	Data Usability Summary Report
E	
EA	Exposure Assessment
EcoTerra	EcoTerra Consulting, LLC
EDD	Electronic Data Deliverable
EDR	Environmental Database Report
ELAP	Environmental Laboratory Approval Program
EPA	U.S. Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbon
ESA	Environmental Site Assessment
F	
FDNY	Fire Department of New York
ft	Foot/Feet
FSP	Field Sampling Plan

List of Acronyms and Abbreviations (continued)

G	
GPR	Ground Penetrating Radar
GPRS	Ground Penetrating Radar Systems, LLC
H	
Haley & Aldrich of New York	H & A of New York Engineering and Geology, LLP
HASP	Health and Safety Plan
HREC	Historical Recognized Environmental Condition
HVAC	Heating, Ventilation, and Air Conditioning
I	
IDW	Investigation-Derived Waste
In.	Inch/Inches
L	
L/min	Liters per Minute
Langan	Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C
LSDF	Low-Sulfur Diesel Fuel
LUST	Leaking Underground Storage Tank
M	
µg/L	Micrograms per Liter
$\mu g/m^3$	Micrograms per Cubic Meter
mg/kg	Milligrams per Kilogram
MTA	Metropolitan Transportation Authority
MW	Monitoring Well
N	
Ng/L	Nanograms per Liter
NTU	Nephelometric turbidity unit
NYCOER	New York City Office of Environmental Remediation
NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
O	
OSHA	Occupational Safety and Health Administration

List of Acronyms and Abbreviations (continued)

P	
PAH	Polyaromatic Hydrocarbons
PBS	Petroleum Bulk Storage
PCB	Polychlorinated Biphenyl
PCE	Perchloroethylene/Tetrachloroethene
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorobutanoic Acid
PFHpA	Perfluoroheptanoic Acid
PFHxA	Perfluorohexanoic Acid
PFPeA	Perfluoropentanoic Acid
PID	Photoionization Detector
PPM	Parts per Million
PVC	Polyvinyl Chloride
Q	
QA/QC	Quality Assurance/Quality Control
QAO	Quality Assurance Officer
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
R	
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RRSCOs	Restricted-Residential Soil Cleanup Objectives
RUCSCOs	Restricted Use Commercial Soil Cleanup Objectives
S	
SC	Site Characterization
SCO	Soil Cleanup Objective
SIM	Selective Ion Monitoring
Site	The property located at 180 East 125th Street, New York, New York
SMP	Site Management Plan
Sq Ft	Square Feet
SVOC	Semi-Volatile Organic Compound

List of Acronyms and Abbreviations (continued)

T	
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
TOGS 1.1.1	Technical and Operational Guidance Series 1.1.1 *(Specifically "June 1998 NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values, Class GA for the protection of a source of drinking water modified per the April 2000 addendum")*
U	
USPS	United States Postal Service
UST	Underground Storage Tank
UUSCOs	Unrestricted Use Soil Cleanup Objectives
V	
VCP	Voluntary Cleanup Program
VOCs	Volatile Organic Compounds

1. Introduction

On behalf of the Applicant, 180 E125th Realty LLC, H & A of New York Engineering and Geology LLP (Haley & Aldrich of New York) has prepared this Remedial Investigation Work Plan (RIWP) for the 180 East 125th Street Redevelopment Site (Brownfield Cleanup Program [BCP] Site C231160), located at 180 East 125th Street (see Figure 1) in the Harlem neighborhood of New York, New York (Site). This RIWP was prepared in accordance with the regulations and guidance applicable to the BCP.

The Site is identified as Block 1773, Lot 27 on the New York City tax map. The Site is approximately 42,540 square feet (sq ft) (0.98 acres) and is currently a vacant undeveloped lot. The Site is bound by East 125th Street followed by mixed-use commercial and residential buildings and offices to the north; East 124th Street followed by mixed-use commercial and residential buildings and warehousing to the south; Fire Department of the City of New York (FDNY) Engine 35 Fire House and Third Avenue followed by mixed-use commercial and residential buildings to the east; and a vacant undeveloped lot to the west. The Site location is shown on Figure 1.

The Site is located within a commercial and residential zoning district (C4-4D) with the intended post-development use as a new mixed commercial and residential building which will include one cellar level requiring excavation to approximately 15 feet (ft) below ground surface (bgs).

1.1 PURPOSE

The objective of the Remedial Investigation (RI) is to characterize the nature and extent of environmental impacts at the Site and to provide sufficient information to evaluate remedial alternatives, as required. Based on the current and former uses of the Site, and previous investigations conducted, semi-volatile organic compounds (SVOCs), including polyaromatic hydrocarbons (PAHs), pesticides, polychlorinated biphenyls (PCBs), heavy metals, and volatile organic compounds (VOCs) are the anticipated contaminants of concern. An RI was performed in August and September 2020 by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. (Langan), to further investigate and delineate potential contamination at the Site due to former printing operations, a closed New York State Spill case, and the potential presence of underground storage tanks (USTs). The RI indicated elevated SVOCs, including PAHs and heavy metals, in soil samples collected throughout the Site and PAHs, pesticides, PCBs, per- and polyfluoroalkyl substances (PFAS), and metals in groundwater samples from three monitoring wells installed at the Site. Soil vapor samples indicated the presence of chlorinated VOCs (CVOCs) and petroleum-related VOCs. A summary of the historical soil, groundwater, and soil vapor analytical data collected at the Site is further detailed in Section 2.5 and displayed in Figure 4 through Figure 6.

Previous investigations did not comprehensively delineate the extent of soil, groundwater, and soil vapor contamination on the Site. An RI will be performed upon approval of this RIWP. Results of the additional sample analyses will be used to confirm the results of the previous Site characterization activities, delineate any on-Site source(s), and determine a course for remedial action.

2. Background

2.1 CURRENT LAND USE

The Site is currently a vacant undeveloped lot. The Site was previously improved with a single-story grocery store and associated parking garage as well as a three-story United States Postal Service (USPS) office building. Both structures were demolished as of 2019 with the existing slab left in place.

2.2 SITE HISTORY

Based on the findings of the July 2024 Phase I Environmental Site Assessment (ESA) prepared by Haley & Aldrich of New York, the Site was first developed as early as 1896 with multiple two- to four-story dwellings on the eastern portion of the Site, a school on the southern portion of the Site, and the northwestern portion of the Site was undeveloped. The 1911 Sanborn Map shows buildings constructed on the northern portion of the Site which were indicated as vacant, and the school was converted to a lodging house. A railroad station was present in the street adjacent to the Site on the corner of East 125th Street and 3rd Avenue. The Site remained relatively unchanged until the early 1950s when the former lodging house and several buildings on the eastern portion of the Site were labeled as “furniture” on Sanborn Maps and printing operations were indicated on the northern portion of the subject property. By 1968, a building was constructed on the southwest portion of the Site and was occupied by the USPS. Additionally, the railroad station was no longer present. According to aerial photographs, between 1984 and 1991, the structures on the northern and eastern portions of the Site were demolished and the Site was converted into a parking lot. By 2013, the Site was occupied by a Pathmark supermarket and a Rainbow clothing store with a rooftop parking area. According to the New York City Department of Finance, Office of the City Register, the USPS sold the property in 2014. Since that time, all structures have been demolished and the Site is currently vacant.

2.3 SURROUNDING LAND USE

The Site is located within an urban area of the Harlem neighborhood of New York, New York, characterized by residential, commercial, industrial, and manufacturing use properties. Figure 3 shows the land usage for properties surrounding the Site. The Metropolitan Transportation Authority (MTA) subway 4,5, and 6 lines are located approximately 200 ft west of the Site. Marcus Garvey Park is located approximately 0.3 miles west of the Site. There are three sensitive receptors within a 500-ft radius of the Site as listed below:

1) Northern Manhattan Nursing – Charles O. Dewey, 116 East 125th Street, New York, New York 10035, listed as a nursing home.
2) Dr. Ronald E. McNair Playground – Lexington Avenue between East 122 Street and East 123rd Steet, New York, New York 10035, listed as a playground.
3) FDNY Engine 35/Ladder 14/Battalion 12 – adjacent to the southeast of the Site - 2282 3rd Avenue, New York, New York 10035, listed as a fire station.

Properties immediately surrounding the Site are zoned as the following: R7-2 residential and C4-6 commercial south-adjacent properties; C4-4D commercial for the north- and west-adjacent properties; and C6-3 commercial and C4-4D commercial for the east-adjacent properties.

2.4 SURROUNDING LAND USE HISTORY

The area surrounding the Site has been used primarily for manufacturing, commercial, and residential uses from the late 1800s to the present day. The south-adjacent property was depicted as a carpentry and window frame manufacturer and printer from 1898 to 1969. A fire station was depicted at the east-adjacent property from 1969 to the present. The 1996 Sanborn Map depicts a playground in the west-adjacent property.

2.5 PREVIOUS INVESTIGATIONS

The following previous investigations and reports were prepared for the Site:

- *Phase I Environmental Site Assessment Report*, prepared by EBI Consulting (EBI), prepared for JP Morgan Chase Bank, 21 June 2018
- *Remedial Investigation Report* (RIR), prepared by Langan, prepared for 160 East 125th Owner LLC, 18 December 2020
- *Remedial Action Work Plan*, prepared by Langan, prepared for 125th Street Lessee LLC, October 2021
- *Tank Affidavit*, prepared by MVC Heating Corporation, prepared for the FDNY, 22 February 2022
- *Waste Characterization Sampling Report*, prepared by EcoTerra Consulting, LLC (EcoTerra), 20 September 2022

A summary of environmental findings of these investigations is provided below.

Phase I ESA Report (EBI Consulting, June 2018)

A Phase I ESA was conducted for 167 East 124th Street (Lot 27) and 160East 125th Street (Lot 20) by EBI in June 2018. This Phase I was completed to identify current or past Recognized Environmental Conditions (RECs), Historically Recognized Environmental Conditions (HRECs), Controlled Recognized Environmental Conditions (CRECs), Business Environmental Risks (BERs), and *de minimis* conditions within or around the Site. The assessment revealed no evidence of RECs in connection with the property; however, EBI noted the following:

- EBI identified Spill ID No. 0005315 associated with the subject property in the NY Spills database search. In May 2000, a 2,000-gallon fuel oil UST was closed in place at the former USPS office building due to structural concerns. Impacted soils were reportedly identified at the time of the tank abandonment. The exact location of the UST could not be identified by EBI during the Site reconnaissance. Based on the documented closure of the UST, the post-excavation soil samples exhibiting “low” concentrations, and regulatory closure of the case, EBI considered the former

UST an HREC. However, because the former UST and impacted soils may be encountered during demolition, EBI considered this a *de minimis* condition.

- EBI observed three groundwater monitoring wells around the boundaries of the property. EBI requested additional documentation regarding the purpose of the wells and results of sampling data but did not receive additional information. EBI considered the monitoring wells a *de minimis* condition.

RIR (Langan, December 2020)

Langan performed an RI at 160 East 125th Street (Lots 20 and 27) in August and September 2020 to provide information sufficient for establishing remedial action objectives, evaluating remedial actions, and selecting a remedy. The investigation included completion of a geophysical survey, installation of 11 soil borings and collection of 25 soil samples, installation of four groundwater monitoring wells and collection of five groundwater samples, and installation of 11 soil vapor probes and collection of 11 soil vapor samples. Soil samples were analyzed for VOCs, SVOCs, metals, pesticides, herbicides, PCBs, hexavalent chromium, and 1,4-dioxane. One soil sample was analyzed for PFAS. Groundwater samples were analyzed for VOCs, SVOCs, total and dissolved metals, pesticides, herbicides, PCBs, and 1,4-dioxane. One groundwater sample was analyzed for PFAS. Soil vapor samples were analyzed for VOCs.

Field observations and laboratory analytical results are summarized below:

- The stratigraphy of the Site, from the surface down, consisted of a 9- to 25-ft-thick fill layer followed by a 6- to 67-ft-thick sand and gravel layer. The sand and gravel layer was underlain by an approximately 0.5- to 4-ft-thick stratum of weathered/decomposed bedrock followed by competent bedrock. Depth to groundwater ranged from approximately 15.03 to 16.25 ft bgs. Groundwater flow was generally from west to east beneath the Site.
- Soil results are summarized as follows:
  - One VOC, methyl ethyl ketone (0.16 milligrams per kilogram [mg/kg]), was detected in the deep soil sample collected from LSB-9 exceeding New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs).
  - Several SVOCs, including benzo(a)anthracene (max. 7.18 mg/kg), benzo(a)pyrene (max 4.5 mg/kg), benzo(b)fluoranthene (max. 5.87 mg/kg), benzo(k)fluoranthene (max. 5.64 mg/kg), chrysene (max. 8.63 mg/kg), dibenzo(a,h)anthracene (1.03 mg/kg), and indeno(1,2,3-c,d)pyrene (max. 3.1 mg/kg), were detected exceeding UUSCOs in shallow fill and native interface soil samples across the Site. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were also detected exceeding the Restricted Use Commercial Soil Cleanup Objectives (RUCSCOs).
  - Several pesticides, including 4,4'-DDD (max. 0.0696 mg/kg), 4,4'-DDE (max. 0.112 mg/kg), 4.4'-DDT (max. 0.324 mg/kg), and dieldrin (0.0636 mg/kg), were detected in exceedance of UUSCOs.
  - Total PCBs were detected at concentrations exceeding UUSCOs in two of the 25 soil samples collected (max. 0.174 mg/kg).

  - Several metals, including barium (max. 1,440 mg/kg), cadmium (max. 2.81 mg/kg), trivalent chromium (37.3 mg/kg), copper (max. 75.1 mg/kg), lead (max. 3,430 mg/kg), mercury (max. 2.75 mg/kg), nickel (102 mg/kg), selenium (12.6 mg/kg), silver (2.31 mg/kg), and zinc (1,070 mg/kg), were detected in exceedance of UUSCOs. Barium and lead were also detected in shallow fill and native interface samples at concentrations exceeding the RUCSCOs.
  - No exceedances of the NYSDEC Part 375 Remedial Programs October 2020 Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances soil guidance values for Unrestricted Use or Protection of Groundwater, in effect at the time were detected.
  - 1,4-dioxane was not detected above UUSCOs or RUCSCOs.

- Groundwater results are summarized below:
  - No VOCs were detected exceeding the New York Codes, Rules and Regulations (NYCRR) Part 703.5 and NYSDEC Technical & Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards (AWQS) and Guidance Values.
  - Several SVOCs, including benzo(a)anthracene (max. 0.06 micrograms per liter [µg/L]), benzo(a)pyrene (0.04 µg/L), benzo(b)fluoranthene (0.04 µg/L), and chrysene (0.06 µg/L), were detected above the AWQS in groundwater samples collected from LMW-4 and LMW-5. Indeno(1,2,3-c,d)pyrene (max. 0.04 µg/L) was detected above the AWQS in groundwater samples collected from LMW-3 and LMW-4.
  - The pesticide dieldrin (max. 0.015 µg/L) was detected above the AWQS in LMW-4 and LMW-5.
  - Metals, including iron (max. 21,100 µg/L), magnesium (max. 70,800 µg/L), manganese (max. 872.5 µg/L), and sodium (243,000 µg/L), were detected above the AWQS. Dissolved metals including magnesium (74,400 µg/L), manganese (952.1 µg/L), and sodium (168,000 µg/L) were detected above the AWQS.
  - Several PFAS compounds, including perfluorobutanoic acid (PFBA) (1,280 nanograms per liter [ng/L]), perfluoroheptanoic acid (PFHpA) (1,760 ng/L), perfluorohexanoic acid (PFHxA) (8,620 ng/L), perfluoropentanoic acid (PFPeA) (5,700 ng/L), and sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2) (6:2FTS) (181 ng/L), were detected above the NYSDEC's Sampling, Analysis, and Assessment of PFAS Guidelines (October 2020) screening value of 100 ng/L, in effect at the time. Total PFAS concentration (19,453 ng/L) was detected above the screening value of 500 ng/L in effect at the time.
  - 1,4-dioxane was not detected above the AWQS in any groundwater samples.

- Soil vapor results are summarized below:
  - Total benzene, toluene, ethylbenzene, and xylenes (BTEX)concentrations ranged from 17.3 micrograms per cubic meter (µg/m^3) to 969 µg/m^3. CVOCs, including cis-1,2-dichloroethene, were detected in soil vapor samples LSV-9 and LSV-10 at concentrations of 2.13 µg/m^3 and 1.58 µg/m^3, respectively, and trichloroethene (TCE) was detected in multiple soil vapor samples at concentrations ranging from 1.28 µg/m^3 to 28.5 µg/m^3. Tetrachloroethene (PCE) was detected in all soil vapor samples with the exception of LSV-8 at concentrations ranging from 3.38 µg/m^3 to 254 µg/m^3.

RAWP (Langan, October 2021)

A RAWP for 180 East 125th Street was prepared by Langan for the New York City Office of Environmental Remediation (NYCOER) Voluntary Cleanup Program (VCP). The remedial action was proposed for a planned mixed-use commercial and residential development. For development purposes, soil beneath the Site was planned to be excavated to approximately 19 to 21 ft bgs for the construction of the cellar slab and up to 27.5 ft bgs for the construction of footers, the elevator pit/car lift, and a swimming pool. To facilitate development, Langan proposed excavation and removal of soil/fill exceeding Restricted Residential Use Soil Cleanup Objectives (RRSCOs). Proposed engineering controls included the installation of a composite cover system consisting of a 3-ft-thick concrete mat slab and a 10-inch (in.)-thick concrete pressure slab in portions of the basement area of the building. Additionally, installation of a vapor barrier system was proposed to mitigate the potential for soil vapor migration into the building. The RAWP included provisions to establish institutional controls and the preparation of a Site Management Plan (SMP). The SMP would provide for long-term management of residual contamination and include plans for the operation, maintenance, monitoring, and inspection certification requirements of the engineering and institutional controls.

Tank Affidavit (MVC Heating Corporation, February 2022)

MVC Heating Corporation provided an affidavit dated 22 February 2022 stating that on 21 February 2022, one 2,000-gallon aboveground storage tank (AST) containing no. 2 fuel oil at the subject property was removed by pumping out and properly disposing of no. 2 oil, sludge, tank bottoms, and water from the tank, gas freeing the tank, and discontinuing piping in accordance with the guidelines described in FC3404.2.13.

Waste Characterization Sampling Report (EcoTerra, September 2022)

EcoTerra prepared a Waste Characterization Sampling Report to summarize the soil characterization sampling conducted at the subject property in August 2022. The scope of work included the advancement of soil borings for the collection of grab, composite, and “hot spot” delineation samples proposed for the characterization of subsurface Site soils within the area of proposed excavation. EcoTerra collected 50 samples from 11 grids distributed at approximately 800 cubic yards (cu yd) per sample. Waste characterization soil samples were analyzed for VOCs, SVOCs, pesticides, herbicides, PCBs, Target Analyte List (TAL) metals, extractable petroleum hydrocarbons (EPH), toxicity characteristic leachate procedure (TCLP) Resource Conservation and Recovery Act (RCRA) metals, RCRA characteristics, and hexavalent chromium. Also, 34 discrete samples from two previously identified “hot spot” locations at LSB-3 and LSB-5 were procured for analysis of Total Lead and TCLP lead for delineation.

Field observations and laboratory analytical results are summarized below:

- Soil results for the waste characterization were compared to NYCDEC Part 375 UUSCOs, RUCSCOs, and RRSCOs. Soil analytical results are summarized as follows:

- Methylene chloride was detected at 0.0720 mg/kg in soil sample S-15(g) exceeding UUSCOs and acetone was detected at 0.0810 mg/kg in soil sample S-29(g) exceeding UUSCOs. No other VOC exceedances were detected in any of the soil samples.
- PAHs were detected in nine soil samples. PAH concentrations ranged from 1.01 mg/kg to 16.2 mg/kg for benzo(a)anthracene; from 1.04 mg/kg to 12.6 mg/kg for benzo(b)fluoranthene; from 0.846 mg/kg to 12.6 mg/kg for benzo(k)fluoranthene; from 1.1 mg/kg to 15.2 mg/kg for chrysene; from 1.05 mg/kg to 13.3 mg/kg for benzo(a)pyrene; from 0.421 mg/kg to 3.14 mg/kg for dibenzo(a,h)anthracene; and from 0.568 mg/kg to 11.2 mg/kg for indeno(1,2,3-cd)pyrene.
- Multiple pesticides were detected above UUSCOs.
- Total PCBs were detected in soil samples S-7 and S-25 above UUSCOs at concentrations of 0.249 mg/kg and 0.163 mg/kg, respectively.
- Metals were detected at variable concentrations typical of fill in all of the soil samples. TCLP lead was not detected in any soil samples above the standard. Hazardous levels of lead were not detected in any sample locations.

Phase I ESA (Haley & Aldrich of New York, 15 August 2024)

A Phase I ESA was conducted for the Site by Haley & Aldrich of New York in August 2024. The findings of Haley & Aldrich of New York's Phase I ESA are summarized as follows:

REC #1 – Documented Subsurface Contamination at Subject Property

An RI was conducted at the subject property for the NYCOER E-Designation program by Langan in December 2020. The presence of fill material was reportedly observed in a 9- to 25-ft-thick layer across the subject property. Soil analytical results indicated that soil is impacted with SVOCs, specifically PAHs, and metals above the RRSCOs. Groundwater analytical results indicated that groundwater is impacted with PAHs, metals, pesticides, and PCBs above the AWQS and emerging contaminants, PFAS, exceeding the NYSDEC February 2023 PFAS Guidance Values. Soil vapor analytical results indicated the presence of CVOCs and petroleum-related VOCs in soil vapor above laboratory detection limits throughout the subject property. Documented subsurface contamination at the subject property, including impacts to soil, groundwater, and soil vapor, is indicated as a REC.

HREC #1 – NY Spills Case 0005315

The subject property is identified in the NY Spills database under Spill Case Number 0005315. A spill reportedly occurred at the former USPS facility on the subject property on 10 May 2000 due to a release of no. 2 fuel oil from a 2,000-gallon AST when soil samples collected in the base and sides of the AST showed contamination. However, when comparing to Technical and Administrative Guidance Memorandum (TAGM) 4046 Restricted Commercial standards, reportedly only several exceedances of PAHs were detected above standards. As a result, NYSDEC closed the spill case on 28 May 2009 and the AST was closed in place. According to a Tank Affidavit by MVC Heating Corporation, the AST was removed from the subject property on 21 February 2022. Since the spill case was closed by NYSDEC and the AST was removed from the subject property in 2022, the closed spill case is considered an HREC.

Other Finding #1 – New York City E-Designation

The subject property was identified in the Environmental Database Report (EDR) as an E-Designation Site by the NYCOER. The subject property has been assigned an environmental E-Designation (E-703) for hazardous materials, noise (window wall attenuation and alternative means of ventilation), and air quality (heating, ventilation, and air conditioning [HVAC] fuel limited to natural gas and exhaust stack location limitations) resulting from a City Environmental Quality Review (CEQR) effective April 2023 (CEQR #23DCP058M). Satisfaction of the E-Designation requirements with NYCOER must be completed before the development can proceed.

3. Remedial Investigation

This section describes the field activities to be conducted during the RI and provides the sampling scope, objectives, methods, anticipated number of samples, and sample locations. A summary of the sampling and analysis plan is provided in Table 1 and Figure 2. The following activities will be conducted to fill data gaps and determine the nature and extent of contamination at the Site.

3.1 UTILITY MARKOUT

A ground penetrating radar (GPR) scan will be performed prior to the commencement of any ground-intrusive activities. The GPR scan will potentially identify any underground structures including, but not limited to, utilities and USTs in preparation for the proposed sampling work. It is noted that borings may be adjusted based on the results of the GPR scan and any adjustments to the locations presented below will be communicated to the NYSDEC. Field personnel will mobilize to the Site to mark-out (with flagging or paint) the proposed soil sample locations. Prior to mobilization, 811-Dig Safe New York will be contacted to mark public underground utilities. If necessary, the adjacent property owners and/or private vendors will be contacted for assistance with marking out of utilities. Once the utilities are marked, field equipment and personnel will be mobilized to the Site.

3.2 SOIL SAMPLING

To further characterize soil conditions, additional on-Site soil samples will be collected to meet NYSDEC Division of Environmental Remediation (DER)-10 requirements for RIs. The sampling and analysis plan is summarized in Table 1. Proposed sample locations are presented on Figure 2.

As part of this RI, a total of 11 soil borings will be installed to 20 ft bgs (or 5 ft into the water table, whichever is deeper, if soil boring is converted to a monitoring well) by a track-mounted direct-push drill rig (Geoprobe®), or other drilling technology as needed, operated by a licensed operator. Soil samples will be collected from dedicated liners using stainless-steel macrocores, casings, or sampling spoons. Samples will be collected using laboratory-provided clean bottle ware. VOC grab samples will be collected using terra cores or encores.

Soils will be logged continuously by a geologist or engineer using the Modified Burmister Soil Classification System. The presence of staining, odors, and photoionization detector (PID) readings will be noted. Sampling methods are described in the Field Sampling Plan (FSP) provided in Appendix A. A Quality Assurance Project Plan (QAPP) is provided in Appendix B. Laboratory data will be reported in Analytical Services Protocols (ASP) Category B deliverable format.

Soil samples representative of Site conditions will be collected at 11 locations widely distributed across the Site, as shown on Figure 2. Up to three grab samples will be collected from each soil boring. One surface sample will be collected from the top 0 to 2 in. immediately beneath the impervious Site cover (i.e., surface soils). A second sample will be collected at an intermediate depth within the last 2 ft of the fill layer (estimated at 7 to 9 ft bgs, but subject to field observation). A third sample will be collected at a 2-ft interval above the groundwater interface, estimated to be encountered between 13 to 15 ft bgs but subject to field observation. The number of samples collected during the RI may vary based on field conditions.

Soil samples will be analyzed for:

- Target Compound List (TCL) VOCs using U.S. Environmental Protection Agency (EPA) Method 8260B;
- TCL SVOCs using EPA Method 8270C;
- TAL Metals using EPA Method 6010;
- PCBs using EPA Method 8082;
- TCL Pesticides using EPA Method 8081B;
- PFAS using EPA Method 1633; and,
- 1,4-dioxane using EPA Method 8270.

Samples to be analyzed for PFAS will be collected and analyzed in accordance with the NYSDEC-issued April 2023 "Sampling, Analysis, and Assessment of PFAS Under NYSDEC's Part 375 Remedial Programs." As needed, additional samples may be collected to satisfy waste characterization analytical needs for facilities located in neighboring states.

3.3 GROUNDWATER SAMPLING

The purpose of the groundwater sampling is to obtain current groundwater data and analyze for additional parameters (i.e., PFAS and 1,4-dioxane) to meet NYSDEC DER-10 requirements for remedial investigations. Groundwater flow is presumed to flow from west to east.

Up to five 2-in. permanent monitoring wells will be installed to approximately 20 ft bgs or to at least 5 ft below the groundwater interface (if encountered at a shallower depth). Monitoring wells will have a 2-in. annular space and be installed using either #0 or #00 certified clean sand fill. Wells will be screened to straddle the groundwater interface, assumed to be encountered at approximately 15 ft bgs. The groundwater interface depth will be evaluated during initial work on the implementation of this RI in order to establish the proper range of well screening in the field. Observations will be communicated with NYSDEC daily in field reports, further detailed in Section 8.1.

Monitoring wells will be developed by surging a pump in the well several times to pull fine-grained material from the well. Development will be completed until the water turbidity is 50 nephelometric turbidity units (NTU) or less or ten well volumes are removed, if possible. Groundwater sampling will occur at a minimum of one week after monitoring well development. The well casings will be surveyed by a New York State-licensed surveyor and gauged during a round of synoptic groundwater depth readings to facilitate the preparation of a groundwater contour map and to determine the direction of groundwater flow.

The sampling and analysis plan is summarized in Table 1. Proposed monitoring well locations are provided on Figure 2. Proposed locations will be dependent on field observation and will be communicated with NYSDEC in daily reporting.

The proposed five monitoring wells will be sampled and analyzed for:

- TCL VOCs using EPA Method 8260B;
- TCL SVOCs using EPA Method 8270C;
- Total Metals using EPA Methods 6010/7471;
- Dissolved Metals using EPA Methods 6010/7471;
- PCBs using EPA Method 8082;
- TCL Pesticides using EPA Method 8081B;
- PFAS using EPA Method 1633; and,
- 1,4-dioxane using EPA Method 8270 SIM.

Samples to be analyzed for PFAS will be collected and analyzed in accordance with the NYSDEC-issued April 2023 "Sampling, Analysis and Assessment of PFAS."

Groundwater wells will be sampled using low-flow sampling methods as described in the FSP. Following the low-flow purge, samples will be collected from monitoring wells for analysis of the analytes mentioned above. Groundwater sampling will be conducted at least one week after monitoring well development.

The FSP presented in Appendix A details field procedures and protocols that will be followed during field activities. The QAPP presented in Appendix B details the analytical methods and procedures that will be used to analyze samples collected during field activities. Monitoring wells sampled for PFAS will be done following the purge and sampling method detailed in the NYSDEC guidance documents (see Appendix C).

3.4 INVESTIGATION-DERIVED WASTE (IDW)

Following sample collection, boreholes that are not converted to monitoring wells will be backfilled with soil cuttings and an upper bentonite plug. Boreholes will be restored to grade with the surrounding area. If soil is identified as grossly contaminated, it will be separated and placed into a sealed and labeled New York State Department of Transportation (NYSDOT)-approved 55-gallon drum pending characterization and off-Site disposal. Groundwater purged from the monitoring wells during development and sample collection will be placed into an NYSDOT-approved 55-gallon drum pending off-Site disposal.

3.5 SOIL VAPOR SAMPLING

Samples will be collected in accordance with the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH, October 2006). Seven soil vapor points will be installed 1 to 2 ft above the groundwater interface, approximately 13 to

14 ft bgs. The vapor implants will be installed with a direct-push drilling rig (e.g., Geoprobe®) to advance a stainless-steel probe to the desired sample depth. Sampling will occur for the duration of two hours.

Soil vapor and ambient air samples will be collected in appropriately sized Summa® canisters that have been certified clean by the laboratory, and samples will be analyzed for VOCs by using EPA Method TO-15. Flow rates for both purging and sampling will not exceed 0.2 liters per minute (L/min). Sampling methods are described in the FSP provided in Appendix A.

3.6 PROPOSED SAMPLING RATIONALE

Haley & Aldrich of New York has proposed the sampling plan described herein, and as shown on Figure 2, in consideration of observations reported during the June 2018 and July 2024 Phase I ESA and the findings and data generated from the 2020 RI as described in Section 2.5. Consideration was also taken regarding the Site-wide excavation to 15 ft bgs in the proposed redevelopment plans.

During the previous investigations conducted at the Site, soil, groundwater, and soil vapor samples were collected at the Site. However, the sample map from the previous investigations shows data gaps. Data gaps include the lack of full suite analysis of soil and groundwater at the Site. Further investigation is also recommended to determine if the former AST located in the western region of the Site has impacted subsurface soil, groundwater, and soil vapor quality.

Sampling locations have been proposed to investigate areas of the Site with identified data gaps. Proposed sampling locations will include groundwater, soil, and soil vapor sampling to address data gaps and confirm if there is an on-Site source of contamination or a potential off-Site source migrating onto the Site.

The Proposed Sample Location Map (included as Figure 2) is designed to generate sufficient data to identify the source of contamination and classify subsurface conditions throughout the Site as a whole, with a particular focus on sample locations in areas of the Site that have historically indicated evidence of contamination.

4. Green and Sustainable Remediation and Climate Resiliency

The work completed as part of this work plan will comply with all NYSDEC guidance documents, including DER-31: Green Remediation (NYSDEC, 2011). To ensure compliance with DER-31, the work will be completed using the best practices and techniques described below. Specific reporting methods relative to DER-31 are further described below.

4.1 BEST PRACTICES AND TECHNIQUES

DER-31 provides examples of best practices and techniques that could be applied during all phases of remediation (Attachment 1 of the DER-31 policy). In addition, the techniques identified below will be implemented at Sites unless a Site-specific evaluation demonstrates impracticability or favors an alternative green approach:

Practice/Technique	Potential Benefits[1]	Applicable to this Work Plan
Use renewable energy where possible or purchase Renewable Energy Credits	Reduce/supplement purchased energy use	
Use of remediation technologies with an intermittent energy supply (i.e., energy use during peak energy generation only)	Reduce energy use	X
Incorporate green building design	Reduce future use impacts	
Reuse existing buildings and infrastructure to reduce waste	Reduce waste and material use	
Reuse and recycle construction and demolition debris and other materials (i.e., grind waste wood and other organics for on-Site use)	Reduce waste and material use	
Design cover systems to be usable (i.e., habitat or recreation)	Reduce construction impacts of future development	
Reduce vehicle idling	Reduce air emissions and fuel use	X
Use of Low-Sulfur Diesel Fuel (LSDF) or alternate fuels (i.e., biodiesel or E85) when possible	Reduce air emissions	
Sequence work to minimize double-handling of materials	Reduce construction impacts	X
Use energy-efficient systems and office equipment in the job trailer	Reduce energy use	X

Note:
[1] *Potential benefits listed are not comprehensive and will vary depending upon the site and implementation of the practice or technique.*

In order to comply with the requirements of DER-31, the following actions will be taken:

1. All vehicles and fuel-consuming equipment on the Site will be shut off if not in use for more than three minutes;
2. Work will be sequenced, to the extent practicable, to allow the direct loading of waste containers for off-Site disposal;
3. Work will be sequenced, to the extent practicable, to limit unnecessary mobilizations to and throughout the Site; and,
4. To the extent practicable, energy-efficient systems and office equipment will be utilized.

4.2 REPORTING

All green and sustainable practices and techniques employed will be discussed in the forthcoming RIR.

4.3 CLIMATE RESILIENCY EVALUATION

The Site is not located within a 100-year flood zone. The development plan is still under design but will incorporate consideration for resiliency to climate change, including the design of a cover system that will mimic, rather than alter, the current setting in the vicinity of the Site and will provide pathways for surface runoff and resiliency against future flooding events. A Climate Screening Checklist is provided in Appendix D.

4.4 ENVIRONMENTAL FOOTPRINT ANALYSIS

While the remedy plan is still under development and is dependent on findings from implementing this investigation, a preliminary analysis has been performed using SiteWise™ for the investigation and baseline conceptual remedy. The conceptual remedy components included in this analysis include a 15 ft excavation and installation of a composite cover as an engineering control. Further refinements to the remedy, including additional engineering controls, will be incorporated into the alternatives analysis as part of a forthcoming RAWP. Results of the preliminary analysis, available in Appendix E, indicate the majority of greenhouse gas emissions, potentially exceeding 2,000 metric tons, to be the product of consumables and transportation associated with the conceptual remedy.

5. Quality Assurance and Quality Control (QA/QC)

QA/QC procedures will be used to provide performance information with regard to the accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for this investigation. Field QA/QC procedures will be used (1) to document that samples are representative of actual conditions at the Site and (2) to identify possible cross-contamination from field activities or sample transit. Laboratory QA/QC procedures and analyses will be used to demonstrate whether analytical results have been biased either by interfering compounds in the sample matrix or by laboratory techniques that may have introduced systematic or random errors to the analytical process.

QA/QC procedures are defined in the QAPP included in Appendix B.

6. Data Use

6.1 DATA SUBMITTAL

Analytical data will be supplied in ASP Category B Data Packages. If more stringent than those suggested by the EPA, the laboratory's in-house QA/QC limits will be utilized. Validated data will be submitted to the NYSDEC EQuIS database in an electronic data deliverable (EDD) package.

6.2 DATA VALIDATION

Data packages will be sent to a qualified data validation specialist to evaluate the accuracy and precision of the analytical results. A Data Usability Summary Report (DUSR) will be created to confirm the compliance of methods with the protocols described in the NYSDEC ASP. DUSRs will summarize and confirm the usability of the data for project-related decisions. Data validation will be completed in accordance with the DUSR guidelines from the NYSDEC DER. DUSRs will be included with the submittal of an RIR, further discussed in Section 8. Additional details on the DUSRs are provided in the QAPP in Appendix B.

7. Project Organization

A project team for the Site has been created, based on qualifications and experience, with personnel suited for the successful completion of the project.

The NYSDEC-designated Case Manager, Abdulla Elbuytari, will be responsible for overseeing the successful completion of the project work and adherence to the work plan on behalf of NYSDEC.

The NYSDOH-designated Case Manager, Harolyn Hood, will be responsible for overseeing the successful completion of the project work and adherence to the work plan on behalf of NYSDOH.

James Bellew will be the Qualified Environmental Professional (QEP) and Principal-in-Charge for this work. In this role, Mr. Bellew will be responsible for the overall completion of each task as per the requirements outlined in this work plan and in accordance with the DER-10 guidance.

Suzanne Bell will be the Project Manager for this work. In this role, Ms. Bell will manage the day-to-day tasks, including coordination and supervision of field engineers and scientists, adherence to the work plan, and oversight of project schedule. As the Project Manager, Ms. Bell will also be responsible for communications with the NYSDEC Case Manager regarding project status, schedule, issues, and updates for project work.

Sarah Commisso will be the field team leader for this work and will also act as the Quality Assurance Officer (QAO). The QAO will ensure the application and effectiveness of the QAPP by the analytical laboratory and the project staff, provide input to the field team as to corrective actions that may be required as a result of the above-mentioned evaluations, and prepare and/or review data validation and audit reports.

Zavier Richards will be the field person responsible for implementing the field effort for this work. Mr. Richards' responsibilities will include implementing the work plan activities and directing the subcontractors to ensure the successful completion of all field activities.

The drilling subcontractor will be Coastal Environmental Solutions, Inc. or Lakewood Environmental. In this role, Coastal Environmental Solutions, Inc. or Lakewood Environmental will provide environmental drilling to implement the scope of work outlined in this RIWP.

The geophysical survey contractor will be Ground Penetrating Radar Systems, LLC (GPRS). In this role, GPRS will conduct a geophysical survey throughout all accessible regions of the Site prior to the performance of ground-intrusive work.

The analytical laboratory will be Alpha Analytical (Alpha) of Westborough, Massachusetts, a New York Environmental Laboratory Approval Program (ELAP)-certified laboratory (No. 11148). Alpha will be responsible for analyzing samples as per the analyses and methods identified in Section 3.

8. Health and Safety

8.1 HEALTH AND SAFETY PLAN

A Site-specific Health and Safety Plan (HASP) has been prepared in accordance with NYSDEC and NYSDOH guidelines and is provided as Appendix F of this work plan. The HASP includes a description of health and safety protocols to be followed by Haley & Aldrich of New York field staff during implementation of the RIWP, including monitoring within the work area, along with response actions should impacts be observed. The HASP has been developed in accordance with the Occupational Health and Safety Administration (OSHA) 40 Code of Federal Regulations (CFR) Part 1910.120 regulatory requirements for use by Haley & Aldrich of New York field staff that will work at the Site during planned activities. Contractors or other personnel who perform work at the Site are required to develop their own HASP and procedures of comparable or higher content for their respective personnel in accordance with relevant OSHA regulatory requirements for work at hazardous waste sites as well as the general industry requirements as applicable based on the nature of work being performed.

8.2 COMMUNITY AIR MONITORING PLAN (CAMP)

The proposed investigation work will be completed outdoors at the Site. Where intrusive drilling operations with the potential to disturb the subsurface are planned, community air monitoring will be implemented to protect the downwind receptors. A Haley & Aldrich of New York representative will continually monitor the breathing air in the vicinity of the immediate work area using a hand-held PID to measure total VOCs in air at concentrations as low as 1 part per million (ppm). The air in the work zone also will be monitored for visible dust generation.

If VOC measurements above 5 ppm are sustained for 15 minutes or visible dust generation is observed, the ground-intrusive work will be temporarily halted and a more rigorous monitoring of VOCs and dust using recordable meters will be implemented in accordance with the NYSDOH Generic CAMP. During activities not disturbing the subsurface, personnel on the Site will monitor for visual dust and odors only. CAMP data will be provided to the NYSDEC in the daily reports, further detailed in Section 9. The NYSDOH CAMP guidance document is included in Appendix G.

8.3 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT (QHHEA)

A comprehensive QHHEA (on Site and off Site) will be performed following the collection of all RI data. The exposure assessment will be performed in accordance with Section 3.3(c)4 of DER-10 and the NYSDOH guidance for performing a qualitative Exposure Assessment (EA) (DER-10; Appendix 3B). The results of the QHHEA will be provided in the RIR. According to Section 3.10 of DER-10, and the Fish and Wildlife Resources Impact Analysis Decision Key in DER-10, Appendix 3C, a Fish and Wildlife Exposure Assessment will be performed (if needed) based on the RI results.

9. Reporting

9.1 DAILY REPORTING

Daily reports will be submitted to the NYSDEC and NYSDOH summarizing the Site activities completed during the RI. Daily reports will include a Site figure, a description of Site activities, a photo log, and a summary of community air monitoring performed. Daily reports will be submitted the following calendar day after Site work is completed.

9.2 RIR

Following completion of the work, a summary of the RI will be provided to the NYSDEC in an RIR to support the implementation of the proposed remedial action. The report will include:

- Summary of the RI activities;
- Figure showing sampling locations;
- Tables summarizing laboratory analytical results;
- Laboratory analytical data reports;
- Field sampling data sheets;
- Community air monitoring data;
- Findings regarding the nature and extent of contamination at the Site;
- Qualitative EA of any contamination from an on-Site source that has migrated off the Site; and,
- Conclusions and recommendations.

The RIR may be combined with the RAWP as an RIR/RAWP. The RIR/RAWP will include all data collected during the RI and adhere to the technical requirements of DER-10.

10. Schedule

The Site owner plans to implement this RIWP promptly upon execution of a Brownfield Cleanup Agreement (BCA) and after approval of the RIWP. The below anticipated schedule highlights BCP milestones anticipated for the Site.

Anticipated RI/BCP Schedule	
BCP Application, RIWP, and 30-Day Public Comment Period (Concurrent with BCP application)	August 2024 to October 2024
Execute BCA	November 2024
NYSDEC Approval of RIWP, and Citizen Participation Plan	December 2024
RI Implementation	January 2025 to February 2025
RIR/RAWP Submittal and 45-Day Public Comment Period	February 2025 to May 2025
NYSDEC Approval of RIR/RAWP and issuance of Decision Document	June 2025 to July 2025

References

1. Brownfield Cleanup Program Application. Proposed 180 East 125th Street Development Site. 180 East 125th Street, New York, New York. Prepared for 180 E125th Realty LLC by H & A of New York Engineering and Geology LLP for submission to the New York State Department of Environmental Conservation. Submitted in September 2024.

2. New York State Department of Environmental Conservation, Part 375 of Title 6 of the New York Compilation of Codes, Rules, and Regulations, Effective December 14, 2006.

3. New York State Department of Environmental Conservation, Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), revised April 2023.

4. New York State Department of Health, Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 (February 2024 matrices).

5. New York State Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1) dated June 1998.

6. Phase I Environmental Site Assessment. 167 East 124th Street & 160 East 125th Street, New York, New York. Prepared by EBI Consulting, prepared for JP Morgan Chase Bank NA, 21 June 2018.

7. Phase I Environmental Site Assessment – 180 East 125th Street, New York, New York. Prepared by H & A of New York Engineering and Geology LLP, prepared for 180 E125th Realty LLC, 15 August 2024.

8. Program Policy DER-10, "Technical Guidance for Site Investigation and Remediation," New York State Department of Environmental Conservation. May 2010.

9. Remedial Action Work Plan. 180 East 125th Street, New York, New York. Prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C., prepared for 125th Street Lessee LLC, October 2021

10. Remedial Investigation Report. Proposed 125th Street Development, New York, New York. Prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C., prepared for 160 East 125th Owner LLC, 18 December 2020.

11. Tank Affidavit. 180 East 125th Street, New York, New York. Prepared by MVC Heating Corp., prepared for Fire Department City of New York, 22 February 2022.

12. United States Environmental Protection Agency, Low Flow Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells, EQASOP-GW 001, September 19, 2017.

13. Waste Characterization Sampling Report. 180 East 125th Street, New York, New York. Prepared by EcoTerra Consulting, LLC, prepared for Monadnock Construction, Inc, 20 September 2022.

\\haleyaldrich.com\share\CF\Projects\0209815\Deliverables\4. RIWP\2025-0123_HANY-180 East 125th Street-RIWP_F.docx

TABLE

TABLE 1
SAMPLING AND ANALYSIS PLAN
180 EAST 125TH STREET
REMEDIAL INVESTIGATION WORK PLAN

Boring Number	Sample Depth	Target Compound List VOCs (8260D/5035)	Target Compound List SVOCs (8270E)/(8270)	Total Analyte List Metals (6010D)/(6010)	PCBs (8082A)	Pesticides (8081B)	PFAS (1633)	1,4-Dioxane (8270)/(8270E-SIM)	Dissolved Target Analyte List Metals (6020)	VOCs (TO-15)
SOIL										
SB-01	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-02	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-03	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-04	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-05	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-06	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-07	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-08	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-09	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-10	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
SB-11	0-2 inches	X	X	X	X	X	X	X		
	Bottom 2 ft of fill material	X	X	X	X	X	X	X		
	Groundwater interface (13-15 ft)	X	X	X	X	X	X	X		
GROUNDWATER										
MW-01	Straddle water table	X	X	X	X	X	X	X	X	
MW-02	Straddle water table	X	X	X	X	X	X	X	X	
MW-03	Straddle water table	X	X	X	X	X	X	X	X	
MW-04	Straddle water table	X	X	X	X	X	X	X	X	
MW-05	Straddle water table	X	X	X	X	X	X	X	X	
Soil Vapor										
SV-01	1-2 ft above groundwater interface									X
SV-02	1-2 ft above groundwater interface									X
SV-03	1-2 ft above groundwater interface									X
SV-04	1-2 ft above groundwater interface									X
SV-05	1-2 ft above groundwater interface									X
SV-06	1-2 ft above groundwater interface									X
SV-07	1-2 ft above groundwater interface									X

Notes:
VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
PCBs - Polychlorinated biphenyls
PFAS - Per- and Polyfluoroalkyl Substances
Samples to be collected in the 7 to 9 ft bgs range will be determined in the field and collected at base of fill layer as determined by visual logging
Sample depths may be adjusted based on visual, olfactory, and PID field screening
bgs - below grade surface

QA/QC samples include:
MS/MSD - 1 for every 20 samples
Trip Blanks - 1 per cooler per day of samples to be analyzed for VOCs
Field Blanks - 1 for every 20 samples
Duplicates - 1 for every 20 samples

FIGURES

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MAP SOURCE: ESRI
SITE COORDINATES: 40°48'13"N, 73°56'12"W

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
JANUARY 2025

FIGURE 1

GIS: \\haleyaldrich.com\share\CF\Projects\0209815\GIS\209815_000_180_E_125TH_STREET.aprx - khensen - 6/26/2024 11:33 AM

LEGEND

PROPOSED SAMPLING LOCATIONS

- SOIL BORING
- SOIL BORING/MONITORING WELL
- SOIL VAPOR PROBE
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024

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SCALE IN FEET

HALEY ALDRICH

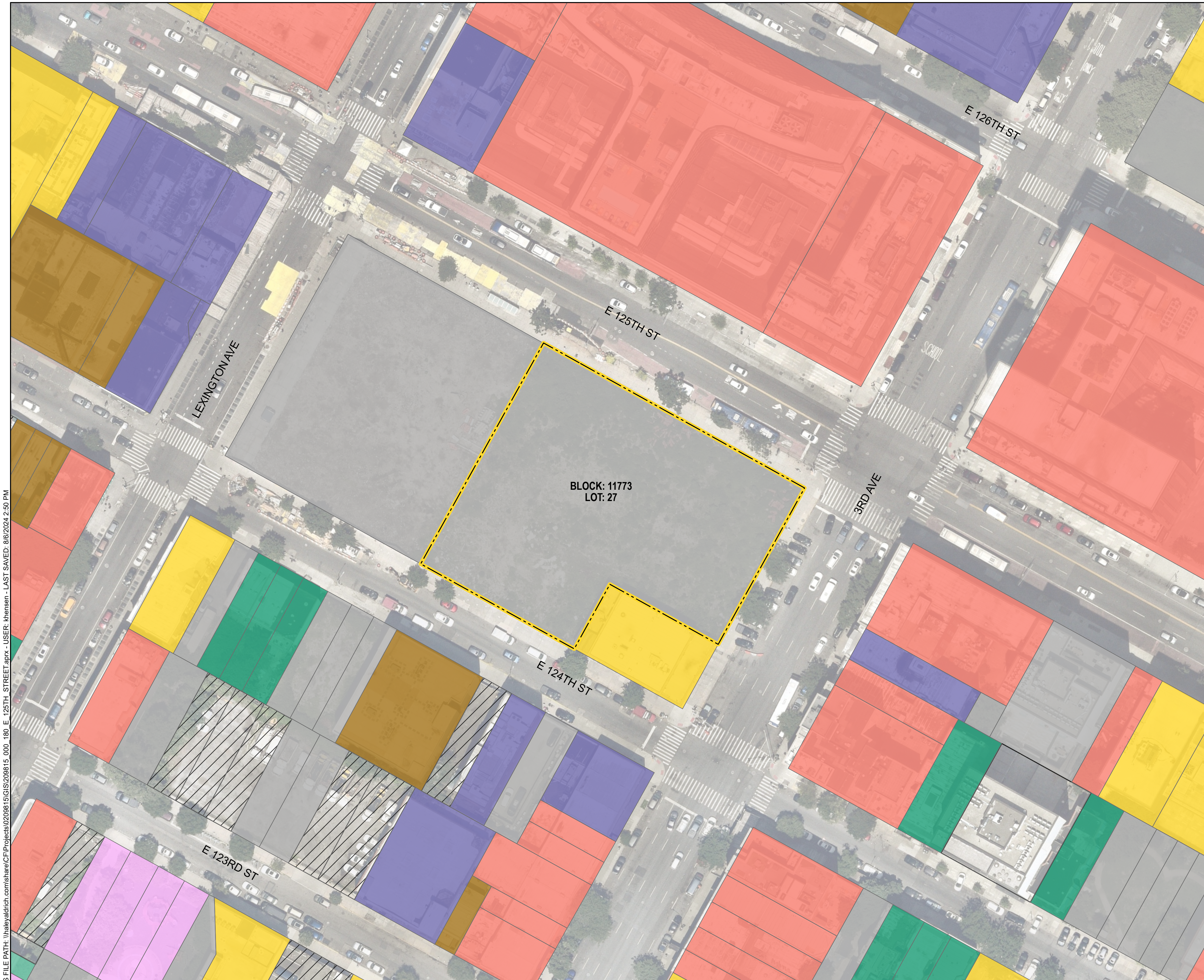
180 EAST 125TH STREET
NEW YORK, NEW YORK

PROPOSED SAMPLE
LOCATION PLAN

JANUARY 2025

FIGURE 2

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0209815\GIS\209815_000_180_E_125TH_STREET.aprx - USER: khensen - LAST SAVED: 8/6/2024 2:47 PM



LEGEND

- SITE BOUNDARY
- PARCEL BOUNDARY

LAND USE CODE

- ONE & TWO FAMILY
- MULTI-FAMILY WALK-UP BUILDINGS
- MIXED RESIDENTIAL AND COMMERCIAL
- COMMERCIAL AND OFFICE
- INDUSTRIAL AND MANUFACTURING
- PUBLIC FACILITIES AND INSTITUTIONS
- VACANT LAND
- OPEN-SPACE AND OUTDOOR RECREATION
- UNKNOWN
- PARKING FACILITIES

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024

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SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SURROUNDING LAND USE MAP

JANUARY 2025

FIGURE 3

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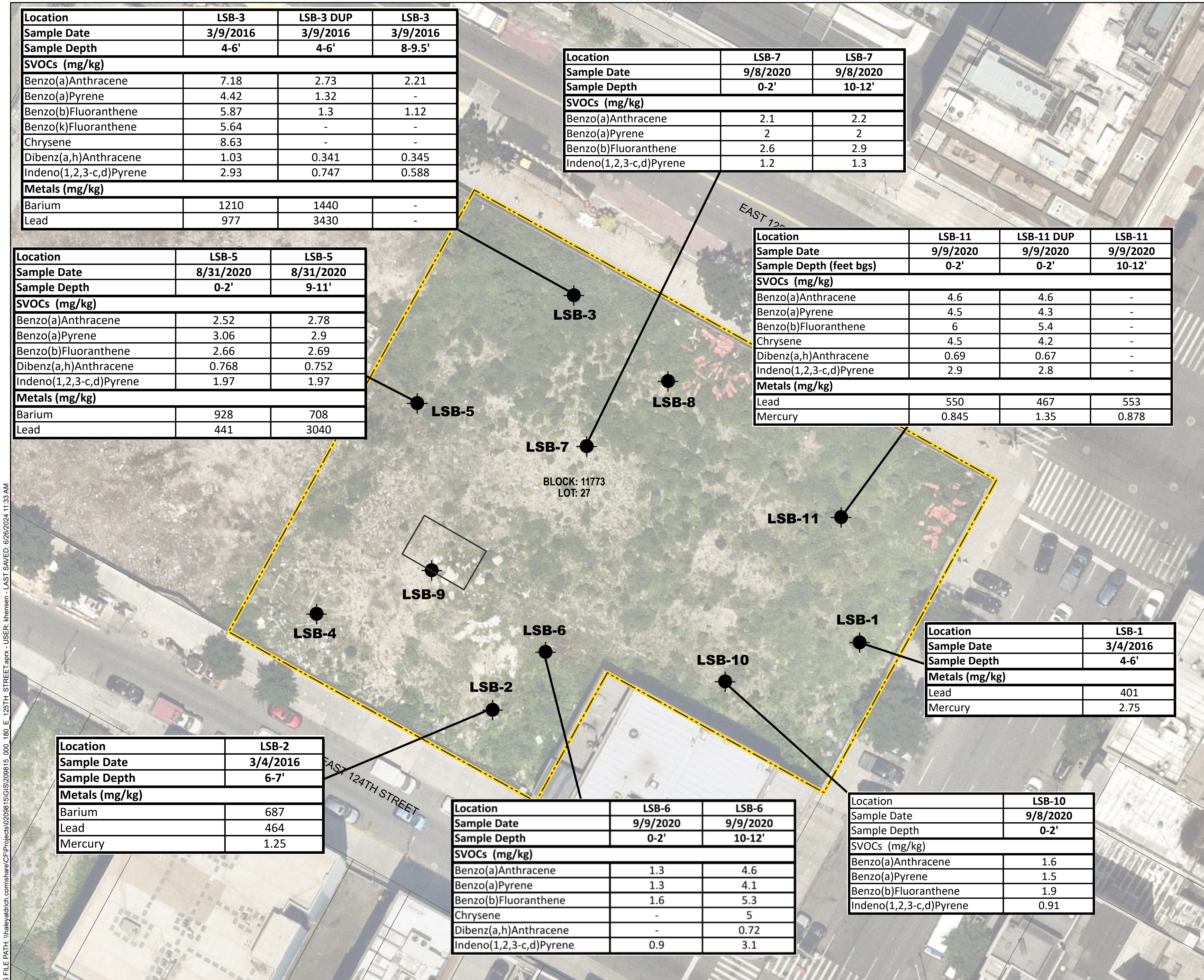

Location	LSB-3	LSB-3 DUP	LSB-3
Sample Date	3/9/2016	3/9/2016	3/9/2016
Sample Depth	4-6'	4-6'	8-9.5'
SVOCs (mg/kg)			
Benzo(a)Anthracene	7.18	2.73	2.21
Benzo(a)Pyrene	4.42	1.32	-
Benzo(b)Fluoranthene	5.87	1.3	1.12
Benzo(k)Fluoranthene	5.64	-	-
Chrysene	8.63	-	-
Dibenz(a,h)Anthracene	1.03	0.341	0.345
Indeno(1,2,3-c,d)Pyrene	2.93	0.747	0.588
Metals (mg/kg)			
Barium	1210	1440	-
Lead	977	3430	-

Location	LSB-7	LSB-7
Sample Date	9/8/2020	9/8/2020
Sample Depth	0-2'	10-12'
SVOCs (mg/kg)		
Benzo(a)Anthracene	2.1	2.2
Benzo(a)Pyrene	2	2
Benzo(b)Fluoranthene	2.6	2.9
Indeno(1,2,3-c,d)Pyrene	1.2	1.3

Location	LSB-5	LSB-5
Sample Date	8/31/2020	8/31/2020
Sample Depth	0-2'	9-11'
SVOCs (mg/kg)		
Benzo(a)Anthracene	2.52	2.78
Benzo(a)Pyrene	3.06	2.9
Benzo(b)Fluoranthene	2.66	2.69
Dibenz(a,h)Anthracene	0.768	0.752
Indeno(1,2,3-c,d)Pyrene	1.97	1.97
Metals (mg/kg)		
Barium	928	708
Lead	441	3040

Location	LSB-11	LSB-11 DUP	LSB-11
Sample Date	9/9/2020	9/9/2020	9/9/2020
Sample Depth (feet bgs)	0-2'	0-2'	10-12'
SVOCs (mg/kg)			
Benzo(a)Anthracene	4.6	4.6	-
Benzo(a)Pyrene	4.5	4.3	-
Benzo(b)Fluoranthene	6	5.4	-
Chrysene	4.5	4.2	-
Dibenz(a,h)Anthracene	0.69	0.67	-
Indeno(1,2,3-c,d)Pyrene	2.9	2.8	-
Metals (mg/kg)			
Lead	550	467	553
Mercury	0.845	1.35	0.878

Location	LSB-1
Sample Date	3/4/2016
Sample Depth	4-6'
Metals (mg/kg)	
Lead	401
Mercury	2.75

Location	LSB-2
Sample Date	3/4/2016
Sample Depth	6-7'
Metals (mg/kg)	
Barium	687
Lead	464
Mercury	1.25

Location	LSB-6	LSB-6
Sample Date	9/9/2020	9/9/2020
Sample Depth	0-2'	10-12'
SVOCs (mg/kg)		
Benzo(a)Anthracene	1.3	4.6
Benzo(a)Pyrene	1.3	4.1
Benzo(b)Fluoranthene	1.6	5.3
Chrysene	-	5
Dibenz(a,h)Anthracene	-	0.72
Indeno(1,2,3-c,d)Pyrene	0.9	3.1

Location	LSB-10
Sample Date	9/8/2020
Sample Depth	0-2'
SVOCs (mg/kg)	
Benzo(a)Anthracene	1.6
Benzo(a)Pyrene	1.5
Benzo(b)Fluoranthene	1.9
Indeno(1,2,3-c,d)Pyrene	0.91

LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

APPROXIMATE SOIL BORING LOCATION

APPROXIMATE LOCATION OF FORMER 2,000-GALLON UST

Part 375 SCOs	
Analyte	**RRSCO**
SVOCs (mg/kg)	
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Benzo(k)fluoranthene	3.9
Chrysene	3.9
Dibenzo(a,h)anthracene	0.33
Indeno(1,2,3-cd)pyrene	0.5
Metals (mg/kg)	
Barium	400
Lead	400
Mercury	0.81

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024
4. ALL ANALYTES SHOWN INDICATE AN EXCEEDANCE OF THE NYSDEC PART 375 RESTRICTED-RESIDENTIAL SOIL CLEANUP OBJECTIVES
5. - INDICATES AN EXCEEDANCES OF THE RRSCO WAS NOT DETECTED

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SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SUMMARY OF HISTORICAL SOIL ANALYTICAL DATA

JANUARY 2025

FIGURE 4

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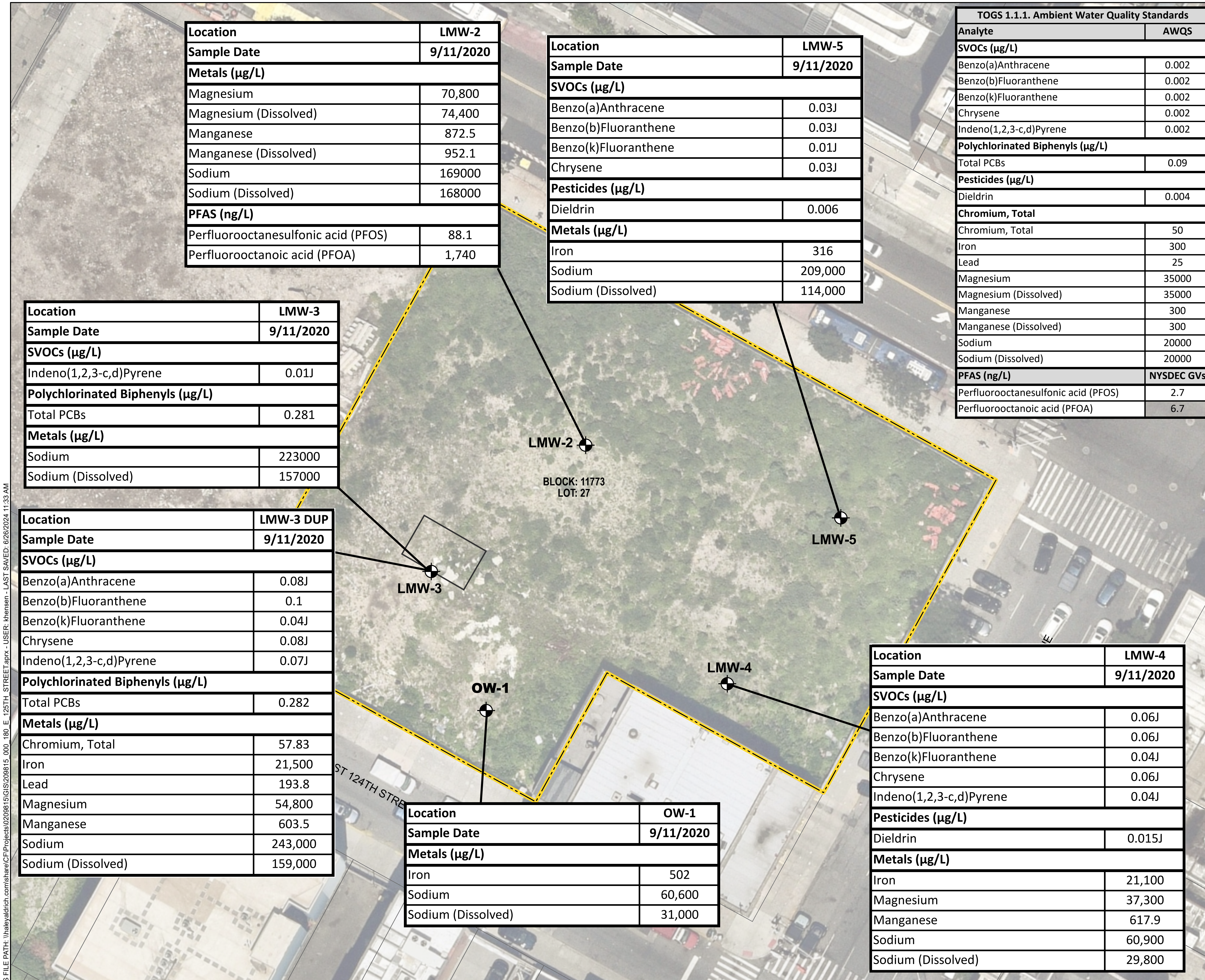

Location	LMW-2
Sample Date	9/11/2020
Metals (µg/L)	
Magnesium	70,800
Magnesium (Dissolved)	74,400
Manganese	872.5
Manganese (Dissolved)	952.1
Sodium	169000
Sodium (Dissolved)	168000
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	88.1
Perfluorooctanoic acid (PFOA)	1,740

Location	LMW-5
Sample Date	9/11/2020
SVOCs (µg/L)	
Benzo(a)Anthracene	0.03J
Benzo(b)Fluoranthene	0.03J
Benzo(k)Fluoranthene	0.01J
Chrysene	0.03J
Pesticides (µg/L)	
Dieldrin	0.006
Metals (µg/L)	
Iron	316
Sodium	209,000
Sodium (Dissolved)	114,000

TOGS 1.1.1. Ambient Water Quality Standards	
Analyte	**AWQS**
SVOCs (µg/L)	
Benzo(a)Anthracene	0.002
Benzo(b)Fluoranthene	0.002
Benzo(k)Fluoranthene	0.002
Chrysene	0.002
Indeno(1,2,3-c,d)Pyrene	0.002
Polychlorinated Biphenyls (µg/L)	
Total PCBs	0.09
Pesticides (µg/L)	
Dieldrin	0.004
Chromium, Total	
Chromium, Total	50
Iron	300
Lead	25
Magnesium	35000
Magnesium (Dissolved)	35000
Manganese	300
Manganese (Dissolved)	300
Sodium	20000
Sodium (Dissolved)	20000
PFAS (ng/L)	**NYSDEC GVs**
Perfluorooctanesulfonic acid (PFOS)	2.7
Perfluorooctanoic acid (PFOA)	6.7

Location	LMW-3
Sample Date	9/11/2020
SVOCs (µg/L)	
Indeno(1,2,3-c,d)Pyrene	0.01J
Polychlorinated Biphenyls (µg/L)	
Total PCBs	0.281
Metals (µg/L)	
Sodium	223000
Sodium (Dissolved)	157000

Location	LMW-3 DUP
Sample Date	9/11/2020
SVOCs (µg/L)	
Benzo(a)Anthracene	0.08J
Benzo(b)Fluoranthene	0.1
Benzo(k)Fluoranthene	0.04J
Chrysene	0.08J
Indeno(1,2,3-c,d)Pyrene	0.07J
Polychlorinated Biphenyls (µg/L)	
Total PCBs	0.282
Metals (µg/L)	
Chromium, Total	57.83
Iron	21,500
Lead	193.8
Magnesium	54,800
Manganese	603.5
Sodium	243,000
Sodium (Dissolved)	159,000

Location	OW-1
Sample Date	9/11/2020
Metals (µg/L)	
Iron	502
Sodium	60,600
Sodium (Dissolved)	31,000

Location	LMW-4
Sample Date	9/11/2020
SVOCs (µg/L)	
Benzo(a)Anthracene	0.06J
Benzo(b)Fluoranthene	0.06J
Benzo(k)Fluoranthene	0.04J
Chrysene	0.06J
Indeno(1,2,3-c,d)Pyrene	0.04J
Pesticides (µg/L)	
Dieldrin	0.015J
Metals (µg/L)	
Iron	21,100
Magnesium	37,300
Manganese	617.9
Sodium	60,900
Sodium (Dissolved)	29,800

LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

APPROXIMATE GROUNDWATER MONITORING WELL LOCATION

APPROXIMATE LOCATION OF FORMER 2,000-GALLON UST

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024
4. ALL ANALYTES SHOWN INDICATE AN EXCEEDANCE OF THE NYSDEC TOGS 1.1.1. AMBIENT WATER QUALITY STANDARDS (AWQS) OR NYSDEC FEBRUARY 2023 GUIDANCE VALUES (NYSDEC GV) FOR PFOA, PFOS, AND 1,4-DIOXANE.

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SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SUMMARY OF HISTORICAL GROUNDWATER DATA

JANUARY 2025

FIGURE 5

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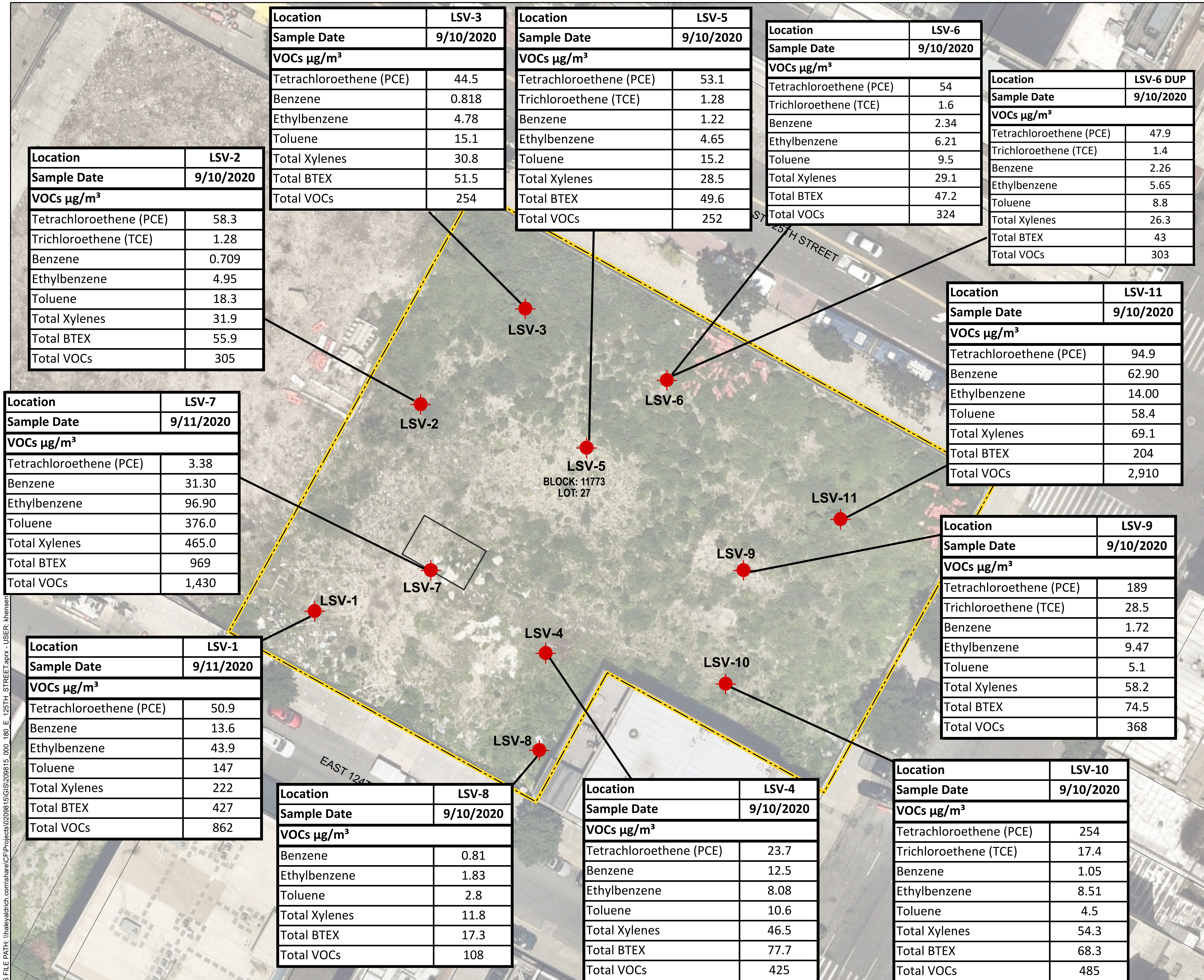

Location	LSV-1
Sample Date	9/11/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	50.9
Benzene	13.6
Ethylbenzene	43.9
Toluene	147
Total Xylenes	222
Total BTEX	427
Total VOCs	862

Location	LSV-2
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	58.3
Trichloroethene (TCE)	1.28
Benzene	0.709
Ethylbenzene	4.95
Toluene	18.3
Total Xylenes	31.9
Total BTEX	55.9
Total VOCs	305

Location	LSV-3
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	44.5
Benzene	0.818
Ethylbenzene	4.78
Toluene	15.1
Total Xylenes	30.8
Total BTEX	51.5
Total VOCs	254

Location	LSV-4
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	23.7
Benzene	12.5
Ethylbenzene	8.08
Toluene	10.6
Total Xylenes	46.5
Total BTEX	77.7
Total VOCs	425

Location	LSV-5
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	53.1
Trichloroethene (TCE)	1.28
Benzene	1.22
Ethylbenzene	4.65
Toluene	15.2
Total Xylenes	28.5
Total BTEX	49.6
Total VOCs	252

Location	LSV-6
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	54
Trichloroethene (TCE)	1.6
Benzene	2.34
Ethylbenzene	6.21
Toluene	9.5
Total Xylenes	29.1
Total BTEX	47.2
Total VOCs	324

Location	LSV-6 DUP
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	47.9
Trichloroethene (TCE)	1.4
Benzene	2.26
Ethylbenzene	5.65
Toluene	8.8
Total Xylenes	26.3
Total BTEX	43
Total VOCs	303

Location	LSV-7
Sample Date	9/11/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	3.38
Benzene	31.30
Ethylbenzene	96.90
Toluene	376.0
Total Xylenes	465.0
Total BTEX	969
Total VOCs	1,430

Location	LSV-8
Sample Date	9/10/2020
VOCs µg/m³	
Benzene	0.81
Ethylbenzene	1.83
Toluene	2.8
Total Xylenes	11.8
Total BTEX	17.3
Total VOCs	108

Location	LSV-9
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	189
Trichloroethene (TCE)	28.5
Benzene	1.72
Ethylbenzene	9.47
Toluene	5.1
Total Xylenes	58.2
Total BTEX	74.5
Total VOCs	368

Location	LSV-10
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	254
Trichloroethene (TCE)	17.4
Benzene	1.05
Ethylbenzene	8.51
Toluene	4.5
Total Xylenes	54.3
Total BTEX	68.3
Total VOCs	485

Location	LSV-11
Sample Date	9/10/2020
VOCs µg/m³	
Tetrachloroethene (PCE)	94.9
Benzene	62.90
Ethylbenzene	14.00
Toluene	58.4
Total Xylenes	69.1
Total BTEX	204
Total VOCs	2,910

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\0209815\GIS\209815_000_180_E_125TH_STREET.aprx - USER: khensen

LEGEND

SITE BOUNDARY

PARCEL BOUNDARY

APPROXIMATE SOIL VAPOR PROBE LOCATION

APPROXIMATE LOCATION OF FORMER 2,000-GALLON UST

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024

N

0 40 80
SCALE IN FEET

HALEY ALDRICH

180 EAST 125TH STREET
NEW YORK, NEW YORK

SOIL VAPOR RESULTS SUMMARY MAP

JANUARY 2025

FIGURE 6

APPENDIX A
Field Sampling Plan

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FIELD SAMPLING PLAN
180 EAST 125TH STREET
NEW YORK, NEW YORK

by
H & A of New York Engineering and Geology LLP
New York, New York

for
180 E125th Realty LLC
300 Penn Street, Suite 321
Brooklyn, New York 11211

File No. 0209815
January 2025

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1. Introduction

This Field Sampling Plan (FSP) has been prepared as a component of the Remedial Investigation Work Plan (RIWP) for the subject site located at 180 East 125th Street in New York, New York (the "Site"). This document was prepared to establish field procedures for field data collection to be performed in support of the RIWP for the Site.

The RIWP includes this FSP, a Quality Assurance Project Plan (QAPP), a Health and Safety Plan (HASP), and a Community Air Monitoring Plan (CAMP), which are included as part of this plan by reference.

The standard operating procedures (SOPs) included as components of this plan will provide the procedures necessary to meet the project objectives. The SOPs will be used as reference for the methods to be employed for field sample collection and handling and the management of field data collected in the execution of the approved RIWP. The SOPs include numerous methods to execute the tasks of the RIWP. The Project Manager will select the appropriate method as required by field conditions and/or the objective of the respective project task at the time of sample collection. Field procedures will be conducted in general accordance with the New York State Department of Conservation (NYSDEC) Technical Guidance for Site Investigation and Remediation (Division of Environmental Remediation [DER]-10) and the Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under the NYSDEC Part 375 Remedial Program when applicable.

2. Field Program

This FSP provides the general purpose of sampling as well as procedural information. The RIWP contains the details on sampling and analysis (locations, depths, frequency, analyte lists, etc.).

The field program has been designed to acquire the necessary data to comply with the RIWP, and includes the following tasks:

- Soil sampling;
- Groundwater sampling;
- Soil vapor sampling; and,
- Sampling of investigation-derived waste (IDW) as needed for disposal.

A Remedial Investigation (RI) was performed at the Site between August and September 2020 to investigate the anticipated contaminants of concern identified based on the Site's current and former uses. While the sampling events provided preliminary Site characterization data, they did not fully determine the nature and extent of soil, groundwater, and soil vapor contamination at the Site. The Site characterization did not identify a source of contamination on the Site; therefore, additional targeted soil, groundwater, and soil vapor sampling are proposed.

The SOPs presented herein may be changed as required, dependent on Site conditions, or equipment limitations, at the time of sample collection. If the procedures employed differ from the SOP, the deviations will be documented in the associated sampling report.

3. Utility Clearance

Invasive remedial activities such as excavation or remedial construction activities require the location of underground utilities prior to initiating work. Such clearance is sound practice in that it minimizes the potential for damage to underground facilities, and more importantly, is protective of the health and safety of personnel. Under no circumstances will invasive activities be allowed to proceed without obtaining proper utility clearance from the appropriate public agencies and/or private entities. This clearance requirement applies to all work on both public and private properties, whether located in a dense urban area or a seemingly out-of-the-way rural location.

The drilling contractor performing the work will be responsible for obtaining utility clearance.

Utility clearance is required by law, and obtaining clearance includes contacting a public or private central clearance agency via a "One-Call" telephone service and providing the proposed exploration location information. It is important to note that public utility agencies may not, and usually do not, have information regarding utility locations on private property.

Before beginning subsurface work at any proposed exploration locations, it is critical that all readily available information on underground utilities and structures be obtained. This includes publicly available information as well as information in the possession of private landowners. Any drawings obtained must be reviewed in detail for information pertaining to underground utilities.

Using the information obtained, the Site should be viewed in detail for physical evidence of buried lines or structures, including pavement cuts and patches, variation in or lack of vegetation, variations in grading, etc. Care must also be taken to avoid overhead utilities as well. The presence of surface elements of buried utilities should be documented, such as manholes, gas or water service valves, catch basins, monuments, or other evidence.

Overhead utility lines must be considered when choosing exploration and excavation locations. Most states require a minimum of 10 feet (ft) of clearance between equipment and energized wires. Such separation requirements may also be voltage-based and may vary depending on state or municipality regulations. In evaluating clearance from overhead lines, the same restrictions may apply to "drops," or wires on a utility pole connecting overhead and underground lines.

Using the information obtained and observations made, proposed exploration or construction locations should be marked in the field. Marking locations can be accomplished using spray paint on the ground, stakes, or other means. All markings of proposed locations should be made in white, in accordance with the generally accepted universal color code for facilities identification (American Public Works Association [APWA] 4/99):

- White: Proposed Excavation or Drilling Location
- Pink: Temporary Survey Markings
- Red: Electrical Power Lines, Cables, Conduit and Lighting Cables
- Yellow: Gas, Oil, Steam, Petroleum or Gaseous Materials
- Orange: Communication, Alarm or Signal Lines, Cables or Conduits

- Blue: Potable Water
- Purple: Reclaimed Water, Irrigation and Slurry Lines
- Green: Sewers and Drain Lines

In order to effectively evaluate the proposed locations with these entities, detailed, accurate measurements between the proposed locations and existing surface features should be obtained. Such features can be buildings, street intersections, utility poles, guardrails, etc.

Obtaining the utility clearance generally involves the designated "One-Call" underground facilities protection organization for the area, the landowner, and one or both following entities and/or procedures:

- A third-party utility locator company to locate underground utilities outside of the public right-of-way; and/or,
- "Soft dig" excavation techniques to confirm or deny the presence of underground utilities in the area.

The proposed locations should be evaluated in consideration of information available for existing underground facilities. The detailed measurement information described above will be required by the "One-Call" agency. The owners of the applicable, participating underground utilities are obligated to mark their respective facilities at the Site in the colors described above. Utility stake-out activities will typically not commence for approximately 72 hours after the initial request is made.

The public and private utility entities generally only mark the locations of their respective underground facilities within public rights-of-way. Determination of the locations of these facilities on private property will be the responsibility of the property owner or Contractor. If available information does not contain sufficient detail to locate underground facilities with a reasonable amount of confidence, alternate measures may be appropriate, as described below. In some cases, the memory of a long-time employee of a facility on private property may be the best or only source of information. It is incumbent on the Consultant or Contractor to exercise caution and use good judgement when faced with uncertainty.

Note: It is important to note that not all utilities are participants in the "One-Call" agency or process. As such, inquiries must be made with the "One-Call" agency to determine which entities do not participate, so they can be contacted independently.

Most utility stakeouts have a limited time period for which they remain valid, typically two to three weeks. It is critical that this time period be considered to prevent expiration of clearance prior to completion of the invasive activities, and the need to repeat the stake-out process.

Care must be exercised to document the receipt of notice from the involved agencies of the presence or absence of utilities in the vicinity of the proposed locations.

Most agencies will generally provide a telephone or fax communication indicating the lack of facilities in the project area. If contact is not made by all of the agencies identified by the "One-Call" process, do not assume that such utilities are not present. Re-contact the "One-Call" agency to determine the status.

For complicated sites with multiple proposed locations and multiple utilities, it is advisable to arrange an on-Site meeting with utility representatives. This will minimize the potential for miscommunication amongst the involved parties.

Completion of the utility stake-out process is not a guarantee that underground facilities will not be encountered in excavations or boreholes; in fact, most “One-Call” agencies and individual utilities do not offer guarantees, nor do they accept liability for damage that might occur. In areas outside the public right-of-way, a utility locating service may be utilized to locate underground utilities. It is advisable that any invasive activities proceed with extreme caution in the upper 4 to 5 ft in the event the clearance has failed to identify an existing facility. This may necessitate hand excavation or probing to confirm the potential presence of shallow utilities. If uncertainty exists for any given utility, extra activities can be initiated to solve utility clearance concerns. These options include:

- Screening the proposed work areas with utility locating devices, and/or hiring a utility locating service to perform this task.
- Hand digging, augering, or probing to expose or reveal shallow utilities and confirm presence and location. In northern climates, this may require advancing to below the frost line, typically at least 4 ft.
- Using “soft dig” techniques that utilize specialized tools and compressed air to excavate soils and locate utilities. This technique is effective in locating utilities to a depth of 4 to 5 ft.

Equipment/Materials:

- White Spray paint;
- Wooden stakes, painted white or containing white flagging;
- Color-code key; and,
- Available drawings.

4. Field Data Recording

This procedure describes the protocol for documenting the investigation activities in the field. Field data serves as the cornerstone for an environmental project, not only for site characterization but for additional phases of investigation or remedial design. Producing defensible data includes proper and appropriate recording of field data as it is obtained in a manner to preserve the information for future use. This procedure provides guidelines for accurate, thorough collection and preservation of written and electronic field data.

Field data to be recorded during the project generally includes, but is not limited to, the following:

- general field observations;
- numeric field measurements and instrument readings;
- quantity estimates;
- sample locations and corresponding sample numbers;
- relevant comments and details pertaining to the samples collected;
- documentation of activities, procedures, and progress achieved;
- contractor pay item quantities;
- weather conditions;
- a listing of personnel involved in Site-related activities;
- a log of conversations, Site meetings, and other communications; and,
- field decisions and pertinent information associated with the decisions.

4.1 Written Field Data

Written field data will be collected using a standardized, pre-printed field log form. In general, use of a field log form is preferable as it prompts field personnel to make appropriate observations and record data in a standardized format. This promotes completeness and consistency from one person to the next. Otherwise, electronic data collection using a handheld device produces equal completeness and consistency using a preformatted log form.

In the absence of an appropriate pre-printed form, the data should be recorded in an organized and structured manner in a dedicated project field log book. Log books must be hardcover, bound so that pages cannot be added or removed, and should be made from high-grade 50 percent rag paper with a water-resistant surface.

The following are guidelines for use of field log forms and log books:

1. Information must be factual and complete.
2. All entries will be made in black indelible ink with a ballpoint pen and will be written legibly. Do not use “rollerball” or felt tip-style pens, since the water-soluble ink can run or smear in the presence of moisture.

3. Field log forms should be consecutively numbered.
4. Each day's work must start a new form/page.
5. At the end of each day, the current log book page or forms must be signed and dated by the field personnel making the entries.
6. Make data entries immediately upon obtaining the data. Do not make temporary notes in other locations for later transfer; this only increases the potential for error or loss of data.
7. Entry errors are to be crossed out with a single line and initialed by the person making the correction.
8. Do not leave blanks on log forms, if no entry is applicable for a given data field, indicate so with "NA" or a dash ("--").
9. At the earliest practical time, photocopies or typed versions of log forms and log book pages should be made and placed in the project file as a backup in the event the book or forms are lost or damaged.
10. Log books should be dedicated to one project only, i.e., do not record data from multiple projects in one log book.

4.2 Electronic Data

Electronic data recording involves electronic measurement of field information through the use of monitoring instruments, sensors, gauges, and equipment controls. The following is a list of guidelines for proper recording and management of electronic field data:

1. Field data management should follow requirements of a project-specific data management plan (DMP), if applicable.
2. Use only instruments that have been calibrated in accordance with manufacturer's recommendations.
3. Usage of instruments, controls, and computers for the purpose of obtaining field data should only be performed by personnel properly trained and experienced in the use of the equipment and software.
4. Use only fully licensed software on personal computers and laptops.
5. Loss of electronic files may mean loss of irreplaceable data. Every effort should be made to back up electronic files obtained in the field as soon as practical. A backup file placed on the file server will minimize the potential for loss.
6. Electronic files, once transferred from field instruments or laptops to office computers, should be protected, if possible, to prevent unwanted or inadvertent manipulation or modification of data. Several levels of protection are usually available for spreadsheets, including making a file "read-only" or assigning a password to access the file.
7. Protect CDs from exposure to moisture, excessive heat or cold, magnetic fields, or other potentially damaging conditions.
8. Remote monitoring is often used to obtain stored electronic data from site environmental systems. A thorough discussion of this type of electronic field data recording is beyond the scope of this Section. Such on-site systems are generally capable of storing a limited amount of

data as a comma-delimited or spreadsheet file. Users must remotely access the monitoring equipment files via modem or other access and download the data. In order to minimize the potential for loss of data, access and downloading of data should be performed frequently enough to ensure the data storage capacity of the remote equipment is not exceeded.

Equipment/Materials:

- Appropriate field log forms, or iPad® or equivalent with preformatted log forms;
- Indelible ball point pen (do not use “rollerball” or felt-tip style pens);
- Straight edge;
- Pocket calculator; and,
- Laptop computer (if required).

5. Aquifer Characterization

This procedure describes the measurement of water levels in groundwater monitoring.

A synoptic gauging round will be completed to obtain water levels in monitoring wells. Water levels will be acquired in a manner that provides accurate data that can be used to calculate vertical and horizontal hydraulic gradients and other hydrogeologic parameters. Accuracy in obtaining the measurements is critical to ensure the usability of the data.

5.1 Procedure

In order to provide reliable data, water level monitoring events should be collected over as short a period of time as practical. Barometric pressure can affect groundwater levels and, therefore, observation of significant weather changes during the period of water level measurements must be noted. Rainfall events and groundwater pumping can also affect groundwater level measurements. Personnel collecting water level data must note if any of these controls are in effect during the groundwater level collection period. Due to possible changes during the groundwater level collection period, it is imperative that the time of data collection at each station be accurately recorded. Water levels will also be collected prior to any sample collection that day.

The depth to groundwater will be measured with an electronic depth-indicating probe. Prior to obtaining a measurement, a fixed reference point on the well casing will be established for each well to be measured. Unless otherwise established, the reference point is typically established and marked on the north side of the well casing. Do not use protective casings or flush-mounted road boxes as a reference, due to the potential for damage or settlement. The elevation of the reference point shall be obtained by accepted surveying methods, to the nearest 0.01 ft.

The water level probe will be lowered into the well until the meter indicates (via indicator light or tone) that the water is reached. The probe will be raised above the water level and slowly lowered again until water is indicated. The cable will be held against the side of the inner protective casing at the point designated for water level measurements and a depth reading taken. This procedure will be followed three times or until a consistent value is obtained. The value will be recorded to the nearest 0.01 ft on the Groundwater Level Monitoring Report form.

Upon completion, the probe will be raised to the surface and together with the amount of cable that entered the well casing, will be decontaminated in accordance with methods described in Equipment Decontamination Procedure.

Equipment/Materials:

- Battery-operated, non-stretch electronic water level probe with permanent markings at 0.01-ft increments, such as the Solinst Model 101 or equivalent.
- The calibrated cable on the depth indicator will be checked against a surveyor’s steel tape once per quarter year. A new cable will be installed if the cable has changed by more than 0.01 percent (0.01 ft for a 100 ft cable). See also the Field Instruments – Use and Calibration Procedure.

- Groundwater Level Monitoring Report form.

6. Sample Collection for Laboratory Analysis

6.1 SOIL SAMPLE COLLECTION FOR LABORATORY ANALYSIS

The following procedure is an introduction to soil sampling techniques and an outline of field staff responsibilities. All samples will be collected with dedicated sampling equipment.

6.1.1 Preparatory Requirements

Prior to the beginning of any remedial investigation or remedial measures activities, staff must attend a project briefing for the purpose of reviewing the project work plan, Site and utility plans, drawings, applicable regulations, sampling location, depth, and criteria, Site contacts, and other related documents. Health and safety concerns will be documented in a Site-specific HASP.

A file folder for the field activities should be created and maintained such that all relevant documents and log forms likely to be useful for the completion of field activities by others are readily available in the event of personnel changes.

6.1.2 Soil Classification

The stratigraphic log is a factual description of the soil at the borehole location and is relied upon to interpret the soil characteristics and their influence and significance in the subsurface environment. The accuracy of the stratigraphic log is to be verified by the person responsible for interpreting subsurface conditions. An accurate description of the soil stratigraphy is essential for a reasonable understanding of the subsurface conditions. Confirmation of the field description by examination of representative soil samples by the project geologist, hydrogeologist, or geotechnical engineer (whenever practicable) is recommended.

The ability to describe and classify soil correctly is a skill that is learned from a person with experience and by systematic training and comparison of laboratory results to field descriptions.

6.1.2.1 Data Recording

Several methods for classifying and describing soils or unconsolidated sediments are in relatively widespread use. The Unified Soil Classification System (USCS) is the most common. With the USCS, a soil is first classified according to whether it is predominantly coarse-grained or fine-grained.

The description of fill soil is similar to that of natural undisturbed soil except that it is identified as fill and not classified by USCS group, relative density, or consistency. Those logging soils must attempt to distinguish between soils that have been placed (i.e., fill) and not naturally present or soils that have been naturally present but disturbed (i.e., disturbed native).

It is necessary to identify and group soil samples consistently to determine the subsurface pattern or changes and non-conformities in soil stratigraphy in the field at the time of drilling. The stratigraphy in each borehole during drilling is to be compared to the stratigraphy found at the previously completed boreholes to ensure that patterns or changes in soil stratigraphy are noted and that consistent terminology is used.

Visual examination, physical observations, and manual tests (adapted from ASTM International [ASTM] D2488, visual-manual procedures) are used to classify and group soil samples in the field and are summarized in this subsection. ASTM D2488 should be reviewed for detailed explanations of the procedures. Visual-manual procedures used for soil identification and classification include:

- visual determination of grain size, soil gradation, and percentage fines;
- dry strength, dilatancy, toughness, and plasticity (thread or ribbon test) tests for identification of inorganic fine-grained soil (e.g., CL, CH, ML, or MH); and,
- soil compressive strength and consistency estimates based on thumb indent and pocket penetrometer (preferred) methods.

Soil characteristics like plasticity, strength, and dilatancy should be determined using the H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) Soil Identification Field Form.

6.1.2.2 Field Sample Screening

Upon the collection of soil samples, the soil is screened with a photoionization detector (PID) for the presence of organic vapor. This is accomplished by running the PID across the soil sample. The highest reading and sustained readings are recorded.

Note: The PID measurement must be done upwind of the excavating equipment or any running engines so that exhaust fumes will not affect the measurements.

Another method of field screening is headspace measurements. This consists of placing a portion of the soil sample in a sealable glass jar, placing aluminum foil over the jar top, and tightening the lid. Alternatively, plastic sealable bags may be utilized for field screening in lieu of glass containers. The jar should only be partially filled. Shake the jar and set aside for at least 30 minutes. After the sample has equilibrated, the lid of the jar can be opened; the foil is punctured with the PID probe, and the air (headspace) above the soil sample is monitored. This headspace reading on the field form or in the field book is recorded. All headspace measurements must be completed under similar conditions to allow comparability of results. Soil classification and PID readings will be recorded in the daily field report.

Equipment/Materials:

- Pocket knife or small spatula;
- Small handheld lens;
- Stratigraphic Log (Overburden) (Form 2001);
- Tape measure; and,
- When sampling for PFAS, acceptable materials for sampling include stainless steel, high-density polyethylene (HDPE), polyvinyl chloride (PVC), silicone, acetate, and polypropylene.

6.1.3 Soil Sampling

Soil samples will be collected from acetate liners installed by a track-mounted direct-push drill rig (Geoprobe®) or sonic drill rig (as necessary) operated by a licensed operator. Soil samples will be collected using a stainless-steel trowel or sampling spoon into laboratory-provided sample containers. If it is necessary to relocate any proposed sampling location due to terrain, utilities, access, etc., the Project Manager must be notified, and an alternate location will be selected.

Prior to use and between each sampling location at an environmental site, the sampling equipment must be decontaminated. All decontamination must be conducted in accordance with the project-specific plans or the methods presented in SOP 7.0.

6.1.4 Sampling Techniques

The following procedure describes typical soil sample collection methods for submission of samples to a laboratory for chemical analysis. The primary goal of soil sampling is to collect representative samples for examination and chemical analysis (if required).

Environmental soil samples obtained for chemical analyses are collected with special attention given to the rationale behind determining the precise zone to sample, the specifics of the method of soil extraction, and the requisite decontamination procedures. Preservation, handling, and glassware for environmental soil samples vary considerably depending upon several factors including the analytical method to be conducted and the analytical laboratory being used.

Soil sampling for PFAS will be performed in accordance with NYSDEC, DER, Sampling, Analysis, and Assessment of PFAS under NYSDEC Part 375 Remedial Program (April 2023).

6.1.4.1 Grab Versus Composite Samples

A grab sample is collected to identify and quantify conditions at a specific location or interval. The sample is comprised of the minimum amount of soil necessary to make up the volume of the sample dictated by the required sample analyses. Composite samples may be obtained from several locations or along a linear trend (in a test pit or excavation). Sampling may occur within or across stratification.

6.2 GROUNDWATER SAMPLE COLLECTION FOR LABORATORY ANALYSIS

The following section describes two techniques for groundwater sampling: "Low-Stress/Low-Flow Methods" and "Typical Sampling Methods."

"Low-Stress/Low-Flow" methods will be employed when collecting groundwater samples for the evaluation of volatile constituents (i.e., dissolved oxygen [DO]) or in fine-grained formations where sediment/colloid transport is possible. Analyses typically sensitive to colloidal transport issues include polychlorinated biphenyls (PCBs), polyaromatic hydrocarbons (PAHs), and metals.

The "Typical Sampling Methods" will be employed where the collection of parameters less sensitive to turbidity/sediment issues are being collected (general chemistry, pesticides, and other semi-volatile organic compounds [SVOCs]).

NOTE: If non-aqueous phase liquids (NAPL) (light or dense) are detected in a monitoring well, groundwater sample collection will not be conducted, and the Project Manager must be contacted to determine a course of action.

6.2.1 Preparatory Requirements

- Verify well identification and location using borehole log details and location layout figures. Note the condition of the well and record any necessary repair work required.
- Prior to opening the well cap, measure the breathing space above the well casing with a handheld organic vapor analyzer to establish baseline breathing space volatile organic compound (VOC) levels. Repeat this measurement once the well cap is opened. If either of these measurements exceeds the air quality criteria in the HASP, field personnel should adjust their personal protective equipment (PPE) accordingly.
- Prior to commencing the groundwater purging/sampling, a water level must be obtained to determine the well volume for hydraulic purposes. In some settings, it may be necessary to allow the water level time to equilibrate. This condition exists if a watertight seal exists at the well cap and the water level has fluctuated above the top of screen, creating a vacuum or pressurized area in this air space. Three water level checks will verify static water level conditions have been achieved.
- Calculate the volume of water in the well. Typically, overburden well volumes consider only the quantity of water standing in the well screen and riser; bedrock well volumes are calculated on the quantity of water within the open core hole and within the overburden casing.

6.2.2 Well Development

Well development is completed to remove fine-grained materials from the well but in such a manner as to not introduce fines from the formation into the sand pack. Well development continues until the well responds to water level changes in the formation (i.e., a good hydraulic connection is established between the well and formation) and the well produces clear, sediment-free water to the extent practical.

- Attach appropriate pump and lower tubing into well.
- Gauge well and calculate one well volume. Turn on pump. If well runs dry, shut off pump and allow to recover.
- Surging will be performed by raising and lowering the pump several times to pull fine-grained material from the well. Periodically measure turbidity level using a La Motte turbidity reader.
- The second and third steps will be repeated until turbidity is less than 50 nephelometric turbidity units (NTU) or when 10 well volumes have been removed.
- All water generated during cleaning and development procedures will be collected and contained on the Site in 55-gallon drums for future analysis and appropriate disposal.

Equipment:

- Appropriate health and safety equipment;
- Knife;

- Power source (generator);
- Field book ;
- Well Development Form (Form 3006);
- Well keys;
- Graduated pails;
- Pump and tubing;
- Cleaning supplies (including non-phosphate soap, buckets, brushes, laboratory-supplied distilled/deionized water, tap water, cleaning solvent, aluminum foil, plastic sheeting, etc.); and,
- Water level meter.

6.2.3 Well Purging and Stabilization Monitoring (Low-Stress/Low-Flow Method)

The preferred method for groundwater sampling will be the low-stress/low-flow method described below.

- Slowly lower the pump, safety cable, tubing, and electrical lines into the well to the depth specified by the project requirements. The pump intake must be at the midpoint of the well screen to prevent disturbance and resuspension of any sediment in the screen base.
- Before starting the pump, measure the water level again with the pump in the well leaving the water level measuring device in the well when completed.
- Purge the well at 100 to a maximum of 500 milliliters per minute (mL/min). During purging, the water level should be monitored approximately every five minutes, or as appropriate. A steady flow rate should be maintained that results in drawdown of 0.3 ft or less. The rate of pumping should not exceed the natural flow rate conditions of the well. Care should be taken to maintain pump suction and to avoid entrainment of air in the tubing. Record adjustments made to the pumping rates and water levels immediately after each adjustment.
- During the purging of the well, monitor and record the field indicator parameters (pH, temperature, conductivity, oxidation-reduction [redox] reaction potential [ORP], DO, and turbidity) approximately every five minutes. Stabilization is considered to be achieved when the final groundwater flow rate is achieved, and three consecutive readings for each parameter are within the following limits:
    - pH: 0.1 pH units of the average value of the three readings;
    - Temperature: 3 percent of the average value of the three readings;
    - Conductivity: 0.005 milliSiemen per centimeter (mS/cm) of the average value of the three readings for conductivity less than 1 mS/cm and 0.01 mS/cm of the average value of the three readings for conductivity greater than 1 mS/cm;
    - ORP: 10 millivolts (mV) of the average value of the three readings;
    - DO: 10 percent of the average value of the three readings; and
    - Turbidity: 10 percent of the average value of the three readings, or a final value of less than 50 NTU.
- The pump must not be removed from the well between purging and sampling.

6.2.4 Sampling Techniques

- If an alternate pump is utilized, the first pump discharge volumes should be discarded to allow the equipment a period of acclimation to the groundwater.
- Samples are collected directly from the pump with the groundwater being discharged directly into the appropriate sample container. Avoid handling the interior of the bottle or bottle cap and don new gloves for each well sampled to avoid contamination of the sample.
- Order of sample collection:
  - PFAS
  - VOCs
  - 1,4-dioxane
  - SVOCs
  - Total Analyte List (TAL) metals
  - PCBs, pesticides, and herbicides
- No sampling equipment components or sample containers should come in contact with aluminum foil, low-density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including plumber's tape and sample bottle cap liners with a PTFE layer.
- For low-stress/low-flow sampling, samples should be collected at a flow rate between 100 and 500 mL/min and such that drawdown of the water level within the well does not exceed the maximum allowable drawdown of 0.3 ft.
- The pumping rate used to collect a sample for VOC should not exceed 100 mL/min. Samples should be transferred directly to the final container of 40 mL glass vials completely full and topped with a Teflon™ cap. Once capped, the vial must be inverted and tapped to check for headspace/air presence (bubbles). If air is present, the sample will be discarded, and recollected until free of air.
- Groundwater sampling for PFAS will be performed in accordance with NYSDEC, DER, Sampling, Analysis, and Assessment of PFAS under NYSDEC Part 375 Remedial Program (April 2023)
- All samples must be labeled with:
  - A unique sample number
  - Date and time
  - Parameters to be analyzed
  - Project Reference ID
  - Sampler's initials
- Labels should be written in indelible ink and secured to the bottle with clear tape.

Equipment/Materials:

- pH meter, conductivity meter, DO meter, ORP meter, nephelometer, temperature gauge;
- Field filtration units (if required);
- Purging/sampling equipment;

- Peristaltic Pump;

- Water level probe;
- Sampling materials (containers, log book/forms, coolers, chain of custody);
- Work Plan;
- HASP; and,
- When sampling for PFAS, acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene.

Note: Peristaltic pump use for VOC collection is not acceptable on NYSDEC/ U.S. Environmental Protection Agency (EPA)/ Resource Conservation and Recovery Act (RCRA) sites; this technique has gained acceptance in select areas where it is permissible to collect VOCs using a peristaltic pump at a low flow rate (e.g., Michigan).

Note: 1,4-dioxane and PFAS purge and sample techniques will be conducted following the NYSDEC guidance documents (see Appendix D of the RIWP). Acceptable groundwater pumps include stainless-steel inertia pump with HDPE tubing, peristaltic pump equipped with HDPE tubing and silicone tubing, stainless steel bailer with stainless-steel ball or bladder pump (identified as PFAS-free) with HDPE tubing.

Field Notes:

- Field notes must document all the events, equipment used, and measurements collected during the sampling activities. Section 2.0 describes the data/recording procedure for field activities.
- The log book should document the following for each well sampled:
  - Identification of well;
  - Well depth;
  - Static water level depth and measurement technique;
  - Sounded well depth;
  - Presence of immiscible layers and detection/collection method;
  - Well yield – high or low;
  - Purge volume and pumping rate;
  - Time well purged;
  - Measured field parameters;
  - Purge/sampling device used;
  - Well sampling sequence;
  - Sampling appearance;
  - Sample odors;
  - Sample volume;
  - Types of sample containers and sample identification;
  - Preservative(s) used;
  - Parameters requested for analysis;
  - Field analysis data and method(s);

- Sample distribution and transporter;
- Laboratory shipped to;
- Chain of custody number for shipment to laboratory;
- Field observations on sampling event;
- Name collector(s);
- Climatic conditions including air temperature; and,
- Problems encountered and any deviations made from the established sampling protocol.

A standard log form for documentation and reporting groundwater purging and sampling events is presented on the Groundwater Sampling Record, Low Flow Groundwater Sampling Form, and Low Flow Monitored Natural Attenuation (MNA) Field Sampling Form. Refer to Appendix A for example field forms.

Groundwater/Decontamination Fluid Disposal:

- Groundwater disposal methods will vary on a case-by-case basis but may range from:
  - Off-Site treatment at private treatment/disposal facilities or public-owned treatment facilities
  - On-Site treatment
  - Direct discharge to the surrounding ground surface, allowing groundwater infiltration to the underlying subsurface regime
- Decontamination fluids should be segregated and collected separately from wash waters/groundwater containers.

6.3 SOIL VAPOR SAMPLING

The following procedure is an introduction to soil vapor sampling techniques and an outline of field staff responsibilities.

6.3.1 Preparatory Requirements

Prior to collecting the field sample, ensure the stainless-steel or polyethylene soil vapor probe has been installed to the desired depth and sealed completely to the surface using a material such as bentonite. As part of the vapor intrusion evaluation, a tracer gas should be used in accordance with New York State Department of Health (NYSDOH) protocols to serve as a quality assurance/quality control (QA/QC) to verify the integrity of the soil vapor probe seal. A container (box, plastic pail, etc.) will serve to keep the tracer gas in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer gas prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration. At the conclusion of the sampling round, tracer monitoring should be performed a second time to confirm the integrity of the probe seals.

6.3.2 Sampling Techniques

Samples will be collected in appropriately sized Summa® canisters that have been certified clean by the laboratory and samples will be analyzed by using EPA Method TO-15. Flow rate for both purging and sampling will not exceed 0.2 L/min. One to three implant volumes shall be purged prior to the collection of any soil-gas samples. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

6.4 SAMPLE HANDLING AND SHIPPING

Sample management is the continuous care given to each sample from the point of collection to receipt at the analytical laboratory. Good sample management ensures that samples are properly recorded, properly labeled, and not lost, broken, or exposed to conditions that may affect the sample's integrity.

All sample submissions must be accompanied by a chain of custody document to record sample collection and submission. Personnel performing sampling tasks must check the sample preparation and preservation requirements to ensure compliance with the QAPP.

The following sections provide the minimum standards for sample management.

6.4.1 Sample Handling

Prior to entering the field area where sampling is to be conducted, especially at sites with defined exclusion zones, the sampler should ensure that all materials necessary to complete the sampling are on hand. If samples must be maintained at a specified temperature after collection, dedicated coolers and ice must be available for use. Conversely, when sampling in cold weather, proper protection of water samples, trip blanks, and field blanks must be considered. Sample preservation will involve pH adjustment, cooling to 4 degrees Celsius, and sample filtration and preservation.

6.4.2 Sample Labeling

Samples must be properly labeled immediately upon collection.

Note that the data shown on the sample label is the minimum data required. The sample label data requirements are listed below for clarity.

- Project name
- Sample name/number/unique identifier
- Sampler's initials
- Date of sample collection
- Time of sample collection
- Analysis required
- Preservatives

To ensure that samples are not confused, a clear notation should be made on the container with a permanent marker. If the containers are too soiled for marking, the container can be put into a "zip lock" bag which can then be labeled.

All sample names will be as follows:

- Sample unique identifier: Enter the sample name or number. There should be no slashes, spaces, or periods in the date.
- Date: Enter the six-digit date when the sample was collected. Note that for one-digit days, months, and/or years, add zeros so that the format is MMDDYY (050210). There should be no slashes, dashes, or periods in the date.

The QA/QC samples will be numbered consecutively as collected with a sample name, date, and number of samples collected throughout the day (i.e., when multiple QA/QC samples are collected in one day).

Examples of this naming convention are as follows:

Sample Name:	Comments
TB-050202-0001	TRIP BLANK
TB-050202-0002	TRIP BLANK
FD-050202-0001	FIELD DUPLICATE
FD-050202-0002	FIELD DUPLICATE

NOTE: The QA/QC Sample number resets to 0001 EACH DAY, this will avoid having to look back to the previous day for the correct sequential number.

6.4.3 Field Code

The field code will be written in the “Comments” field on the chain of custody for every sample but will not be a part of the actual sample name. Enter the one/two-character code for the type of sample (must be in capitals):

N	Normal Field Sample
FD	Field Duplicate (note sample number [i.e., 0001] substituted for time)
TB	Trip Blank (note sample number [i.e., 0001] substituted for time)
EB	Equipment Blank (note sample number [i.e., 0001] substituted for time)
FB	Field Blank (note sample number [i.e., 0001] substituted for time)
KD	Known Duplicate
FS	Field Spike Sample
MS	Matrix Spike Sample (note on “Comments” field of chain of custody – laboratory to spike matrix)
MD	Matrix Spike Duplicate Sample (note on “Comments” field of chain of custody – laboratory to spike matrix
RM	Reference Material

The sample labeling – both chain and sample bottles must be exactly as detailed above. In addition, the Field Sample Key for each sample collected must be filled out.

6.4.4 Packaging

Sample container preparation and packing for shipment should be completed in a well-organized and clean area, free of any potential cross-contamination. The following is a list of standard guidelines which must be followed when packing samples for shipment.

- Double bag ice in "Zip Lock" bags.
- Double check to ensure trip and temperature blanks have been included for all shipments containing VOCs, or where otherwise specified in the QAPP.
- Enclose the chain of custody form in a "Zip Lock" bag.
- Ensure custody seals (two, minimum) are placed on each cooler. Coolers with hinged lids should have both seals placed on the opening edge of the lid. Coolers with "free" lids should have seals placed on opposite diagonal corners of the lid. Place clear tape over custody seals.
- Containers should be wiped clean of all debris/water using paper towels (paper towels must be disposed of with other contaminated materials).
- Clear, wide packing tape should be placed over the sample label for protection.
- Do not bulk pack. Each sample must be individually padded.
- Large glass containers (1 liter and up) require much more space between containers.
- Ice is not a packing material due to the reduction in volume when it melts.

Note: Never store sterile sample containers in enclosures containing equipment which use any form of fuel or volatile petroleum-based product. When conducting sampling in freezing conditions at sites without a heated storage area (free of potential cross-contaminants), unused trip blanks should be isolated from coolers immediately after receipt. Trip blanks should be double bagged and kept from freezing.

6.4.5 Chain of Custody Records

Chain of custody forms will be completed for all samples collected. The form documents the transfer of sample containers. The chain of custody record, completed at the time of sampling, will contain, but not be limited to, the sample number, date and time of sampling, and the name of the sampler. The chain of custody document will be signed and dated by the sampler when transferring the samples.

Each sample cooler being shipped to the laboratory will contain a chain of custody form. The cooler will be sealed properly for shipment. The laboratory will maintain a copy for their records. One copy will be returned with the data deliverables package.

The following list provides guidance for the completion and handling of all chains of custody:

- Chains of custody used should be a Haley & Aldrich of New York standard form or supplied by the analytical laboratory.
- Chains of custody must be completed in black ball point ink only.
- Chains of custody must be completed neatly using printed text.

- If a simple mistake is made, cross out the error with a single line and initial and date the correction.
- Each separate sample entry must be sequentially numbered.
- If numerous repetitive entries must be made in the same column, place a continuous vertical arrow between the first entry and the next different entry.
- When more than one chain of custody form is used for a single shipment, each form must be consecutively numbered using the "Page ___ of ___" format.
- If necessary, place additional instructions directly onto the chain of custody in the Comment Section. Do not enclose separate instructions.
- Include a contact name and phone number on the chain of custody in case there is a problem with the shipment.
- Before using an acronym on a chain of custody, define clearly the full interpretation of your designation (i.e., PCBs).

6.4.6 Shipment

Prior to the start of the field sampling, the carrier should be contacted to determine if pickup will be at the field Site location. If pick-up is not available at the Site, the nearest pick-up or drop-off location should be determined. Sample shipments must not be left at unsecured drop locations.

Copies of all shipment manifests must be maintained in the field file.

7. Field Instruments – Use and Calibration

A significant number of field activities involve the usage of electronic instruments to monitor environmental conditions and for health and safety purposes. It is imperative the instruments are used and maintained properly to optimize their performance and minimize the potential for inaccuracies in the data obtained. This section provides guidance on the usage, maintenance, and calibration of electronic field equipment.

- All monitoring equipment will be in proper working order and operated in accordance with manufacturer's recommendations.
- Field personnel will be responsible for ensuring that the equipment is maintained and calibrated in the field in accordance with manufacturer's recommendations.
- Instruments will be operated only by personnel trained in the proper usage and calibration.
- Personnel must be aware of the range of conditions such as temperature and humidity for instrument operation. Usage of instruments in conditions outside these ranges will only proceed with approval of the Project Manager and/or Health and Safety Officer as appropriate.
- Instruments that contain radioactive source material, such as x-ray fluorescence (XRF) analyzers or moisture-density gauges require specific transportation, handling, and usage procedures that are generally associated with a license from the Nuclear Regulatory Commission (NRC) or an NRC-Agreement State. Under no circumstance will the operation of such instruments be allowed on the Site unless by properly authorized and trained personnel, using the proper personal dosimetry badges or monitoring instruments.

7.1 GENERAL PROCEDURE DISCUSSION

Care must be taken to minimize the potential for transfer of contaminated materials to the ground or onto other materials. Regardless of the size or nature of the equipment being decontaminated, the process will utilize a series of steps that involve the removal of gross material (dirt, grease, oil, etc.), washing with a detergent, and multiple rinsing steps. In lieu of a series of washes and rinse steps, steam cleaning with low-volume, high-pressure equipment (i.e., steam cleaner) is acceptable.

Exploration equipment, and all monitoring equipment in contact with the sampling media must be decontaminated prior to initiating Site activities, in between exploration locations to minimize cross-contamination, and prior to mobilizing off Site after completion of Site work.

The following specific decontamination procedure is recommended for sampling equipment and tools:

- Brush loose soil off equipment;
- Wash equipment with laboratory-grade detergent (i.e., Alconox or equivalent);
- Rinse with tap water;
- Rinse equipment with distilled water;
- Allow water to evaporate before reusing equipment; and,
- Wrap equipment in aluminum foil when not being used.

7.2 DECONTAMINATION OF MONITORING EQUIPMENT

Because monitoring equipment is difficult to decontaminate, care should be exercised to prevent contamination. Sensitive monitoring instruments should be protected when they are at risk of exposure to contaminants. This may include enclosing them in plastic bags allowing an opening for the sample intake. Ventilation ports should not be covered.

If contamination does occur, decontamination of the equipment will be required; however, immersion in decontamination fluids is not possible. As such, care must be taken to wipe the instruments down with detergent-wetted wipes or sponges, and then with de-ionized water-wetted wipes or sponges.

7.3 DISPOSAL OF WASH SOLUTIONS AND CONTAMINATED EQUIPMENT

All contaminated wash water, rinses, solids, and materials used in the decontamination process that cannot be effectively decontaminated (such as polyethylene sheeting) will be containerized and disposed of in accordance with applicable regulations. All containers will be labeled with an indelible marker as to contents and date of placement in the container, and any appropriate stickers required (such as PCBs). Storage of decontamination wastes on the Site will not exceed 90 days under any circumstances.

Equipment/Materials:

Decontamination equipment and solutions are generally selected based on ease of decontamination and disposability.

- Polyethylene sheeting;
- Metal racks to hold equipment;
- Soft-bristle scrub brushes or long-handle brushes for removing gross contamination and scrubbing with wash solutions;
- Large, galvanized wash tubs, stock tanks, or wading pools for wash and rinse solutions;
- Plastic buckets or garden sprayers for rinse solutions;
- Large plastic garbage cans or other similar containers lined with plastic bags can be used to store contaminated clothing;
- Contaminated liquids and solids should be segregated and containerized in New York State Department of Transportation (NYSDOT)-approved plastic or metal drums, appropriate for off-Site shipping/disposal if necessary.

8. Investigation-Derived Waste (IDW) Disposal

8.1 RATIONALE/ASSUMPTIONS

This procedure applies to the disposition of IDW, including soils and/or groundwater. IDW is dealt with using the following "Best Management Practices" and is not considered a listed waste due to the lack of generator knowledge concerning the chemical source, chemical origin, and timing of chemical introduction to the subsurface.

Consequently, waste sampling and characterization are performed to determine if the wastes exhibit a characteristic of hazardous waste. The disposal of soil cuttings, test pit soils, and/or purged groundwater will be reviewed on a case-by-case basis prior to initiation of field activities. Two scenarios typically exist:

- When no information is available in the area of activity or investigation, and impacted media/soils are identified. Activities such as new construction and /or maintenance below grade may encounter environmental conditions that were unknown.
- Disposal Required/Containerization Required – When sufficient Site information regarding the investigative Site conditions warrants that all materials handled will be contained and disposed of.

If a known listed hazardous and/or characteristically hazardous waste/contaminated environmental media is being handled, then handling must be performed in accordance with RCRA Subtitle C (reference 2, Part V, Section 1[a],[b],[c]).

The following outlines the waste characterization procedures to be employed when IDW disposal is required.

The following procedure describes the techniques for the characterization of IDW for disposal purposes. IDW may consist of soil cuttings (augering, boring, well installation soils, test pit soils), rock core or rock flour (from coring, reaming operations), groundwater (from well development, purging, and sampling activities), decontamination fluids, PPE, and disposal equipment (DE).

8.2 PROCEDURE

The procedures for handling and characterization of field activity-generated wastes are:

A.) Soil Cuttings - Soils removed from boring activities will be contained within an approved container, suitable for transportation and disposal.

- Once placed into the approved container, any free liquids (i.e., groundwater) will be removed for disposal as waste fluids or solidified within the approved container using a solidification agent such as Speedy Dri (or equivalent).
- Contained soils will be screened for the presence of VOCs using a PID; this data will be logged for future reference.
- Once screened, full, and closed; the container will be labeled and placed into the container storage area. At a minimum, the following information will be shown on each container

label: date of filling/generation, Site name, source of soils (i.e., borehole or well), and contact.

- Prior to container closure, representative samples from the containers will be collected for waste characterization purposes and submitted to the project laboratory.
- Typically, at a location where an undetermined Site-specific parameter group exists, sampling and analysis may consist of the full RCRA Waste Characterization (ignitability, corrosivity, reactivity, toxicity), or a subset of the above based upon data collected, historical information, and generator knowledge.

B.) Groundwater - purging, and sampling groundwater, which requires disposal, will be contained.

- Containment may be performed in 55-gallon drums, tanks suitable for temporary storage (i.e., Nalgene tanks 500 to 1,000 gallons) or if large volumes of groundwater are anticipated, tanker trailer (5,000 to 10,000 gallons ±), or drilling "Frac" tanks may be utilized (20,000 gallons ±). In all cases, the container/tank used for groundwater storage must be clean before use such that cross-contamination does not occur.

C.) Decontamination Waters/Decontamination Fluids - Decontamination waters and/or fluids will be segregated, contained, and disposed of accordingly.

- Decontamination waters may be disposed of with the containerized groundwater once analytical results have been acquired.

D.) PPE/DE – A number of disposal options exist for spent PPE/DE generated from investigation tasks. The options typically employed are:

- Immediately disposed of within on-Site dumpster/municipal trash; or
- If known to be contaminated with RCRA hazardous waste, dispose off-Site at an RCRA Subtitle C facility.
- Spent Solvent/Acid Rinses - The need for sampling must be determined in consultation with the waste management organization handling the materials. If known that only the solvent and/or acids are present, then direct disposal/treatment using media-specific options may be possible without sampling (i.e., incineration).
- PPE/DE – Typically not sampled and included with the disposal of the solid wastes.

Equipment/Materials:

- Sample spoons, trier, auger;
- Sample mixing bowl;
- Sampling bailer, or pump;
- Sample glassware.

References

1. American Public Works Association, April 1999, Uniform Color Code (http://www.apwa.net/)

2. ASTM Standard D 2487, "Classification of Soils for Engineering Purposes (Unified Soil Classification System)".

3. ASTM 4750 Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well)

4. ASTM D6000 Guide for Presentation of Water Level Information from Ground Water Sites

5. ASTM D5474: Guide for Selection of Data Elements for Groundwater Investigations

6. ASTM D4696: Guide for Pore-liquid Sampling from the Vadose Zone

7. ASTM D5979: Guide for Conceptualization and Characterization of Groundwater Systems

8. ASTM D5903: Guide for Planning and Preparing for a Groundwater Sampling Event

9. ASTM D4448: Standard Guide for Sampling Groundwater Wells

10. ASTM D6001: Standard Guide for Direct Push Water Sampling for Geo-environmental Investigations.

11. ASTM (1991), Standard D1452-80, "Practice for Soil Investigation and Sampling by Auger Borings", Annual Book of ASTM Standard, Section 4, Volume 04.08.

12. ASTM Standards on Environmental Sampling (1995), Standard D 2488-93, "Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)"

13. ASTM Standards on Environmental Sampling (1995), Standard D 4700-91, "Guide for Soil Sampling from the Vadose Zone".

14. ASTM Standards on Environmental Sampling (1995), Standard D 1586-92, "Test Method for Penetration Test and Split-Barrel Sampling of Soils".

15. ASTM D5088 - Practice for Decontamination of Field Equipment Used at Non-Radioactive Waste Sites

16. Geotechnical Gauge, Manufactured by W.F. McCollough, Beltsville, MD.

17. New York State Code Rule 753

18. New York State Department of Environmental Conservation Technical Guidance for Site Investigation and Remediation, DER-10, (3 May 2010).

19. New York State Department of Environmental Conservation, Division of Environmental Remediation, Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC Part 375 Remedial Program (April 2023).

20. Sand Grading Chart, by Geological Specialty Company, Northport, Alabama.

21. USEPA Office of Solid Waste- SW846 Chapter 9 Sampling Plan, Chapter 10 Sampling Methods (September 1986).

22. USEPA (1986), RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, OSWER-9950.1.

23. USEPA (1987), A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001.

24. USEPA (1988), Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, OSWER-9950.1.

25. USEPA RCRA - Guidance and Policies: Management of Remediation Waste Under RCRA (October 1998).

26. USEPA RCRA - Management of Contaminated Media (October 1998).

27. USEPA CERCLA Guidance (Options Relevant to RCRA Facilities): Guide to Management of Investigation - Derived Wastes (January 1992).

28. USEPA: Low-flow (Minimal Drawdown) Groundwater Sampling Procedures (EPA/540/S-95/504)

29. USEPA: RCRA Groundwater Monitoring: Draft Technical guidance (EPA/530 R 93 001)

30. The Occupational Safety and Health Administration’s (OSHA) Excavation and Trenching Standard Title 29 of the Code of Federal Regulation (CFR) Part 1926.650.

APPENDIX A
Field Forms

EQUIPMENT CALIBRATION LOG

Project: ______________________________
Location: ______________________________
Model Name: ______________________________
Model Number: ____________________ **Serial Number:** ____________
Cal. Standards: ______________________________

Instruments will be calibrated in accordance with manufacturer's recommendations at least once per day.

Date	Time	Calibration Satandard Solution	Calibration Result	Calibrated by

Other Comments: ______________________________

Groundwater Field Sampling Form

Location:

Job Number: ____________________
Well ID: ____________________
Field Sampling Crew: ____________

Date: ____________________
Start Time: ____________________
Finished Time: ____________________

Initial Depth to Water: ____________________
Well Depth: ____________________
Depth to top of screen: ____________________
Depth to bottom of screen: ____________________
Depth of Pump Intake: ____________________

Purging Device: ________________
Tubing present in well? __________
Tubing type: __________________

Time Elapsed (24 hour)	Depth to Water (from casing)	Pump Setting (ml/min or gal/min)	Purge Rate (ml/min or gal/min)	Cumulative Purge Volume (liters or gallons)	Temperature (degrees Celsius)	pH	Conductivity us/cm	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP/eH (mv)	Comments

Comments:

SAMPLE IDENTIFICATION KEY

Page of

PROJECT ______
H&A FILE NO. ______
LOCATION ______
PROJECT MGR. ______
CLIENT ______
CONTRACTOR ______

Sample ID	Parent Sample ID	Location ID	Sample Date	Sample Time (military)	Sample Type Code	Filtered (Water Only T/D/N)	Composit e Y/N	Soil Type	Depth To Top Of Sample	Depth To Bottom Of Sample	C.O.C. Number	Notes	Collected By

Notes:

Common Sample Type Codes:

N Normal Environmental Samp WG Groundwater WS Surface Water SO Soil GS Soil Gas SE Sediment

WQ Water for Quality Control FD Field Duplicate EB Equipment Blank TB Trip Blank MS Matris Spike MSD Matrix Spike Duplicate

see Memorandum dated 08/08/05 from Melanie Satanek "Sample Labeling for Submission to Analytical Laboratory" for less common codes

DAILY FIELD REPORT

Project		Report No.	
Location		Date	
Client		Page	of
Contractor		File No.	
Weather		Temperature	

Field Representative(s)	Time on site	Report/Travel/Other	Total hours

Distribution:

Haley & Aldrich, Inc.

GEOPROBE BORING REPORT

BORING NO.

PROJECT			
LOCATION		PROJECT MGR.	
CLIENT		FIELD REP.	
CONTRACTOR		DATE STARTED	
DRILLER		DATE FINISHED	

Elevation ft.	Datum	Boring Location

Item	Casing	Sampler	Core Barrel	Rig Make & Model			Hammer Type	Drilling Mud	Casing Advance
Type				☐ Truck	☐ Tripod	☐ Cat-Head	☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)				☐ ATV	☐ Geoprobe	☐ Winch	☐ Doughnut	☐ Polymer	
Hammer Weight (lb.)				☐ Track	☐ Air Track	☐ Roller Bit	☐ Automatic	☐ None	
Hammer Fall (in.)				☐ Skid	☐ ____	☐ Cutting Head	Drilling Notes:		

Depth (ft.)	Casing Blows	Sampler Blows per 6 in.	Sample No. & Recovery (in.)	Sample Depth (ft)	Elev./ Depth (ft)	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size*, structure, odor, moisture, optional descriptions, geologic interpretation)

Water Level Data						Sample ID	Summary
			Depth in feet to:				
Date	Time	Elapsed Time (hr.)	Bottom of Casing	Bottom of Hole	Water	O Open End Rod T Thin Wall Tube U Undisturbed Sample S Split Spoon Sample G Geoprobe	Overburden (Linear ft.) ____ Rock Cored (Linear ft.) ____ Number of Samples ____
Date							BORING NO.

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification

Form #3000

APPENDIX B
Quality Assurance Project Plan

www.haleyaldrich.com

QUALITY ASSURANCE PROJECT PLAN
180 EAST 125TH STREET
NEW YORK, NEW YORK

by
H & A of New York Engineering and Geology, LLP
New York, New York

for
180 E125th Realty LLC
300 Penn Street, Suite 321
Brooklyn, New York 11211

File No. 0209815
January 2025

Executive Summary

This Quality Assurance Project Plan outlines the scope of the quality assurance and quality control activities associated with the Site sampling activities associated with the Remedial Investigation Work Plan for the property located at 180 East 125th Street, New York, New York (Site).

Protocols for sample collection, sample handling and storage, chain of custody procedures, and laboratory and field analyses are described herein or specifically referenced to related project documents.

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1. Project Description

This Quality Assurance Project Plan (QAPP) has been prepared as a component of the Remedial Investigation Work Plan (RIWP) for the property located at 180 East 125th Street, New York, New York (Site).

1.1 PROJECT OBJECTIVES

The primary objective for data collection activities is to collect sufficient data necessary to characterize the subsurface conditions at the Site and determine the nature and extent of contamination.

1.2 SITE DESCRIPTION AND HISTORY

The general Site description and Site history are provided in the Site Description and History Summary that accompanies the RIWP appended to the Brownfield Cleanup Program (BCP) application for the Site and incorporated herein by reference.

1.3 LABORATORY PARAMETERS

The laboratory parameters for soil include:

- Target Compound List (TCL) volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (EPA) Method 8260B;
- TCL semi-volatile organic compounds (SVOCs) using EPA Method 8270C;
- Total Analyte List (TAL) Metals using EPA Method 6010;
- TCL Pesticides using EPA Method 8081B;
- Polychlorinated biphenyls (PCBs) using EPA Method 8082;
- Per- and polyfluoroalkyl substances (PFAS) using EPA Method 1633; and,
- 1,4-dioxane using EPA method 8270.

The laboratory parameters for groundwater include:

- TCL VOCs using EPA Method 8260B;
- TCL SVOCs using EPA Method 8270C;
- Total Metals using EPA Methods 6010/7471;
- Dissolved Metals using EPA Methods 6010/7471;
- PCBs using EPA Method 8082;
- Pesticides by EPA Method 8081B;
- PFAS using EPA Method 1633; and,
- 1,4-dioxane using EPA Method 8270 SIM.

Note: PFAS will be collected in accordance with the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER), Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances under NYSDEC Part 375 Remedial Program, April 2023.

During the collection of groundwater samples, pH, specific conductivity, temperature, dissolved oxygen (DO), and oxidation-reduction potential (ORP) will be measured until stabilized.

The analytical laboratory parameters for soil vapor samples include:

- VOCs using EPA Method TO-15

Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

1.4 SAMPLING LOCATIONS

The RIWP provides the locations of soil borings, soil vapor implants, and groundwater monitoring wells that will be sampled (as applicable).

2. Project Organization and Responsibilities

This section defines the roles and responsibilities of the individuals who will perform the RIWP monitoring activities. A New York State Department of Health (NYSDOH)-certified analytical laboratory will perform the analyses of environmental samples collected at the Site.

2.1 PROJECT TEAM

The following project personnel are anticipated for oversight of the RIWP implementation. Project team resumes are included in Attachment A.

NYSDEC Case Manager	Abdulla Elbuytari
NYSDOH Case Manager	Harolyn Hood
Qualified Environmental Professional (QEP)	James Bellew
Project Manager	Suzanne Bell, P.E.
Haley & Aldrich of New York* Health & Safety Director	Brian Fitzpatrick, CHMM
Health & Safety Officer	Brian Ferguson
Quality Assurance Officer	Sarah Commisso
Third-Party Validator	Katherine Miller

**H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York)*

2.2 MANAGEMENT RESPONSIBILITIES

The Project Manager is responsible for managing the implementation of the RIWP and monitoring and coordinating the collection of data. The Project Manager is responsible for technical quality control (QC) and project oversight. The Project Manager's responsibilities include the following:

- Acquire and apply technical and corporate resources as needed to ensure performance within budget and schedule restraints;
- Review work performed to ensure quality, responsiveness, and timeliness;
- Communicate with the client point of contact concerning the progress of the monitoring activities;
- Assure corrective actions are taken for deficiencies cited during audits of RIWP monitoring activities; and,
- Assure compliance with the Site health and safety plan (HASP).

2.3 QUALITY ASSURANCE RESPONSIBILITIES

The Quality Assurance (QA) team will consist of a QA Officer and the Data Validation Staff. QA responsibilities are described as follows.

2.3.1 Quality Assurance Officer

The QA Officer reports directly to the Project Manager and will be responsible for overseeing the review of field and laboratory data. Additional responsibilities include the following:

- Assure the application and effectiveness of the QAPP by the analytical laboratory and the project staff;
- Provide input to the Project Manager as to corrective actions that may be required as a result of the above-mentioned evaluations; and,
- Prepare and/or review data validation and audit reports.

The QA Officer will be assisted by the Data Validation Staff in the evaluation and validation of field and laboratory-generated data.

2.3.2 Data Validation Staff

The Data Validation Staff will be independent of the laboratory and familiar with the analytical procedures performed. The validation will include a review of each validation criterion as prescribed by the guidelines presented in Section 9.2 of this document and be presented in a Data Usability Summary Report (DUSR) for submittal to the QA Officer.

2.4 LABORATORY RESPONSIBILITIES

The Environmental Laboratory Approval Program (ELAP)-approved laboratory to be used will be Alpha Analytical Inc. (Alpha), located in Westborough, Massachusetts. Laboratory services in support of the RIWP monitoring include the following personnel.

2.4.1 Laboratory Project Manager

The Laboratory Project Manager will report directly to the QA Officer and Project Manager and will be responsible for ensuring all resources of the laboratory are available on an as-required basis. The Laboratory Project Manager will also be responsible for the approval of the final analytical reports.

2.4.2 Laboratory Operations Manager

The Laboratory Operations Manager will report to the Laboratory Project Manager and will be responsible for coordinating laboratory analysis, supervising in-house chain of custody reports, scheduling sample analyses, overseeing data review, and overseeing the preparation of analytical reports.

2.4.3 Laboratory QA Officer

The Laboratory QA Officer will have sole responsibility for the review and validation of the analytical laboratory data. The Laboratory QA Officer will provide Case Narrative descriptions of any data quality issues encountered during the analyses conducted by the laboratory. The QA Officer will also define appropriate QA procedures and oversee QA/QC documentation.

2.4.4 Laboratory Sample Custodian

The Laboratory Sample Custodian will report to the Laboratory Operations Manager and will be responsible for the following:

- Receive and inspect the incoming sample containers;
- Record the condition of the incoming sample containers;
- Sign appropriate documents;
- Verify chain of custody and its correctness;
- Notify the Project Manager and Operations Manager of sample receipt and inspection;
- Assign a unique identification number and enter each into the sample receiving log;
- Initiate transfer of samples to laboratory analytical sections; and,
- Control and monitor access/storage of samples and extracts.

2.4.5 Laboratory Technical Personnel

The Laboratory Technical Personnel will have the primary responsibility for the performance of sample analysis and the execution of the QA procedures developed to determine the data quality. These activities will include the proper preparation and analysis of the project samples in accordance with the laboratory's Quality Assurance Manual (QAM) and associated Standard Operating Procedures (SOPs).

2.5 FIELD RESPONSIBILITIES

2.5.1 Field Coordinator

The Field Coordinator is responsible for the overall operation of the field team and reports directly to the Project Manager. The Field Coordinator works with the project Health and Safety Officer (HSO) to conduct operations in compliance with the project HASP. The Field Coordinator will facilitate communication and coordinate efforts between the Project Manager and the field team members.

Other responsibilities include the following:

- Develop and implement field-related work plans, ensuring schedule compliance, and adhering to management-developed project requirements;
- Coordinate and manage field staff;
- Perform field system audits;
- Oversee QC for technical data provided by the field staff;
- Prepare and approve text and graphics required for field team efforts;
- Coordinate and oversee technical efforts of subcontractors assisting the field team;
- Identify problems in the field, resolve difficulties in consultation with the Project QA Officer and Project Manager, and implement and document corrective action procedures; and,
- Participate in preparation of the final reports.

2.5.2 Field Team Personnel

Field Team Personnel will be responsible for the following:

- Perform field activities as detailed in the RIWP and in compliance with the Field Sampling Plan (FSP; Appendix A of the RIWP) and QAPP.
- Immediately report any accidents and/or unsafe conditions to the Site HSO and take reasonable precautions to prevent injury.

3. Sampling Procedures

The FSP in Appendix A of the RIWP provides the SOPs for sampling required by the RIWP. Sampling will be conducted in general accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation (DER-10) and the Sampling, Analysis, and Assessment of PFAS under NYSDEC Part 375 Remedial Program (April 2023) when applicable. Proposed sample locations are shown on Figure 2 of the RIWP.

3.1 SAMPLE CONTAINERS

Sample containers for each sampling task will be provided by the laboratory performing the analysis. The containers will be cleaned by the manufacturer to meet or exceed the analyte specifications established in the EPA's "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers," April 1992, OSWER Directive #9240.0-0.5A. Certificates of analysis for each lot of sample containers used will be maintained by the laboratory.

The appropriate sample containers, preservation method, maximum holding times, and handling requirements for each sampling task are provided in Table I.

3.2 SAMPLE LABELING

Each sample will be labeled with a unique sample identifier that will facilitate tracking and cross-referencing of sample information. Field blanks and field duplicate samples also will be numbered with a unique sample identifier to prevent analytical bias of field QC samples.

Refer to the FSP (Appendix A of the RIWP) for the sample labeling procedures.

3.3 FIELD QC SAMPLE COLLECTION

3.3.1 Field Duplicate Sample Collection

3.3.1.1 Water Samples

Field duplicate samples will be collected by filling the first sample container to the proper level and sealing and then repeating for the second set of sample containers.

1. The samples are properly labeled as specified in Section 3.2.
2. Steps 1 through 4 are repeated for the bottles for each analysis. The samples are collected in order of decreasing analyte volatility as detailed in Section 3.3.1.
3. Chain of custody documents are executed.
4. The samples will be handled as specified in Table I.

3.3.1.2 Soil Samples

Soil field duplicates will be collected as specified in the following procedure:

1. Soils will be sampled directly from acetate liners.
2. Soil for VOC analysis will be removed from the sampling device as specified in the FSP provided as Appendix A of the RIWP.
3. Soil for non-VOC analysis will be removed from the sampling device and collected into clean laboratory-provided containers.

3.4 GENERAL DECONTAMINATION PROCEDURES

Care must be taken to minimize the potential for the transfer of contaminated materials to the ground or onto other materials. Regardless of the size or nature of the equipment being decontaminated, the process will utilize a series of steps that involve removal of gross material (dirt, grease, oil, etc.), washing with a detergent, and multiple rinsing steps. In lieu of a series of washes and rinse steps, steam cleaning with low-volume, high-pressure equipment (i.e., steam cleaner) is acceptable.

Exploration equipment, and all monitoring equipment in contact with the sampling media, must be decontaminated prior to initiating Site activities, in between exploration locations to minimize cross-contamination, and prior to mobilizing off the Site after completion of Site work.

The following specific decontamination procedure is recommended for sampling equipment and tools:

- Brush loose soil off equipment;
- Wash equipment with laboratory-grade detergent (i.e., Alconox or equivalent);
- Rinse with tap water;
- Rinse equipment with distilled water;
- Allow water to evaporate before reusing equipment; and,
- Wrap equipment in aluminum foil when not being used.

4. Custody Procedures

Sample custody is addressed in three parts: field sample collection, laboratory analysis, and final project files. Custody of a sample begins when it is collected by or transferred to an individual and ends when that individual relinquishes or disposes of the sample.

A sample is under custody if:

1. The item is in actual possession of a person;
2. The item is in the view of the person after being in actual possession of the person;
3. The item was in actual possession and subsequently stored to prevent tampering; or,
4. The item is in a designated and identified secure area.

4.1 FIELD CUSTODY PROCEDURES

Field personnel will keep written records of field activities on applicable pre-printed field forms or in a bound field notebook to record data-collecting activities. These records will be written legibly in ink and will contain pertinent field data and observations. Entry errors or changes will be crossed out with a single line, dated, and initialed by the person making the correction. Field forms and notebooks will be periodically reviewed by the Field Coordinator.

The beginning of each entry in the log book or preprinted field form will contain the following information:

- Date;
- Start time;
- Weather;
- Names of field personnel (including subcontractors);
- Level of personal protection used at the Site; and,
- Names of all visitors and the purpose of their visit.

For each measurement and sample collected, the following information will be recorded:

- Detailed description of sample location;
- Equipment used to collect the sample or make the measurement and the date equipment was calibrated;
- Time sample was collected;
- Description of the sample conditions;
- Depth sample was collected (if applicable);
- Volume and number of containers filled with the sample; and,
- Sampler's identification.

4.1.1 Field Procedures

The following procedure describes the process to maintain the integrity of the samples:

- Upon collection, samples are placed in the proper containers. In general, samples collected for organic analysis will be placed in pre-cleaned glass containers and samples collected for inorganic analysis will be placed in pre-cleaned plastic (polyethylene) bottles. Refer to the FSP in Appendix A of the RIWP for sample packaging procedures.
- Samples will be assigned a unique sample number and will be affixed to a sample label. Refer to the FSP in Appendix A of the RIWP for sample labeling procedures.
- Samples will be properly and appropriately preserved by field personnel in order to minimize loss of the constituent(s) of interest due to physical, chemical, or biological mechanisms.
- Appropriate volumes will be collected to ensure that the appropriate reporting limits can be successfully achieved and that the required QC sample analyses can be performed.

4.1.2 Transfer of Custody and Shipment Procedures

- A chain of custody record will be completed at the time of sample collection and will accompany each shipment of project samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until the samples are relinquished to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time of sample transfer on the chain of custody record.
- Samples will be shipped or delivered in a timely fashion to the laboratory so that holding times and/or analysis times as prescribed by the methodology can be met.
- Samples will be transported in containers (coolers) which will maintain the refrigeration temperature for those parameters for which refrigeration is required in the prescribed preservation protocols.
- Samples will be placed in an upright position and limited to one layer of samples per cooler. Additional bubble wrap or packaging material will be added to fill the cooler. Shipping containers will be secured with strapping tape and custody tape for shipment to the laboratory.
- When samples are split with the NYSDEC representatives, a separate chain of custody will be prepared and marked to indicate with whom the samples are shared. The person relinquishing the samples will require the representative's signature acknowledging sample receipt.
- If samples are sent by a commercial carrier, a bill of lading will be used. A copy of the bill of lading will be retained as part of the permanent record. Commercial carriers will not sign the custody record as long as the custody record is sealed inside the sample cooler and the custody tape remains intact.
- Samples will be picked up by a laboratory courier or transported to the laboratory the same day they are collected unless collected on a weekend or holiday. In these cases, the samples will be stored in a secure location until delivery to the laboratory. Additional ice will be added to the cooler as needed to maintain proper preservation temperatures.

4.2 LABORATORY CHAIN OF CUSTODY PROCEDURES

A Sample Custodian will be designated by the laboratory and will have the responsibility of receiving all incoming samples. Once received, the Custodian will document if the sample is received in good condition (i.e., unbroken, cooled, etc.) and that the associated paperwork, such as chain of custody forms, has been completed. The Custodian will sign the chain of custody forms.

The Custodian will also document if sufficient sample volume has been received to complete the analytical program. The Sample Custodian will then place the samples into secure, limited-access storage (refrigerated storage, if required). The Sample Custodian will assign a unique number to each incoming sample for use in the laboratory. The unique number will then be entered into the sample-receiving log with the verified time and date of receipt also noted.

Consistent with the analyses requested on the chain of custody form, analyses by the laboratory's analysts will begin in accordance with the appropriate methodologies. Samples will be removed from secure storage with internal chain of custody sign-out procedures followed.

4.3 STORAGE OF SAMPLES

Empty sample bottles will be returned to secure and limited-access storage after the available volume has been consumed by the analysis. Upon completion of the entire analytical work effort, samples will be disposed of by the Sample Custodian. The length of time that samples are held will be at least 30 days after reports have been submitted. Disposal of remaining samples will be completed in compliance with all federal, state, and local requirements.

4.4 Final Project Files Custody Procedures

The final project files will be the central repository for all documents with information relevant to sampling and analysis activities as described in this QAPP. The Haley & Aldrich of New York Project Manager will be the custodian of the project file. The project files, including all relevant records, reports, logs, field notebooks, pictures, subcontractor reports, and data reviews, will be maintained in a secured, limited-access area and under the custody of the Project Director or his designee.

The final project file will include the following:

- Project plans and drawings;
- Field data records;
- Sample identification documents and soil boring/monitoring well logs;
- All chain of custody documentation;
- Correspondence;
- References, literature;
- Laboratory data deliverables;
- Data validation and assessment reports;
- Progress reports, QA reports; and,

- A final report.

The laboratory will be responsible for maintaining analytical log books, laboratory data, and sample chain of custody documents. Raw laboratory data files and copies of hard copy reports will be inventoried and maintained by the laboratory for a period of six years at which time the laboratory will contact the Haley & Aldrich of New York Project Manager regarding the disposition of the project-related files.

5. Calibration Procedures and Frequency

5.1 FIELD INSTRUMENT CALIBRATION PROCEDURES

Several field instruments will be used for both on-Site screening of samples and for health and safety monitoring, as described in the HASP. On-Site air monitoring for health and safety purposes may be accomplished using a vapor detection device, such as a photoionization detector (PID).

Field instruments will be calibrated at the beginning of each day and checked during field activities to verify performance. Instrument-specific calibration procedures will be performed in accordance with the instrument manufacturer's requirements.

5.2 LABORATORY INSTRUMENT CALIBRATION PROCEDURES

Reference materials of known purity and quality will be utilized for the analysis of environmental samples. The laboratory will carefully monitor the preparation and use of reference materials, including solutions, standards, and reagents through well-documented procedures.

All solid chemicals and acids/bases used by the laboratory will be rated as "reagent grade" or better. All gases will be "high" purity or better. All Standard Reference Materials (SRMs) or Performance Evaluation (PE) materials will be obtained from approved vendors of the National Institute of Standards and Technology (NIST; formerly National Bureau of Standards), the EPA Environmental Monitoring Support Laboratories (EMSL), or reliable Cooperative Research and Development Agreement (CRADA)-certified commercial sources.

6. Analytical Procedures

Analytical procedures to be utilized for the analysis of environmental samples will be based on referenced EPA analytical protocols and/or project-specific SOP.

6.1 FIELD ANALYTICAL PROCEDURES

Field analytical procedures include the measurement of pH, temperature, ORP, DO, and specific conductivity during sampling of groundwater, and the qualitative measurement of VOC during the collection of soil samples.

6.2 LABORATORY ANALYTICAL PROCEDURES

Laboratory analyses will be based on the EPA methodology requirements promulgated in:

- "Test Methods for Evaluating Solid Waste," SW-846 EPA, Office of Solid Waste, and promulgated updates, 1986.

6.2.1 List of Project Target Compounds and Laboratory Detection Limits

The method detection limits (MDLs) studies are performed by the laboratories in accordance with the procedures established in the Code of Federal Register, Title 40, Part 136.

Laboratory parameters for soil samples are listed in the RIWP. Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

6.2.2 List of Method-Specific QC Criteria

The laboratory SOPs include a section that presents the minimum QC requirements for the project analyses. Section 7.0 references the frequency of the associated QC samples for each sampling effort and matrix.

7. Internal QC Checks

This section presents the internal QC checks that will be employed for field and laboratory measurements.

7.1 FIELD QC

7.1.1 Field Blanks

Internal QC checks will include analysis of field blanks to validate equipment cleanliness. Whenever possible, dedicated equipment will be employed to reduce the possibility of cross-contamination of samples.

7.1.2 Trip Blanks

Trip blank samples will be prepared by the project laboratory using ASTM International (ASTM) Type II or equivalent water placed within pre-cleaned 40-milliliter (mL) VOC vials equipped with Teflon septa. Trip blanks will accompany each sample delivery group (SDG) of environmental samples collected for analysis of VOCs.

Trip blank samples will be placed in each cooler that stores and transports project samples that are to be analyzed for VOCs.

7.2 LABORATORY PROCEDURES

Procedures that contribute to the maintenance of overall laboratory QA/QC include appropriately cleaned sample containers, proper sample identification and logging, applicable sample preservation, storage, analysis within prescribed holding times, and use of controlled materials.

7.2.1 Field Duplicate Samples

The precision or reproducibility of the data generated will be monitored through the use of field duplicate samples. Field duplicate analysis will be performed at a frequency of one in 20 project samples.

Precision will be measured in terms of the absolute value of the relative percent difference (RPD) as expressed by the following equation:

$$RPD = [|R1-R2|/[(R1+R2)/2]] \times 100\%$$

Acceptance criteria for duplicate analyses performed on solid matrices will be 100% and aqueous matrices will be 35% (or the absolute difference rule was satisfied if detects were less than five times the reporting limit [RL]). RPD values outside these limits will require an evaluation of the sampling and/or analysis procedures by the project QA Officer and/or laboratory QA Director. Corrective actions may include re-analysis of additional sample aliquots and/or qualification of the data for use.

7.2.2 Matrix Spike Samples

Ten percent of each project sample matrix for each analytical method performed will be spiked with known concentrations of the specific target compounds/analytes.

The amount of the compound recovered from the sample compared to the amount added will be expressed as a percent recovery. The percent recovery of an analyte is an indication of the accuracy of an analysis within the site-specific sample matrix. Percent recovery will be calculated for matrix spike and matrix spike duplicate (MS/MSD) samples using the following equation.

$$\% \, Recovery = \frac{Spiked \ Sample \text{ - } Background}{Known \, Value \ of \ Spike} \, x \, 100\%$$

If the QC value falls outside the control limits (upper control limit [UCL] or lower control limit [LCL]) due to sample matrix effects, the results will be reported with appropriate data qualifiers. To determine the effect a non-compliant MS recovery has on the reported results, the recovery data will be evaluated as part of the validation process.

7.2.3 Laboratory Control Sample (LCS) Analyses

The laboratory will perform LCS analyses prepared from SRMs. The SRMs will be supplied from an independent manufacturer and traceable to NIST materials with known concentrations of each target analyte to be determined by the analytical methods performed. In cases where an independently supplied SRM is not available, the LCS may be prepared by the laboratory from a reagent lot other than that used for instrument calibration.

The laboratory will evaluate LCS analyses in terms of percent recovery using the most recent laboratory-generated control limits.

LCS recoveries that do not meet acceptance criteria will be deemed invalid. Analysis of project samples will cease until an acceptable LCS analysis has been performed. If sample analysis is performed in association with an out-of-control LCS sample analysis, the data will be deemed invalid.

Corrective actions will be initiated by the Haley & Aldrich of New York QA Officer and/or Laboratory QA Officer to investigate the problem. After the problem has been identified and corrected, the solution will be noted in the instrument run log book and re-analysis of project samples will be performed, if possible.

The analytical anomaly will be noted in the SDG Case Narrative and reviewed by the Data Validator. The Data Validator will confirm that appropriate corrective actions were implemented and recommend the applicable use of the affected data.

7.2.4 Surrogate Compound/Internal Standard Recoveries

For VOCs, surrogates will be added to each sample prior to analysis to establish purge and trap efficiency. Quantitation will be accomplished via internal standardization techniques.

The recovery of surrogate compounds and internal standards will be monitored by laboratory personnel to assess possible Site-specific matrix effects on instrument performance.

For SVOC analyses, surrogates will be added to the raw sample to assess extraction efficiency. Internal standards will be added to all sample extracts and instrument calibration standards immediately before analysis for quantitation via internal standardization techniques.

Method-specific QC limits are provided in the attached laboratory method SOPs. Surrogate compound/internal standard recoveries that do not fall within accepted QC limits for the analytical methodology performed will have the analytical results flagged with data qualifiers as appropriate by the laboratory and will not be noted in the laboratory report Case Narrative.

To ascertain the effect non-compliant surrogate compound/internal standard recoveries may have on the reported results, the recovery data will be evaluated as part of the validation process. The Data Validator will provide recommendations for corrective actions, including but not limited to additional data qualification.

7.2.5 Calibration Verification (CV) Standards

CV standards will be utilized to confirm instrument calibrations and performance throughout the analytical process. CV standards will be prepared as prescribed by the respective analytical protocols. Continuing calibration will be verified by compliance with method-specific criteria prior to additional analysis of project samples.

Non-compliant analysis of CV standards will require immediate corrective action by the project laboratory QA Officer and/or designated personnel. Corrective action may include a re-analysis of each affected project sample, a detailed description of the problem, the corrective action undertaken, the person who performed the action, and the resolution of the problem.

7.2.6 Laboratory Method Blank Analyses

Method blank sample analysis will be performed as part of each analytical batch for each methodology performed. If target compounds are detected in the method blank samples, the reported results will be flagged by the laboratory in accordance with SOPs. The Data Validator will provide recommendations for corrective actions including but not limited to additional data qualification.

8. Data Quality Objectives (DQOs)

Sampling that will be performed as described in the RIWP is designed to produce data of the quality necessary to achieve the minimum standard requirements of the field and laboratory analytical objectives described below. These data are being obtained with the primary objective to assess levels of contaminants of concern associated with the Site.

The overall project DQO is to implement procedures for field data collection, sample collection, handling, and laboratory analysis and reporting that achieve the project objectives. The following section is a general discussion of the criteria that will be used to measure the achievement of the project DQO.

8.1 PRECISION

8.1.1 Definition

Precision is defined as a quantitative measure of the degree to which two or more measurements are in agreement. Precision will be determined by collecting and analyzing field duplicate samples and by creating and analyzing laboratory duplicates from one or more of the field samples. The overall precision of measurement data is a mixture of sampling and analytical factors. The analytical results from the field duplicate samples will provide data on sampling precision. The results from duplicate samples created by the laboratory will provide data on analytical precision. The measurement of precision will be stated in terms of RPD. RPD is defined as the absolute difference of duplicate measurements divided by the mean of these analyses normalized to percentage.

8.1.2 Field Precision Sample Objectives

Field precision will be assessed through the collection and measurement of field duplicate samples at a rate of one duplicate per 20 investigative samples. The RPD criteria for the project field duplicate samples will be +/- 100% for soil and +/- 35 % for groundwater for parameters of analysis detected at concentrations greater than five times the laboratory RL.

8.1.3 Laboratory Precision Sample Objectives

Laboratory precision will be assessed through the analysis of LCS and laboratory control duplicate samples (LCDS) including MS/MSD samples for groundwater and soil samples and the analysis of laboratory duplicate samples for air and soil vapor samples. Air and soil vapor laboratory duplicate sample analyses will be performed by analyzing the same SUMMA canister twice. The RPD criteria for the air/soil vapor laboratory duplicate samples will be +/- 35 % for parameters of analysis detected at concentrations greater than five times the laboratory RL.

8.2 ACCURACY

8.2.1 Definition

Accuracy relates to the bias in a measurement system. Bias is the difference between the observed and the "true" value. Sources of error are the sampling process, field contamination, preservation techniques, sample handling, sample matrix, sample preparation, and analytical procedure limitations.

8.2.2 Field Accuracy Objectives

Sampling bias will be assessed by evaluating the results of field equipment rinse and trip blanks. Equipment rinse and trip blanks will be collected as appropriate based on sampling and analytical methods for each sampling effort.

If non-dedicated sampling equipment is used, equipment rinse blanks will be collected by passing ASTM Type II water over and/or through the respective sampling equipment utilized during each sampling effort. One equipment rinse blank will be collected for each type of non-dedicated sampling equipment used for the sampling effort. Equipment rinse blanks will be analyzed for each target parameter for the respective sampling effort for which environmental media have been collected. (Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.)

Trip blank samples will be prepared by the laboratory and provided with each shipping container that includes containers for the collection of groundwater samples for the analysis of VOCs. Trip blank samples will be analyzed for each VOC for which groundwater samples have been collected for analysis.

8.3 LABORATORY ACCURACY OBJECTIVES

Analytical bias will be assessed through the use of LCS and Site-specific MS sample analyses. LCS analyses will be performed with each analytical batch of project samples to determine the accuracy of the analytical system.

One set of MS/MSD analyses will be performed with each batch of 20 project samples collected for analysis to assess the accuracy of the identification and quantification of analytes within the Site-specific sample matrices. Additional sample volume will be collected at sample locations selected for the preparation of MS/MSD samples so that the standard laboratory RLs are achieved.

The accuracy of analyses that include a sample extraction procedure will be evaluated through the use of system monitoring or surrogate compounds. Surrogate compounds will be added to each sample, standard, blank, and QC sample prior to sample preparation and analysis. Surrogate compound percent recoveries will provide information on the effect of the sample matrix on the accuracy of the analyses.

8.4 REPRESENTATIVENESS

8.4.1 Definition

Representativeness expresses the degree to which sample data represent a characteristic of a population, a parameter variation at a sampling point, or an environmental condition. Representativeness is a qualitative parameter that is dependent upon the design of the sampling program. The representativeness criterion is satisfied through the proper selection of sampling locations, the quantity of samples, and the use of appropriate procedures to collect and analyze the samples.

8.4.2 Measures to Ensure Representativeness of Field Data

Representativeness will be addressed by prescribing sampling techniques and the rationale used to select sampling locations. Sampling locations may be biased (based on existing data, instrument surveys, observations, etc.) or unbiased (completely random or stratified-random approaches).

8.5 COMPLETENESS

8.5.1 Definition

Completeness is a measure of the amount of valid (usable) data obtained from a measuring system compared to the total amount anticipated to be obtained. The completeness goal for all data uses is that a sufficient amount of valid data be generated so that determinations can be made related to the intended data use with a sufficient degree of confidence. Valid data is determined by independent confirmation of compliance with method-specific and project-specific DQOs. The calculation of data set completeness will be performed by the following equation.

$$\frac{\textit{Number of Valid Sample Results}}{\textit{Total Number of Samples Planned}}\ X\ 100 = \%\ \textit{Complete}$$

8.5.2 Field Completeness Objectives

Completeness is a measure of the amount of valid measurements obtained from measurements taken in this project versus the number planned. The field completeness objective for this project will be greater than 90 percent.

8.5.3 Laboratory Completeness Objectives

Laboratory data completeness objective is a measure of the amount of valid data obtained from laboratory measurements. The evaluation of the data completeness will be performed at the conclusion of each sampling and analysis effort.

The completeness of the data generated will be determined by comparing the amount of valid data, based on independent validation, with the total laboratory data set. The completeness goal will be greater than 90 percent.

8.6 COMPARABILITY

8.6.1 Definition

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another.

8.6.2 Measures to Ensure Comparability of Laboratory Data

Comparability of laboratory data will be measured from the analysis of SRM obtained from either EPA CRADA suppliers or the NIST. The reported analytical data will also be presented in standard units of mass of contaminant within a known volume of environmental media. The standard units for various sample matrices are as follows:

- Solid Matrices – micrograms per kilogram (µg/kg) for PFAS analyses, milligrams per kilogram (mg/kg) of media (Dry Weight).
- Aqueous Matrices – nanograms per liter (ng/L) for PFAS analyses, micrograms per liter (µg/L) of media for organic analyses, and milligrams per liter (mg/L) for inorganic analyses.

8.7 LEVEL OF QUALITY CONTROL EFFORT

If non-dedicated sampling equipment is used, equipment rinse blanks will be prepared by field personnel and submitted for analysis of target parameters. Equipment rinse blank samples will be analyzed to check for potential cross-contamination between sampling locations that may be introduced during the investigation. One equipment rinse blank will be collected per sampling event to the extent that non-dedicated sampling equipment is used.

If necessary, a separate equipment rinse blank sample will be collected for PFAS. (Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.)

Trip blanks will be used to assess the potential for contamination during sample storage and shipment. Trip blanks will be provided with the sample containers to be used for the collection of groundwater samples for the analysis of VOCs. Trip blanks will be preserved and handled in the same manner as the project samples. One trip blank will be included along with each shipping container containing project samples to be analyzed for VOCs.

Method blank samples will be prepared by the laboratory and analyzed concurrently with all project samples to assess potential contamination introduced during the analytical process.

Field duplicate samples will be collected and analyzed to determine sampling and analytical reproducibility. One field duplicate will be collected for every 20 or fewer investigative samples collected for off-Site laboratory analysis.

MS will provide information to assess the precision and accuracy of the analysis of the target parameters within the environmental media collected. One MS/MSD will be collected for every 20 or fewer investigative samples per sample matrix.

(Note: Soil MS/MSD samples require triple sample volume for VOCs only. Aqueous MS/MSD samples require triple the normal sample volume for VOC analysis and double the volume for the remaining parameters.)

9. Data Reduction, Validation, and Reporting

Data generated by the laboratory operation will be reduced and validated prior to reporting in accordance with the following procedures.

9.1 DATA REDUCTION

9.1.1 Field Data Reduction Procedures

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. The pH, conductivity, temperature, turbidity, DO, ORP, and breathing zone VOC readings collected in the field will be generated from direct-read instruments. The data will be written into field log books immediately after measurements are taken. If errors are made, data will be legibly crossed out, initialed and dated by the field member, and corrected in a space adjacent to the original entry.

9.1.2 Laboratory Data Reduction Procedures

Laboratory data reduction procedures are provided by the appropriate chapter of EPA, "Test Methods for Evaluating Solid Waste," SW-846, Third Edition. Errors will be noted; corrections made with the original notations crossed out legibly. Analytical results for soil samples will be calculated and reported on a dry weight basis.

9.1.3 Quality Control Data

QC data (e.g., laboratory duplicates, surrogates, MS, and MSD) will be compared to the method acceptance criteria. Data determined to be acceptable will be entered into the laboratory information management system.

Unacceptable data will be appropriately qualified in the project report. Case Narratives will be prepared which will include information concerning data that fell outside acceptance limits and any other anomalous conditions encountered during sample analysis.

9.2 DATA VALIDATION

Data validation procedures of the analytical data will be performed by the Haley & Aldrich of New York QA Officer or designee using the following documents as guidance for the review process:

- "U.S. EPA National Functional Guidelines for Organic Data Review," "Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," "Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Under NYSDEC's Part 375 Remedial Programs," and the "U.S. EPA National Functional Guidelines for Inorganic Data Review."
- The specific data qualifiers used will be applied to the reported results as presented and defined in the EPA National Functional Guidelines. Validation will be performed by qualified personnel at the direction of the Haley & Aldrich of New York QA Officer. Tier 1 data validation (the equivalent of EPA's Stage 2A validation) will be performed to evaluate data quality.

- The completeness of each data package will be evaluated by the Data Validator. Completeness checks will be administered on all data to determine that the deliverables are consistent with the NYSDEC Analytical Services Protocol (ASP) Category A and Category B data package requirements. The validator will determine whether the required items are present and request copies of missing deliverables (if necessary) from the laboratory.

9.3 DATA REPORTING

Data reporting procedures will be carried out for field and laboratory operations as indicated below.

- Field Data Reporting: Field data reporting will be conducted principally through the transmission of report sheets containing tabulated results of measurements made in the field and documentation of field calibration activities.
- Laboratory Data Reporting: The laboratory data reporting package will enable data validation based on the protocols described above. The final laboratory data report format will include the QA/QC sample analysis deliverables to enable the development of a DUSR based on NYSDEC DER-10 Appendix 2B.

10. Performance and System Audits

A performance audit is an independent quantitative comparison with data routinely obtained in the field or the laboratory. Performance audits include two separate, independent parts: internal and external audits.

10.1 FIELD PERFORMANCE AND SYSTEM AUDITS

10.1.1 Internal Field Audit Responsibilities

Internal audits of field activities will be initiated at the discretion of the Project Manager and will include the review of sampling and field measurements. The audits will verify that all procedures are being followed. Internal field audits will be conducted periodically during the project. The audits will include examination of the following:

- Field sampling records, screening results, instrument operating records;
- Sample collection;
- Handling and packaging in compliance with procedures;
- Maintenance of QA procedures; and,
- Chain of custody reports.

10.1.2 External Field Audit Responsibilities

External audits may be conducted by the Project Coordinator at any time during the field operations. These audits may or may not be announced and are at the discretion of the NYSDEC. The external field audits can include (but are not limited to) the following:

- Sampling equipment decontamination procedures;
- Sample bottle preparation procedures;
- Sampling procedures;
- Examination of HASPs;
- Procedures for verification of field duplicates; and,
- Field screening practices.

10.2 LABORATORY PERFORMANCE AND SYSTEM AUDITS

10.2.1 Internal Laboratory Audit Responsibilities

The laboratory system audits are typically conducted by the laboratory QA Officer or designee on an annual basis. The system audit will include an examination of laboratory documentation, including sample receiving logs, sample storage, chain of custody procedures, sample preparation and analysis, and instrument operating records.

At the conclusion of internal system audits, reports will be provided to the laboratory's operating divisions for appropriate comment and remedial/corrective action where necessary. Records of audits and corrective actions will be maintained by the Laboratory QA Officer.

10.2.2 External Laboratory Audit Responsibilities

External audits will be conducted as required, by the NYSDOH or designee. External audits may include any of the following:

- Review of laboratory analytical procedures;
- Laboratory on-site visits; and,
- Submission of performance evaluation samples for analysis.

Failure of any of the above audit procedures can lead to laboratory de-certification. An audit may consist of but not limited to:

- Sample receipt procedures;
- Custody, sample security, and log-in procedures;
- Review of instrument calibration logs;
- Review of QA procedures;
- Review of log books;
- Review of analytical SOPs; and,
- Personnel interviews.

A review of a data package from samples recently analyzed by the laboratory can include (but not be limited to) the following:

- Comparison of resulting data to the SOP or method;
- Verification of initial and continuing calibrations within control limits;
- Verification of surrogate recoveries and instrument timing results;
- Review of extended quantitation reports for comparisons of library spectra to instrument spectra, where applicable; and,
- Assurance that samples are run within holding times.

11. Preventive Maintenance

11.1 FIELD INSTRUMENT PREVENTIVE MAINTENANCE

The field equipment preventive maintenance program is designed to ensure the effective completion of the sampling effort and to minimize equipment downtime. Program implementation is concentrated in three areas:

- Maintenance responsibilities;
- Maintenance schedules; and,
- Inventory of critical spare parts and equipment.

The maintenance responsibilities for field equipment will be assigned to the task leaders in charge of specific field operations. Field personnel will be responsible for daily field checks and calibrations and for reporting any problems with the equipment. The maintenance schedule will follow the manufacturer's recommendations. In addition, the field personnel will be responsible for determining that an inventory of spare parts will be maintained with the field equipment. The inventory will primarily contain parts that are subject to frequent failure, have limited useful lifetimes, and/or cannot be obtained in a timely manner.

11.2 LABORATORY INSTRUMENT PREVENTIVE MAINTENANCE

Analytical instruments at the laboratory will undergo routine and/or preventive maintenance. The extent of the preventive maintenance will be a function of the complexity of the equipment.

Generally, annual preventive maintenance service will involve cleaning, adjusting, inspecting, and testing procedures designed to deduce instrument failure and/or extend useful instrument life. Between visits, routine operator maintenance and cleaning will be performed according to manufacturer's specifications by laboratory personnel.

12. Specific Routine Procedures Used to Assess Data Precision, Accuracy, and Completeness

12.1 FIELD MEASUREMENTS

Field-generated information will be reviewed by the Field Coordinator and typically includes evaluation of bound log books/forms, data entry, and calculation checks. Field data will be assessed by the Project Coordinator who will review the field results for compliance with the established QC criteria that are specified in Sections 7.0 and 8.0 of this QAPP. The accuracy of pH and specific conductance will be assessed using daily instrument calibration, calibration checks, and blank data. Accuracy will be measured by determining the percent recovery (% R) of calibration check standards. Precision of the pH and specific conductance measurements will be assessed on the basis of the reproducibility of duplicate readings of a field sample and will be measured by determining the RPD. Accuracy and precision of the soil VOC screening will be determined using duplicate readings of calibration checks. Field data completeness will be calculated using the following equation:

$$\text{Completeness} = \frac{\text{Valid (usable) Data Obtained}}{\text{Total Data Planned}} \times 100$$

12.2 LABORATORY DATA

Laboratory data will be assessed by the Haley & Aldrich of New York QA Officer or designee who will review the laboratory results for compliance with the established QC criteria that are specified in Sections 7.0 and 8.0 of this QAPP.

13. QA Reports

Critically important to the successful implementation of the QAPP is a reporting system that provides the means by which the program can be reviewed, problems identified, and programmatic changes made to improve the plan.

QA reports to management can include:

- Audit reports, internal and external audits with responses;
- Performance evaluation sample results, internal and external sources; and,
- Daily QA/QC exception reports/corrective actions.

QA/QC corrective action reports will be prepared by the Haley & Aldrich of New York QA Officer when appropriate and presented to the project and/or laboratory management personnel so that performance criteria can be monitored for all analyses from each analytical department. The updated trend/QA charts prepared by the laboratory QA personnel will be distributed and reviewed by various levels of laboratory management.

References

1. New York State Department of Environmental Conservation, 1991. NYSDEC Analytical Services Protocol (ASP), Bureau of Environmental Investigation, 1991 with updates.

2. New York State Department of Environmental Conservation, 2010. Division of Environmental Remediation, Technical Guidance for Site Investigation and Remediation, DER-10. May.

3. New York State Department of Environmental Conservation, 2023. Division of Environmental Remediation, Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC Part 375 Remedial Program. April.

4. United States Environmental Protection Agency, 1986. Test Methods for Evaluating Solid Waste, Office of Solid Waste, U.S. EPA, SW-846, November 1986, with updates.

5. United States Environmental Protection Agency, 1991. Preparation Aids for the Development of Category I Quality Assurance Project Plans. U.S. EPA/600/8-91/003, Risk Reduction Engineering Laboratory, Office of Research and Development, Cincinnati, Ohio. February.

6. United States Environmental Protection Agency, 1992. Specifications and Guidance for Contaminant-Free Sample Containers. OSWER Directive 9240.0-05A. April.

7. United States Environmental Protection Agency, 1993. Data Quality Objectives Process for Superfund Interim Final Guidance. U.S. EPA/540/R-93-071, Office of Solid Waste and Emergency Response (OSWER). September.

8. United States Environmental Protection Agency, 1999. EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. EPA QA/R-5 Interim Final. November.

9. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-002.

10. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-001.

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TABLE

TABLE I
SUMMARY OF ANALYSIS METHOD, PRESERVATION METHOD, HOLDING TIME, SAMPLE SIZE REQUIREMENTS AND SAMPLE CONTAINERS
180 EAST 125TH STREET
NEW YORK, NEW YORK

Analysis/Method	Sample Type	Preservation	Holding Time	Volume/Weight	Container
Volatile Organic Compounds/8260C/5035	Soil	1 - 1 Vial MeOH/2 Vial Water, Cool, 4 ± 2 °C	14 days[1]	120 mL	3 - 40ml glass vials
Semi-volatile Organic Compounds/8270D	Soil	Cool, 4 ± 2 °C	14 days	250 mL	1 - 8 oz Glass
Metals/6010C	Soil	Cool, 4 ± 2 °C	180 days	60 mL	1 - 2 oz Glass
Polychlorinated Biphenyls/8082A	Soil	Cool, 4 ± 2 °C	14 days	250 mL	1 - 8 oz Glass
Pesticides (8081B)	Soil	Cool, 4 ± 2 °C	14 days	250 mL	1 - 8 oz Glass
PFAS 1633	Soil	Cool, 4 ± 2 °C	14 days	250 mL	1 - 8 oz Glass
1,4-Dioxane 8270	Soil	Cool, 4 ± 2 °C	14 days	250 mL	1 - 8 oz Glass
Volatile Organic Compounds/8260B	Groundwater	HCl, Cool, 4 ± 2 °C	14 days	120 mL	3 - 40ml glass vials
Semi-volatile Organic Compounds/8270C	Groundwater	Cool, 4 ± 2 °C	7 days	500 mL	2 - 250 mL amber glass
TAL Metals 6010/7471	Groundwater	HNO_3Cool, 4 ± 2 °C	180 days	500 mL	1 - 500 mL plastic bottle
Polychlorinated Biphenyls/8082	Groundwater	Cool, 4 ± 2 °C	365 days	2000 mL	2 - 1000 mL amber glass
Pesticides & Herbicides (8081B and 8151A)	Groundwater	Cool, 4 ± 2 °C	7 days	3000 mL	2 - 500 mL amber glass 2 - 1000 mL amber glass
PFAS 1633	Groundwater	H2O Cool, 4 ± 2 °C	14 days	500 mL	2 - teflon free 250 ml plastic containers
1,4-Dioxane 8270D	Groundwater	Cool, 4 ± 2 °C	7 days	500 mL	1 - 500 mL plastic bottle
Volatile Organic Compounds/TO-15	Soil Vapor	N/A	30 days	2.7 - 6 L	1 2.7 or 6 L Summa Canister

Notes:
1. Terracores and encores must be frozen within 48 hours of collection
2. Refer to text for additional information.

ATTACHMENT A
Project Team Resumes

HALEY ALDRICH

JAMES BELLEW

Principal

EDUCATION

M.S., Environmental Geology, Queens College
B.S., Geology, Pre-Law, Environmental Science, Binghamton University

PROFESSIONAL SOCIETIES

American Council of Engineering Companies, Member, 2017
Urban Land Institute, Member, 2016
Business Council of New York, Member, 2018

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
30-Hour OSHA Construction Safety and Heath
8-hour OSHA Site Supervisor Certification
OSHA Confined Space Entry Training Certification
Erosion and Sediment Control, New York, No. 006925
USDOT/IATA Training on the Shipping and/or Transportation of Hazardous Materials

James has a hands-on approach to every project. He believes that being present and putting himself into his clients' shoes is the best way to understand their needs. As a Principal, James' expertise includes due diligence, environmental risk development, building surveys, remedial investigations, remedial design, and technical oversight. Mr. Bellew has completed over 50 New York City Office of Environmental Remediation (NYCOER) E-Designation Sites and New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) Sites which include preparation of all reports through the certificate of completion and a certificate of occupancy.

Clients appreciate James' strategies from the inception of a project through closure under various regulatory programs nationwide. That comprehensive approach is what James loves the most about his job. He enjoys taking on complex projects and finding rational, cost-effective, remedial solutions. His biggest reward? When he can bring a client cost relief through value engineering.

RELEVANT PROJECT EXPERIENCE

Development, NYCDDC Shirley Chisholm Recreational Center, Brooklyn, New York. Principal for the project released by the New York City Department of Design and Construction (NYCDDC), on behalf of the NYC Parks Department, for the design and construction of a new recreational center located at 3002 Foster Avenue in Brooklyn, New York. Scope of services included execution of a Phase II Environmental Site Assessment (ESA), soil characterization, remedial oversight, geotechnical percolation testing, and closure with the New York City Department of Environmental Protection (NYCDEP).

Developments, New York State Superfund Site, Former NuHart Plastics Site, New York State Superfund Site (NuHart West) and BCP Site (NuHart East), Brooklyn, New York. Principal for the preparation of the feasibility study, offsite investigation reports, Resource Conservation and Recovery Act (RCRA) Closure Work Plan, execution of the RCRA Closure, preparation of the Brownfield Cleanup Application (NuHart East), 100% Remedial Design, preparation of all BCP-related work plans (NuHart East), coordination to vest the site for 421-a and all community outreach programs for a former plasticizer facility with on- and off-site pollutant concerns. Responsible for all remedial costs and alternative analyses with the client to bring the site to a certificate of completion. NuHart is a high-profile site that requires coordination with the NYSDEC, the NYCOER, local regulatory agencies, community stakeholders, and local elected officials. The NuHart East Site has completed the remediation and received the Certificate of Completion with the NYSDEC and the NuHart West Site is close to completion with an anticipated 2024 transition from a Class 2 to a Class 4 Inactive Hazardous Waste Site.

Developments, 101 Fleet Place, Brooklyn, New York. Principal responsible for the due diligence during acquisition, preparation of the BCP Application, Change of Use Documents, Brownfield Cleanup Agreement (BCA) Amendments, remedial investigation, and remedial action design (BCP and NYCOER) for a former bus depot site under the New York State BCP and NYCOER E-Designation Programs (Air/Noise). The Site has a footprint of 20,000 square feet (sq ft) with a planned development of a 21-story mixed-use building with approximately 292 units which include affordable housing.

Developments, Speedway Portfolio, Multiple Boroughs, New York. Principal responsible for the expedited due diligence during the acquisition of five former Speedway Sites of Phase I ESAs and Limited Phase II Environmental Site Investigations (ESIs), preparation of the BCP Applications, Remedial Investigation Work Plans, Interim Remedial Measure Work Plans and Air/Noise Remedial Action Work Plans (NYCOER). Five of the sites were accepted into the NYSDEC BCP. Remedial Investigations for compliance with the BCP have been completed and the remedial designs on the sites include a variety of remedial approaches which include in situ chemical treatment for groundwater, soil vapor extraction, excavation, and dewatering removal and treatment.

Development, 138 Bruckner Boulevard, Bronx, New York. Principal responsible for the due diligence during acquisition, preparation of the BCP Application, Change of Use Documents, coordination to vest the site for 421-a, BCA Amendments, remedial investigation, and remedial action design (BCP and NYCOER) for the former Zaro's Bakery Site under the New York State BCP and NYCOER E-Designation Programs (Air/Noise). The Site has a footprint of 50,000 sq ft with a planned development of a 12-story mixed-use building with approximately 447 units which include affordable housing.

Development, 310 Grand Concourse, Bronx, New York. Principal responsible for environmental and construction management services required to successfully navigate this two-building redevelopment project through the NYSDEC BCP and NYCOER E-Designation Program (Air/Noise). Project included site investigation, design, and remediation for development of two buildings within a 30,000-sq-ft lot in the Bronx, New York. Remediation included excavation of approximately 20,000 cubic yards (cu yd) of soil, groundwater extraction and treatment, underground storage tank (UST) removal, design, and installation of an ex-situ chemical in situ soil stabilization process for elevated levels of metals.

Development, 40 Bruckner Boulevard, Bronx, New York. Principal responsible for the due diligence during acquisition, preparation of the BCP Application, Change of Use Documents, BCA Amendments, remedial investigation, and remedial action design (BCP and NYCOER) for the former Mill Sanitary Wiping Cloth Site under the New York State BCP and NYCOER E-Designation Programs (Air/Noise). The Site has a footprint of 45,000 sq ft with a planned development of a 12-story mixed-use building with approximately 480 units which include affordable housing.

Development, 297 Wallabout Street, Brooklyn New York. Principal responsible for the due diligence during acquisition, preparation of the BCP Application, Change of Use Documents, BCA Amendments, remedial investigation, and remedial action design (BCP and NYCOER) for the 297 Wallabout Street site under the New York State BCP and NYCOER E-Designation Programs (Air). Successfully delineated the on-site tetrachloroethene (PCE) plume in soil and groundwater. The site is currently in the remedial implementation phase.

Developments, 89-91 Gerry & 93 Gerry Street, Brooklyn New York. Principal responsible for the due diligence during acquisition, preparation of the BCP Application, Change of Use Documents, BCA Amendments, remedial investigation, and remedial action design (BCP and NYCOER) for two sites (adjacent to each other) located at 89-91 Gerry Street and 93 Gerry Street under the New York State BCP and NYCOER E-Designation Programs (Air). The sites are currently preparing to execute the remedial action.

Development, Former Techtronics Site (8 Walworth Street), Brooklyn, New York. Principal for the remedial investigation, remedial action design, and remedial action implementation for the former Techtronics Site under the New York State BCP as a Participant where trichloroethene (TCE) and PCE were encountered in soil and groundwater. James successfully delineated the vertical and lateral extents of the plumes which were identified as upgradient, on-site. For this site we have designed source removal to 20 feet (ft) below ground surface (bgs), Zero Valent Iron (ZVI)

Reactive Barrier Wall, in situ ZVI injections sitewide, and a vertical vapor mitigation system. The site is currently in the remedial implementation phase.

Development, 346 Grand Concourse, Bronx, New York. Principal for the proposed nine-story, 60-key commercial building with a one-level deep cellar. Design phase environmental services consist of guiding the Site through the NYCOER Voluntary Cleanup and E-Designation Programs, including Hazmat, Air Quality, and Noise requirements. This program included the submission of a Remedial Investigation Work Plan, implementation of a Remedial Investigation, submittal of a Remedial Investigation Report, Remedial Action Work Plans (Hazmat Air and Noise), and the Final Installation Report for the Certificate of Occupancy.

Development, 3294 Atlantic Avenue, Brooklyn, New York. Principal for the proposed 12-story, 80-key commercial building with a one-level deep cellar. Design phase environmental services consist of guiding the site through the NYCOER Voluntary Cleanup and E-Designation Programs, including Hazmat, Air Quality, and Noise requirements. This program included the submission of a Remedial Investigation Work Plan, implementation of a Remedial Investigation, submittal of a Remedial Investigation Report, Remedial Action Work Plans (Hazmat Air and Noise), and the Final Installation Report for the Certificate of Occupancy.

590-594 Myrtle Avenue, Brooklyn, New York. Principal for the proposed six-story, 12-unit residential building with a one-level deep cellar. Design phase environmental services consist of guiding the site through the NYCOER Voluntary Cleanup and E-Designation Programs, including Hazmat, Air Quality, and Noise requirements. This program included the submission of a Remedial Investigation Work Plan, implementation of a Remedial Investigation, submittal of a Remedial Investigation Report, Remedial Action Work Plans (Hazmat Air and Noise), and the Final Installation Report for the Certificate of Occupancy.

Development, 3530 Webster Avenue, Bronx, New York. Principal for the proposed eight-story, 75-key commercial building with a one-level deep cellar. Design phase environmental services consist of guiding the site through the NYCOER Voluntary Cleanup and E-Designation Programs, including Hazmat, Air Quality, and Noise requirements. This program included submission of a Remedial Investigation Work Plan, implementation of a Remedial Investigation, submittal of a Remedial Investigation Report, and Remedial Action Work Plans (Hazmat Air and Noise). The project is currently in the construction phase of the NYCOER program.

Development, Former BP Station, Elmhurst Queens, New York. Principal for the preparation of a full environmental impact statement with respect to a mixed-use development proposed in Elmhurst Queens for submission to the New York City Department of City Planning to rezone the project. The work included a full impact assessment of the proposed construction with respect to the neighborhood, evaluation of green/open spaces for the community, and environmental site investigation and remediation services.

New York State Brownfield Site, Former Delta Metals Site, Brooklyn, New York. Senior Project manager for the remedial investigation and remedial action design for the former Delta Metal Products Company. Project is under the New York State BCP as a Participant where TCE and PCE were encountered in soil and groundwater. James successfully delineated the vertical and lateral extents of the plumes which were identified as an upgradient, on-site, and downgradient plume. Investigation results triggered the NYSDEC to utilize its call-out contract to perform a plume trackdown for the immediate area and identify additional Potentially Responsible Parties. The design for an Air Sparge Soil Vapor Extraction system has been accepted and the project is currently under construction.

Manufacturing-Industrial, Hess Amerada, Bogota and Edgewater, New Jersey. Senior Project Manager and Technical Lead for the construction management services for the demolition of two waterfront terminals on the Hackensack and Hudson Rivers. Services included demolition design, submittal review, site execution, and coordination of activities related to asbestos abatement, demolition of buildings, thirty holding tanks, piping structures, containment structures, and stormwater structures.

Manufacturing-Industrial, PQ Corporation, Northeastern United States. Senior Project Manager responsible for the design and implementation of a three-phased program for handling polychlorinated biphenyl (PCB)-containing materials on approximately 100 tank structures at large, active industrial sites, which included coating removal, encapsulation, demolition, and Toxic Substances Control Act (TSCA) remediation. He was responsible for development of the overall program, specifications, drawings, bid packages, construction oversight, and project administration until closure. The program also included the design and oversight of a new façade and roof upgrades completed concurrently with client operations.

Development, New York State Brownfield Site, Former Cascade Laundry, Brooklyn, New York. Senior Project Manager responsible for environmental and construction management services required to successfully navigate a seven-building redevelopment project through the NYSDEC BCP and NYCOER E-Designation Program (Air/Noise). Project included site investigation, design, and remediation for development of seven buildings within a 2-acre site in Brooklyn, New York. Remediation included excavation of approximately 40,000 cu yd of soil, groundwater extraction and treatment, UST removal, design, and installation of a sub-slab depressurization system (SSDS), and ex situ chemical oxidation of groundwater impacted by petroleum.

Development, New York City Brownfield Site - 520-534 West 29th Street, New York, New York. James was responsible for environmental site investigation and remediation activities required to successfully navigate the project through the NYCOER's E-Designation and Voluntary Cleanup Programs. This program included submission of a Remedial Investigation Work Plan, implementation of a Remedial Investigation, submittal of a Remedial Investigation Report, and Remedial Action Work Plans (Hazmat Air and Noise). The project is currently in the construction phase of the NYCOER program.

Development, New York State Brownfield Site, BJ's Wholesale, Brooklyn, New York. Senior Project Manager for the remedial execution within the NYSDEC BCP and NYCOER E-Designation programs at an 8-acre peninsula in Gravesend Bay being redeveloped by BJ's Wholesale Club (BJ's) into a "big-box" warehouse and parking garage, and a publicly accessible, waterfront open space. He implemented a comprehensive Community Air Monitoring Plan (CAMP), managed the design and installation of a passive SSDS, and oversaw handling and off-site disposal of impacted material generated by BJ's (the Lessee for the subject site) during their foundation construction activities.

Development, New York State Brownfield Site, Coney Island, Brooklyn, New York. Senior Project Manager responsible for the environmental design during the rehabilitation and expansion of a 1970s-era mixed-use complex, which covers an area equivalent to three city blocks. He facilitated the BCP applications for two adjacent parcels within the complex impacted by historic dry-cleaning uses. Site investigations performed had documented the presence of PCE in soil gas and were delineated over three separate structural slabs in commercial and residential space utilizing a mobile laboratory. He designed and installed two SSDS and prepared a Remedial Investigation Work Plan which outlined the work required to delineate the vertical and horizontal extent of the impacted soils, soil vapor, and groundwater at both BCP sites. The system was designed with below slab suction pits, remote sensing vacuum monitoring points, and a variable frequency drive blower tied into the monitoring points for optimization and power savings.

Development, New York City Brownfield Site, Hospitals, Memorial Sloan Kettering Cancer Center (MSKCC), New York, New York. Project Manager for environmental remediation for this MSKCC development project. James was solely responsible for subsurface investigation and remediation activities, large, manufactured gas plant (MGP) gas holder removal (from former Con Edison Operations), UST removal, daily status updates to the NYCOER, implementation of the CAMP and the management, handling, characterization, and off-site disposal of MGP-impacted soil and dewatering fluids.

New York State Spill Remediation, Metropolitan Transportation Agency Bridges and Tunnels, New York, New York. Project Manager responsible for the execution of a remedial action scope which included UST removal, excavation of 600 cu yd of petroleum-impacted soil, design and installation of a groundwater extraction and treatment system, and post-remediation samples. He implemented the In Situ Chemical Oxidation program for the injection of 54,000 gallons of 8 percent solution Fenton's Reagent and the Operation and Maintenance (O&M) of the petroleum spill with respect to Fenton's performance and the plume migration.

Various Public Schools, New York City School Construction Authority, New York, New York. Project Manager responsible for environmental remediation proposed for several school development sites, including P.S. 312, P.S. 281, and P.S. 27K. Assisted in the design and implementation of the remediation programs for the sites for petroleum spills, PCB TSCA contamination, and hazardous lead hot spots.

Development, i.Park Edgewater, Edgewater, New Jersey. Project Manager responsible for the design and environmental remediation on-site. Implemented the construction plan for remediation of arsenic, pitch- and PCB-impacted soil for excavation and off-site disposal of 20,000 tons. He managed the air monitoring system on-site which consisted of four permanent stations set upwind and downwind on-site for volatile organic compounds (VOCs) and particulate migration off-site. Also, James performed redesigns throughout the project to keep within the current schedule and budget.

Development, New York State Brownfield, Queens West, Long Island City, New York. Project Manager responsible for oversight of the Environmental Remediation on-site. James implemented the construction plan for remediation of 20,000 cu yd of light non-aqueous phase liquid (LNAPL) on the site; he assisted in the design and oversight of the In Situ Chemical Oxidation mixing on-site. The project was eventually developed into three large towers and a new school.

MGP, National Grid, Rockaway, New York. James aided in the design and implementation of the soil characterization plan for MGP-impacted sands. After delineation of the contamination plume, drafted work plans and site layout of the negative pressure tent. He performed and trained the on-site staff on the use of personal air monitoring equipment and aided with design considerations on the installation of a waterloo barrier to be advanced to minus 80 ft below grade surface. James also helped with the design and permitting for the groundwater treatment system installed on-site.

MGP, Con Edison, New York, New York. Environmental engineer for responsible party for all environmental issues associated with this job, including transportation and disposal of 8,000 tons of MGP-contaminated soil from former Con Edison operations. James scheduled weekly work for all civil and environmental tasks on the job. He was responsible for the design and installation of the dewatering treatment system with a daily discharge of 25,000 gallons per day of MGP-impacted water.

New York State Superfund Project, NYSDEC, Hicksville, New York. James performed O&M and reporting on the site's Potassium Permanganate Injection System, which was on a timed system; maintaining the system, troubleshooting problems and ensuring that the proper ratios were being injected. He performed the fieldwork for analysis and drafted interim reports for the project manager.

Retail Petroleum, New York State Spills Program, Hess Amerada, Various Locations, New York. Environmental Engineer responsible for the design and installation of groundwater and soil vapor remedial systems at over 30 retail petroleum stations for Hess. Responsible for ensuring that the remedial systems were operating properly and performing repairs as necessary during operation. He performed groundwater and soil vapor monitoring and drafted O&M reports for the NYSDEC. Plume size ranged from within the retail station property with monitoring off-site impacts in local neighborhoods greater than a 3-mile radius.

Retail Petroleum, New York State Spills Program, British Petroleum (BP), Various Locations, New York. Environmental Engineer responsible for the design and installation of groundwater and soil vapor remedial systems at over 10 retail petroleum stations for BP. He was responsible for ensuring that the remedial systems were operating properly and performing repairs necessary during operation. He performed groundwater and soil vapor monitoring and drafted O&M reports for the NYSDEC. Plume size ranged from within the retail station property with monitoring off-site impacts in local neighborhoods greater than a 2-mile radius.

Development, 524 West 19th Street, New York, NY (Metal Shutter Homes). Project Engineer for responsible party for all environmental and civil issues associated with this job, including transportation and disposal of 5,000 tons of MGP-contaminated soil from former Con Edison operations. James scheduled weekly work for all civil and environmental tasks on the job. He successfully redesigned the grout cutoff wall connections to the installed steel sheeting with a secant wall installed off-site. He provided technical guidance for drilling 4-ft-diameter exploratory casings for subsurface anomalies. Additionally, James was responsible for the design and installation of the dewatering treatment system with a daily discharge of 25,000 gallons per day of MGP-impacted water.

U. S. Environmental Protection Agency (EPA) Superfund Site, Newtown Creek Superfund, Brooklyn, New York. Environmental Engineer who aided in the design of the pump and treat system installed at Peerless Importers. He also aided in the design and installation of the harbor boom setup. Operated and maintained groundwater/LNAPL extraction systems on-site and performed monthly site gauging as part of the O&M plan.

SUZANNE M. BELL, P.E.

Senior Project Manager

EDUCATION

B.S., Biosystems Engineering, University of Arizona

PROFESSIONAL REGISTRATIONS

AZ: Environmental Engineer (Reg. No. 61995)

NY: Professional Engineer (Reg No. 106301)

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste and Operations Emergency Response Training (29 CFR 1910.120 and 40 CFR 265.16)

8-Hour HAZWOPER Refresher Course

Suzanne is a senior project manager with over 15 years of experience in the environmental consulting industry. She has worked on soil and groundwater environmental investigations, remediation projects, and prepared reports for private, industrial, and government clients. Her technical experience includes remediation systems; soil and groundwater feasibility studies; Phase I site investigations; environmental file review and historical research; stormwater assessments and Stormwater Pollution Prevention Plan (SWPPP) preparation; reclamation planning for the sand and gravel mining industry; air permitting; and data interpretation.

RELEVANT PROJECT EXPERIENCE

Waterfront Property Management, 89-91 Gerry Street and 93 Gerry Street, Brooklyn, New York. Suzanne served as project manager for execution of Remedial Action Work Plans at the former Just4Wheels Site and Just4Wheels Site 2 under the New York State Brownfield Cleanup Program (NYSBCP). Responsible for remedial oversight of excavation and removal of non-hazardous and hazardous soil, endpoint sample collection, air monitoring, dewatering system installation support, communication with soil brokerage firm and environmental laboratory, and preparation of Daily Field Reports (DFRs) and the Final Engineering Report (FER).

Multiple Clients, Remedial Investigation Work Plans and BCP Applications, New York City, New York. As project manager and engineer, Suzanne has prepared NYSBCP Applications and Remedial Investigation Work Plans for the New York State Department of Environmental Conservation (NYSDEC) for sites within the New York City boroughs.

Excavation Oversight and Community Air Monitoring Plan (CAMP) Monitoring, Various Sites, New York City, New York. Suzanne has served as project manager for projects under the New York City Office of Environmental Remediation (NYCOER) program and NYSBCP. Her responsibilities included managing excavation oversight, air monitoring, and logging trucks for off-site disposal.

Aerospace Manufacturing Facility, Feasibility Study and Remedial Action Plan, Chula Vista, California. Suzanne co-authored feasibility studies for soil and groundwater impacted by chlorinated solvents, metals, and polychlorinated biphenyls (PCBs). She screened ex-situ and in-situ remedial alternatives for effectiveness, implementability, and protectiveness of human health. She also assessed alternative cleanup levels for technical and economic feasibility of achieving background concentrations in accordance with State Water Resources Control Board Resolution 92-49. Additionally, she evaluated groundwater remedial alternatives, including bioremediation, monitored natural attenuation (MNA), pump and treat, chemical oxidation, chemical reduction, and engineering and institutional controls. Lastly, she prepared engineering cost estimates and conceptual designs. Assisted with the preparation of remedial action plans: a bioremediation remedy and MNA program for groundwater, and excavation of contaminated soil.

Aerospace Manufacturing Facility, Groundwater Remediation and Bioremediation Pilot Test, Riverside, California. Suzanne assisted with data analysis and reporting for the bioremediation pilot test study for groundwater impacted by chlorinated solvents, hexavalent chromium, and 1,4-dioxane. She evaluated site data for trends indicative of MNA using statistical analysis.

Goodyear Tire & Rubber Company, Phoenix Goodyear Airport South Superfund Site, Goodyear, Arizona. Suzanne prepared reports and performed data analysis related to the groundwater monitoring program and operation and maintenance of groundwater treatment systems. Currently, two groundwater extraction and remediation systems are capable of treating more than 1 million gallons per day (MGD) of groundwater contaminated with trichloroethylene. The upper groundwater zone is treated with an air stripper, while the lower zone is treated with granulated activated carbon. Treated groundwater is reinjected into their respective zones.

Soil and Groundwater Remediation Systems, Arizona. Suzanne performed operation, maintenance, and sampling activities for two soil vapor extraction systems to remove tetrachloroethylene from subsurface soils at two different dry-cleaning facilities. She prepared soil vapor extraction granular activated carbon (GAC) system test reports in accordance with Maricopa County Air Quality Department Permits.

ASTM Phase I Environmental Site Assessments (ESAs), Arizona. Suzanne assisted with ASTM Phase I ESAs at various industrial facilities in central and southern Arizona. She evaluated site conditions and regulatory implications as they related to the owner's or potential buyer's property development plans.

Phoenix-Goodyear Airport-North Superfund Site, Focused Feasibility Study, Goodyear, Arizona. Suzanne was a member of the team that prepared a source area remediation-focused feasibility study report. She evaluated several technologies and alternatives to treat groundwater contaminated with trichloroethylene (TCE) and perchlorate. She analyzed remedial alternatives, including in-well air stripping, a hydraulic barrier, nano- and macro-scale zero-valent iron, anaerobic reductive dechlorination, in-situ chemical oxidation (permanganate), and electrical resistive heating. She prepared cost estimates, conceptual designs, remediation technology summaries, and sustainability evaluations of the alternatives.

Enhanced In-Situ Bioremediation (EISB) and Chemical Reduction Using a Nanoscale, Zero-Valent Metallic Alloy to Treat Co-disposed Chloroethanes and Chloroethenes in Groundwater, Manufacturing Facility, Canton, Massachusetts. Suzanne performed data analysis and prepared status reports on the effectiveness of EISB in treating chlorinated solvents in shallow groundwater. She reported on the performance monitoring results for the permeable reactive barrier in deep zone groundwater.

Hayden Facilities RI/FS, ASARCO LLC, Hayden, Arizona. Suzanne served as Quality Assurance Officer for the air monitoring program at a copper smelting facility. She developed site-specific data validation procedures according to U.S. Environmental Protection Agency (EPA) guidelines for several analytical methods.

Market Evaluation for Nanoscale Zero-Valent Iron, Stamford, Connecticut. Suzanne used the EPA CERCLIS Public Access Database and select State databases to estimate the market size for potential use of nanoscale zero-valent iron (nZVI) as a remediation technology. She compiled competing vendor information and quotes to estimate the average cost of similar products. She utilized the U.S. Patent and Trademark Office database to analyze competing technologies.

AZPDES and NPDES Permits, Arizona. Suzanne prepared Arizona Pollutant Discharge Elimination System (AZPDES) and National Pollutant Discharge Elimination System (NPDES) permit renewal applications for a copper mining facility in Southern Arizona, which included updates to the facility's SWPPP and Quality Assurance (QA) Manual.

Spill Prevention, Control and Countermeasure Plans, Aggregate Mining Facilities, Arizona. Suzanne assisted with a Spill Prevention, Control, and Countermeasure (SPCC) Plan for aggregate mining facilities in Arizona. She performed site visits, evaluated fuel and oil tanks and secondary containment areas, assisted with calculations to verify compliance, and prepared reports.

Copper Mining Facility, Miami, Arizona. Suzanne assisted with Toxic Release Inventory (TRI) and Toxic Substances Control Act (TSCA) reporting, both submitted to the EPA.

SWPPP, Franciscan Friars of California, Gila County, Arizona. Suzanne updated the SWPPP for construction activities related to the closure of a historic Gibson Copper Mine, authorized under the AZPDES "General Permit for Discharge from Construction Activities to Waters of the United States." The Former Gibson Mine is a small, historic copper mine, located approximately 7 miles southwest of Miami, Arizona, in Gila County. Construction activities covered under the updated SWPPP consisted of the excavation, hauling, and removal of approximately 80,000 tons of soil cover from the Mineral Creek side of the site to mine-scarred areas on the Pinto Creek side of the site. Also included was final grading of the site, which consisted of re-contouring and re-defining any portion of the drainages that were on site, and revegetation.

SWPPP, Vulcan Materials Company, Western Division, Arizona. Suzanne prepared SWPPP for 11 aggregate mining facilities in Arizona. Performed site visits, analyzed stormwater flows, prepared reports, and completed Notices of Intent for the Arizona Department of Environmental Quality under a Multi-Sector General Permit.

Uranium Enrichment Facility, Lea County, New Mexico. Suzanne prepared quarterly and annual groundwater monitoring reports, semi-annual radioactive effluent release reports, and radiological environmental monitoring program reports in accordance with New Mexico Environment Department regulations and the Nuclear Regulatory Commission. Performed quarterly data validation on a variety of matrices and analytical methods. She prepared site-specific environmental monitoring procedures, which included field sampling techniques; data collection, management, and validation; and an air modeling software package.

Rocket Testing and Research Facility, Western U.S. Suzanne analyzed and evaluated groundwater quality data, prepared reports, and managed data for this Resource Conservation and Recovery Act (RCRA) site. Assisted with management of sampling, analysis, and reporting of constituents of concern for fractured sandstone bedrock aquifer impacted by chlorinated solvents and emergent chemicals 1,4-dioxane, perchlorate, and n-nitrosodimethylamine (NDMA). Performed data validation of water quality data according to EPA National Functional Guidelines. Queried data from client environmental data management system and prepared summary tables, concentration plots, and water level hydrographs using Microsoft Excel programs. She prepared a quarterly analytical schedule using an Access database application, updated the site-specific Health and Safety Plan (HASP), and participated in lean training, which reduced the cost of groundwater monitoring tasks by 25 percent.

Federal Superfund Site, Eastern Massachusetts. Suzanne performed data validation and quality assurance/quality control (QA/QC) of soil and groundwater data according to EPA National Functional Guidelines. She performed third-party database updates.

Great Western Bank, Cortaro Ranch Property, Marana, Arizona. For site characterization of undeveloped land, Suzanne performed surficial soil sampling, analytical laboratory coordination, data analysis, and report preparation.

Twin Buttes Properties, Inc., Southern Arizona. Suzanne assisted with report and analytical table preparation for the characterization and analysis of current and historical hydrologic conditions at an inactive mine site near Sahuarita, Arizona, in support of regulatory compliance.

Skyworks Solutions, Inc. Site, Newbury Park, California. Suzanne assisted with report and analytical table preparation for a subsurface investigation characterizing the lateral and vertical extent of soil and groundwater impacts from known releases of TCE, 1,4-dioxane, and other organic compounds.

PUBLICATIONS

"Mixed Redox Catalytic Destruction of Chlorinated Solvents in Soils and Groundwater," with S. Gao, E. Rupp, M. Willinger, T. Foley, B. Barbaris, A.E., Saez, R.G. Arnold and E. Betterton. In Environmental Challenges In The Pacific Basin, 2008; Annals of the New York Academy of Sciences, Vol. 1140, pp 435-445. PMID: 18991945

INVITED LECTURER OR SPEAKER

"Catalytic Destruction of Perchloroethylene," with E. Betterton, R. Arnold and Eduardo Saez, Presenter - NASA Space Grant Student Symposium, Phoenix, Arizona. April 2007.

HALEY ALDRICH

BRIAN FITZPATRICK, CHMM

Corporate Director, Health and Safety

EDUCATION

M.P.A., Environmental Policy, Syracuse University
B.S., Environmental Science, University of Massachusetts-Amherst
A.S., Chemistry, Valley Forge Military Junior College
Commissioned Officer, United States Army

CERTIFICATIONS

Certified Hazardous Materials Manager (Reg. No. 13454)
Certified Department of Transportation Shipper
Certified International Air Transport Authority Shipper

PROFESSIONAL SOCIETIES

Alliance of Hazardous Materials Professionals
Academy of Certified Hazardous Materials Managers, New England Chapter

SPECIAL STUDIES AND COURSES

Department of Transportation
International Air Transport Authority
Incident Commander
Confined Space Entry and Rescue
Radiation Safety Officer
RCRA Hazardous Waste
Massachusetts Industrial Waste Water Operator Grade 2I (expired)

AWARDS

Presidents Club Award (one million hours worked without a recordable injury, Cabot Corporation
Chancellors Award for Excellence, Syracuse University

Brian has over 25 years of experience in developing, implementing, and managing a wide range of environmental, health, and safety (EH&S) solutions for a variety of clients. Brian has served as the Health and Safety Manager and Incident Commander at several research and development sites and has managed extensive programs to maintain and clean contaminated sites under Federal and State regulatory programs. He has provided expertise in managing EH&S programs as a consultant, and has actively developed, implemented, and managed these programs as an EH&S professional for various industries.

Brian is currently working as the Chief Health and Safety Officer for Haley & Aldrich, Inc. He, and his staff, are involved in every project Haley & Aldrich, Inc. undertakes. Brian is involved on several projects, directly overseeing the health and safety on the project site of our staff, our contractors, and the public. Brian also acts as support for our on-site health and safety staff on other larger construction and remediation projects.

Through Brian's leadership our safety culture and focus extend from the top of our organization to each and every Haley & Aldrich employee as well as subconsultants and subcontractors. Utilizing a Behavior Based Safety approach, Haley & Aldrich expects every project team member to play an important role in making our projects safe and has given authority to every Haley & Aldrich employee, subconsultant, and subcontractor to stop any activity at any time for health or safety concerns. Our record illustrates that our hard work is paying off. The company has gone 4 years without a lost time injury, and our TRIR and EMR have consistently improved each of the last 3 years.

RELEVANT PROJECT EXPERIENCE

Haley & Aldrich, Inc., Burlington, Massachusetts. As Chief Health and Safety Officer, Brian has led and facilitated the development and implementation of corporate health and safety (H&S) improvement plans to enhance compliance and improve H&S performance. In Brian's time with Haley & Aldrich, Inc., the company has realized dramatic improvement on H&S goals and in Key Performance Indicators. Brian is responsible for developing a risk competence culture, where our staff are empowered to look for and engage to address risk before anyone is injured. Brian oversees the development, implementation and continuous improvement of all H&S programs for the company. Additional responsibilities include:

- Developing a safety culture through incident reporting, root cause analysis, behavior-based safety, hazard recognition and risk assessment, communication, and developing leaders;
- Monitoring proposed and existing SH&E regulations and legislation to determine their impact on operations and to ensure continued compliance;
- Overseeing the safety, industrial hygiene, and toxicology programs for over 600 staff members engaged in remediation, construction, health and safety, consulting, and general office work across 28 offices in the United States and on assignment to international project sites;
- Continuously seeks to improve H&S performance as measured by the OSHA Incident Rating (IR) and Worker's Compensation Experience Modification Rating (EMR), as well as Leading Indicators developed with the management team; and
- Participating in the corporate audit program as an auditor or lead auditor;

Energy Client, California. As Chief Health and Safety Officer, Brian led and facilitated the Alliance Partnership Safety Council in 2017, is still an active contributor to the council, and hosts routine contractor safety forums for the client. Brian is actively involved in the development and implementation of program safety, health, and environmental (SH&E) plans to ensure safe operations on project sites. Brian developed permits and Health and Safety Plans for large projects and routinely audits the site safety. Additional responsibilities include:

- Driving reporting and behavior-based safety initiatives to support our internal safety culture and developing monthly summary reports to illustrate performance to our client.
- Develop, assess and continuously improve site safety plans and practices, including specific safety protocols for working safely over and around water.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits sites to ensure compliance with our internal policies and client-specific requirements.

Energy Client, Ohio. As Chief Health and Safety Officer, Brian supports the project team in developing and executing client and project specific health and safety measures, such as a site specific Health and Safety Plan, Job Hazard Analyses, Industrial Hygiene program, and site specific training. Brian also routinely visits the site to assess current practices and condition and to ensure continuous improvement. Additional responsibilities include:

- Develop, assess, and continuously improve site safety plans and practices, including specific safety protocols to comply with supplemental EH&S requirements such as the Duke Health and Safety Handbook, Environmental Supplemental, and EHS Keys to Life.
- Develop, assess, and continuously improve site safety plans and practices to address the risks associated with the work being performed on site, as well as the environmental conditions and simultaneous operations, including trenching and excavation, hot work, work over and near water, heavy equipment, HAZWOPER, etc.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits site to ensure compliance with our internal policies and client-specific requirements.

BRIAN A. FERGUSON

Senior Engineer

EDUCATION

M. S. Geotechnical Engineering, Tufts University, Medford, Massachusetts; 2012

B. S. Civil Engineering, State University of New York - Environmental, Science, and Forestry, Syracuse, New York; 2000

Ass. Science Degree in Applied Science and Technology (Nuclear Engineering), Thomas A. Edison State College, Trenton, New Jersey; 2000

PROFESSIONAL SOCIETIES

Order of the Engineer – 2000

Boston Society of Civil Engineers (BSCE)

American Society of Civil Engineers (ASCE)

SPECIAL STUDIES AND COURSES

American Concrete Institute – Certified Field Technician Certified Grade 1

Radiation Safety and Operations of Nuclear Testing Equipment – Troxler

40-Hour OSHA Hazardous Waste Operations Training (+ 8-Hour annual refresher)

10-Hour OSHA Construction training

Confined Space Entry Training

16-Hour Asbestos Operations and Maintenance

Mr. Ferguson has over six years of experience serving as project engineer on a variety of real estate development projects. His project experience has included monitoring field investigations and performing construction oversight, performing due diligence and engineering analyses, performing geotechnical analyses and developing geotechnical recommendations, and preparing geotechnical reports and project specifications.

In addition to providing engineering design support, Mr. Ferguson has managed and participated in a number of field service activities. Field work has included construction monitoring and documentation of contractors' deep and shallow foundation related construction, including slurry walls, caissons, pile driving, pile cap installation, earthwork, backfilling and compaction, installation of soldier pile and wood lagging support systems, installation of tie backs, reading inclinometers, conducting in-place field unit weight tests, tie-back load testing, seismograph installation, monitoring, and evaluating, and preparation of footing bearing surfaces. Other responsibilities have included site development activities, including placement of utilities and subgrade preparation for roads; observations and testing to determine that work is completed in compliance with contract documents; on-site soil management; sampling of soil and groundwater for chemical laboratory testing and conducting in situ field screening; maintenance of job records including pile driving logs, results of field density tests, records of caisson and footing installations; preparation of daily field reports; in contact with key personnel; and resolution of field related problems.

RELEVANT PROJECT EXPERIENCE

St. Elizabeths Hostpital – West Campus Forensic Evaluations, Washington, D.C. Project Engineer for forensic evaluations on the adaptive reuse of former hospital buildings. Responsibilities included coordination of a field exploration program, including test borings and test pits to obtain subsurface information for project design and construction, overseeing multiple field personnel, subcontractors, assisting with project management, reviewing subcontractors invoices, reviewing and summarizing subsurface data and writing data reports.

TUFTS University, New Central Energy Plant, Medford, MA. Project engineer for a new Central Energy Plant that will house new co-generation steam boilers, centralized chilled water and electrical transformer switchgear that is planned to occupy approximately 20,000 square feet across two or three levels. Responsibilities included coordination of construction monitoring, observing SOE and footing installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Lahey Hospital and Medical Center – Stilts Infill Project, Burlington, MA Project Engineer for an addition to the existing Stilts building on the Lahey campus. Responsibilities included coordination and overseeing geotechnical and environmental subsurface investigations, coordination of construction monitoring, observing footing installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Gloucester Beauport Hotel, Gloucester, MA Project engineer for a four story hotel with a seawall constructed adjacent to tidal beach. Responsibilities included coordination and overseeing geotechnical and environmental subsurface investigations, coordination of construction monitoring, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings, design and implementation of a sub-slab gas mitigation system.

275 Wyman Street, New Office Building, Waltham, MA. Project engineer for a new office building and parking garage founded on a shallow foundation system. Responsibilities included preparing proposals, assisting with management and planning of a subsurface investigation program, summarizing subsurface data and reviewing geotechnical test boring logs, coordination of construction monitoring and instrumentation monitoring programs, reviewing weekly field construction reports, reviewing and responding to specialty geotechnical design submittals and RFIs by others and attending project meetings.

Suffolk University - 20 Somerset Street, Boston, MA Project engineer for design of 8-story academic building with two levels of below grade finished space. Responsibilities included coordination of construction monitoring, observing SOE and footing installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Worcester State University, New Student Housing, Worcester, MA Project engineer for design and construction of a 7-story residence/dining hall with a single level basement and a major site retaining wall structure. Responsibilities included overseeing geotechnical subsurface investigations, provided foundation recommendations and specifications, and prepared a retaining wall contract document. Responsibilities included coordination of construction monitoring, excavation and construction of footings, and soil reuse and management, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

University of Massachusetts Boston, General Academic Building No.1, Boston, MA. Project engineer responsible for assisting project manager in preliminary foundation engineering recommendations and construction considerations for a new academic building on a part of Columbia Point, a historic landfill area. Assisted in design phase services that included preparing foundation support design recommendations including the use of high allowable stresses for 190-ft long end-bearing H-piles and application of Slickcoat coating to address downdrag concerns and reduce foundation costs.

Waltham Watch Factory, Waltham, MA project engineer for redevelopment of former watch factory. Responsibilities included construction oversight of new precast parking garage, utilitiy upgrades, soil remediation and management, installation of gas mitigation systems, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Massachusetts Green High Performance Computing Center, Holyoke, MA. Project engineer for 60,000 sq. ft high level computing center and associated support utilities. Redevelopment of the site included recycling 50,000 cy of construction debris into the site fills at this historic site along the Connecticut River. Responsibilities included coordinating geotechnical and environmental field investigations, coordination of construction monitoring, seismic analysis, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

The Shops at Riverwood, Hyde Park, MA. The project consisted of the redevelopment of a colonial era paper mill. The multi-building complex was demolished and the concrete and brick from the previous buildings were recycled. The project involved crushing 50,000 cy of brick and concrete and placement of excavated soils and recycled brick and concrete as compacted fill materials to support proposed buildings, pavement areas, and achieve 5 to 9 ft. raises in grade. Field Representative was responsible for management and reuse of brick and concrete stockpiles, in-place density testing, coordination of test pits, installation of soldier pile and versa-lok walls, and backfilling of underground vaults. Remedial activities included: excavation of 5,000 cy of petroleum contaminated soils, on-site cement batching in a pug mill, and placement of compacted recycled materials in roadway areas; delineation, excavation and off-site disposal of TSCA-regulated PCB contaminated soils associated with historical Askarel transformers and dioxin-contaminated soils associated with historical bleaching operations; and disposition of 1,000 tons of paper mill sludge encountered within an abandoned granite-walled sluiceway structure. In addition, assisted with weekly project meetings, maintaining a record of material reuse, and providing weekly field reports.

Harvard Law School, Cambridge, MA. The Harvard Law School project is located on Massachusetts Avenue in Cambridge. The project consisted of a multistory building above ground with 5 levels below ground for a parking garage. Field Representative was responsible for overseeing the installation of slurry walls into bedrock and LBEs with three installation rigs while monitoring the removal of urban fill and transfer to several different receiving facilities from another portion of the site. The slurry walls were constructed into bedrock. Other Field Representative activities were: testing of the slurry, management of the excavated soils, and record keeping of the Contractor’s obstruction and down time of the equipment. In addition, assisted with weekly project meetings, maintaining a record of obstruction and machine time, and providing weekly field reports.

SARAH COMMISSO, GIT

Assistant Project Manager

EDUCATION

B.S., Geological Sciences with a minor in Chemistry, State University of New York-Binghamton

PROFESSIONAL REGISTRATIONS

2021/ NY: Geologist in Training (GIT) Certification

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA HAZWOPER Refresher Training
10-Hour OSHA Construction Safety Training
8-Hour DOT Hazmat Employee & RCRA Hazardous Waste Generator Training

Sarah is a geologist with experience in soil, groundwater, and soil vapor investigation, and preparation of technical reports. She also has extensive experience with conducting Phase I Environmental Site Assessments (ESAs) and Phase II Environmental Site Investigations (ESIs), site characterization, and hazardous materials analysis. She has performed soil, groundwater, and soil vapor sampling events, geotechnical drilling projects, and has drafted site investigation plans and reports.

RELEVANT PROJECT EXPERIENCE

Environmental Experience

Madison Realty Capital, New York State Superfund Site, Former NuHart Plastics Site, New York State Superfund Site (NuHart West) and Brownfield Cleanup Program (BCP) Site (NuHart East), Brooklyn, New York. Sarah served as a staff geologist for the preparation of offsite investigation reports, Resource Conservation and Recovery Act (RCRA) Closure Work Plan, execution of the RCRA Closure, preparation of the BCP Application (NuHart East), 30% Remedial Design, preparation of all BCP related work plans (NuHart East), coordination to vest the Site for 421-a and all community outreach programs for a former plasticizer facility with on- and off-site pollutant concerns. She was responsible for assisting in the remedial cost and alternative analysis with the client to bring the site to a certificate of completion. NuHart is a high-profile site that requires coordination with the New York State Department of Environmental Conservation (NYSDEC), the New York City Office of Environmental Remediation (NYCOER), local regulatory agencies, community stakeholders, and local elected officials.

The Jay Group, Speedway Portfolio, Multiple Boroughs, New York. As staff geologist, Sarah was responsible for the expedited due diligence during the acquisition of five former Speedway Sites of Phase I ESAs and Limited Phase II ESIs, preparation of the BCP Applications, Remedial Investigation Work Plans, Interim Remedial Measure Work Plans and Air/Noise Remedial Action Work Plans (NYCOER). Four of the sites were accepted into the NYSDEC BCP with one currently pursuing the program pending the acquisition. Remedial investigations for compliance with the BCP have been completed and the Remedial Investigation Reports are being drafted.

JCS Realty, 40 Bruckner Boulevard, Bronx, New York. As staff geologist, Sarah was responsible for the due diligence during acquisition, preparation of the BCP Application, Change of Use Documents, Brownfield Cleanup Agreement (BCA) Amendments, remedial investigation, and remedial action design (BCP and NYCOER) for the former Mill Sanitary Wiping Cloth Site under the New York State BCP (NYSBCP) and NYCOER E-Designation Programs (Air/Noise). The site has a footprint of 45,000 square feet (sq ft) with a planned development of a 12-story mixed-use building with approximately 480 units which include affordable housing.

Toldos Yehuda, Former Techtronics Site (8 Walworth Street), Brooklyn, New York. Sarah served as staff geologist for the remedial investigation, remedial action design, and remedial action implementation for the former Techtronics Site under the NYSBCP as a participant where trichloroethene (TCE) and tetrachloroethene (PCE) were encountered in soil and groundwater. Successfully delineated the vertical and lateral extents of the plumes which were identified as an upgradient, on-site. For this site, we have designed source removal to 20 feet (ft) below ground surface, zero valent Iron (ZVI) reactive barrier wall, in situ ZVI injections sitewide, and a vertical vapor mitigation system. The site is currently in the remedial implementation phase.

Waterfront Management of NY, 590-594 Myrtle Avenue, Brooklyn, New York. As lead field geologist, Sarah was responsible for the oversight of the excavation and remediation of the property under the NYCOER. During remediation, Sarah observed and documented the excavation and proper disposal of on-site soil required for the installation of foundation elements. In addition, she oversaw the proper cleaning and removal of three underground storage tanks (USTs) encountered during site-wide excavation. After excavation was complete, she inspected the installation of a sub-slab vapor barrier and conducted the community air monitoring program during the course of remedial action.

Madison Realty Capital, 644 East 14th Street, New York, New York. Sarah is the lead drafter of the Remedial Investigation Work Plan and the Remedial Investigation Report for the site, which is enrolled in the NYSDEC BCP. She coordinated field staff and subcontractors for the execution of the Remedial Investigation Work Plan which included installation of soil borings, groundwater monitoring wells, and soil vapor points, and sampling of each.

Madison Realty Capital, River North, Staten Island, New York. Sarah coordinates field staff and subcontractors for the execution of the remedial investigation at this approximately 2-acre site enrolled in the NYSDEC BCP. The remedial investigation involved the installation of approximately 50 soil borings, 20 soil vapor points, including soil borings extending to bedrock.

Oxford Property Group, Naval Yard Phase I Portfolio. Sarah conducted two of five Phase I ESAs for Oxford Property Group in the Philadelphia Naval Yard as part of due diligence for potential acquisition of the properties. Each property was approximately 8 acres in size and developed with active life sciences facilities. Sarah conducted site reconnaissance of the properties and reviewed historical site documentation to identify recognized environmental conditions (RECs) at each site.

Target, Multiple Locations, New York and New Jersey. Sarah conducted Phase I ESAs as part of due diligence for the potential acquisition of properties by Target in Jersey City, performed oversight of upgrades and construction at various Target stores in Brooklyn, Queens, Long Island, and Jersey City, including methane monitoring, air monitoring, collection of endpoint soil samples, and groundwater sampling. Sarah performed all oversight work in accordance with the site-specific Soil Materials Management Plan.

BCP Applications and Remedial Investigation Work Plans for NYSDEC. Sarah has completed writing several BCP Applications for various clients in New York State. In writing the applications, Sarah reviews previous subsurface investigations of the site, and historical information to help get underutilized and abandoned contaminated properties into the BCP to be remediated and redeveloped under NYSDEC. After completing the application, she prepares a Remedial Investigation Work Plan to strategically investigate site contamination so proper remedial action can take place.

Excavation Oversight and Community Air Monitoring Plan (CAMP) Monitoring, Various Sites, Bronx and Brooklyn, New York. Sarah served as field geologist for several projects under the NYCOER program and NYSBCP. Her responsibilities included performing excavation oversight, air monitoring, vapor barrier installation oversight, and logging trucks for off-site disposal.

Multiple Clients, Phase I ESAs and Due Diligence, Multiple Locations in New York, New Jersey, Pennsylvania, and Massachusetts. Sarah conducted Phase I ESAs, for buyers on a variety of properties, including commercial, industrial, and residential sites in New York, New Jersey, Pennsylvania, and Massachusetts. She has experience conducting site reconnaissance and reviewing historical site documentation to identify RECs at the sites.

Multiple Clients, Phase II, Multiple Locations, New York. As field geologist, Sarah conducted Phase II ESAs on a variety of different sites. She assisted with the development of sampling plans primarily based on previous environmental investigations and due diligence. Primary responsibilities for Phase II investigations included oversight of the installation of test borings and/or test pits, the installation of groundwater monitoring wells, and soil vapor points.

Geotechnical Engineering Experience

Smithsonian Institution Revitalization of the Historic Core, Washington, D.C. Sarah supported a team providing geotechnical engineering services for the renovation of several Smithsonian Institution buildings adjacent to the National Mall. Sarah was responsible for the oversight of geotechnical borings using hollow stem augur and mud rotary techniques as well as rock coring operations. Sarah classified soil samples using the Unified Soil Classification System, analyzed bedrock samples, and analyzed the geology of the Washington D.C. area.

Parcel B Development, Washington, D.C. Sarah was the lead field geologist for the geotechnical investigation for the development of the Parcel B Site adjacent to the D.C. United Stadium in Washington D.C. Sarah was responsible for the oversight of geotechnical borings using hollow stem auger and mud rotary techniques. She observed and coordinated pressure meter testing of several borings and observed the installation of several groundwater monitoring wells to investigate impacted groundwater on the property. Additionally, based on her soil classifications in the field, she drafted boring logs and analyzed subsurface conditions at the site.

KATHERINE R. MILLER

Project Manager

EDUCATION

B.S., Chemistry, University of Arizona

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120 and 40 CFR 265.16)

8-Hour OSHA Refresher Training (29 CFR 1910.120)

Level IV Data Validation Training

AWARDS

Pinnacle Award, 2009

Pathfinder Award, 2014

In her 10 years at Haley & Aldrich, Katherine has worked on soil and groundwater environmental investigations and the preparation of environmental reports for private, industrial, and government-based project clients. She is a qualified Data Validator capable of performing various levels of validation on laboratory water quality data according to U.S. Environmental Protection Agency (EPA) National Functional Guidelines and to U.S. Department of Energy radiochemical guidelines. She also has experience designing and maintaining databases for project-specific needs.

Project management responsibilities for a $1.5 million per year stormwater project include preparation of subcontractor bids and contracts; preparation of cost estimates, proposals, and reports; coordination of field testing programs; and interpretation of chemical testing results. She has interacted with local regulatory agencies.

RELEVANT PROJECT EXPERIENCE

Confidential Aerospace Manufacturer, Groundwater Monitoring, Western U.S. Katherine served as project manager for the comprehensive stormwater management program. Responsibilities included project finance management and data management including quality assurance/quality control (QA/QC) and interpretation of chemical testing results. Evaluated QA/QC of groundwater quality data, prepared reports and managed data for the site. Performed data validation of quarterly water quality data from over 300 locations according to EPA National Functional Guidelines and to DOE radiochemical guidelines over a six-year period. Also, responsible for updating and maintaining the integrity of over 200,000 records during that time period. Assisted with management of sampling, analysis, and reporting of constituents of concern, ensured compliance with post-closure permit monitoring and reporting requirements, Data Management Plan, QAPP, and Environmental Data Management System, and ensured and maintained 100% compliance with the QAPP and Data Management Plan. Additionally, prepared groundwater data summaries for proposed extraction wells including comparisons to site NPDES outfall limits in support of Groundwater Interim Measures planning.

Asarco Hayden Plant Site, Hayden, Arizona. Katherine assisted with field preparation, QA/QC of analytical data, and data validation as part of the Remedial Investigation/Feasibility Work Plan including soil, sediment, air, process water, surface water, and stormwater.

Former MGP Site, California. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation for the investigation of three large former MGP sites in an urban, residential setting; includes over 200 residential properties.

General Manufacturing, Leitchfield, Kentucky. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation for a soil and groundwater RCRA site. Groundwater monitoring is conducted annually at more than 50 locations for volatile organic compounds (VOCs), including 1,4-dioxane and semi-volatile organic compound (SVOCs).

Skyworks Solutions, Inc., Newbury Park, California. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation at groundwater remediation site. She monitored for VOCs, including 1,4-dioxane, and inorganic chemicals, including hexavalent chromium.

Teledyne Scientific Company, Thousand Oaks, California. Katherine assisted with report preparation for this groundwater assessment site. Monitored natural attenuation has been instituted as the long-term site remedy.

Port of Redwood City, Permitting and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Kiewit Infrastructure West, Sediment Quality Study, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Aeolian Yacht Harbor, Permitting, Eel Grass Conservation and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Marin County, Paradise Cay Permitting and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

APPENDIX C
NYSDEC Emerging Contaminant Field Sampling Guidance

NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS)

Under NYSDEC's Part 375 Remedial Programs

April 2023

www.dec.ny.gov

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April 2023

ERRATA SHEET for

SAMPLING, ANALYSIS, AND ASSESSMENT OF PER- AND POLYFLUOROALKYL SUBSTANCES (PFAS) Under NYSDEC's Part 375 Remedial Programs Issued January 17, 2020

Citation and Page Number	Current Text	Corrected Text	Date
Title of Appendix I, page 32	Appendix H	Appendix I	2/25/2020
Document Cover, page 1	Guidelines for Sampling and Analysis of PFAS	Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs	9/15/2020
Data Assessment and Application to Site Cleanup Page 3	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published	Until such time as Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published	3/28/2023
Water Sample Results Page 3	PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water if PFOA or PFOS is detected in any water sample at or above 10 ng/L (ppt) and is determined to be attributable to the site, either by a comparison of upgradient and downgradient levels, or the presence of soil source areas, as defined below.	NYSDEC has adopted ambient water quality guidance values for PFOA and PFOS. Groundwater samples should be compared to the human health criteria of 6.7 ng/l (ppt) for PFOA and 2.7 ng/l (ppt) for PFOS. These guidance values also include criteria for surface water for PFOS applicable for aquatic life, which may be applicable at some sites. Drinking water sample results should be compared to the NYS maximum contaminant level (MCL) of 10 ng/l (ppt).Analysis to determine if PFOA and PFOS concentrations are attributable to the site should include a comparison between upgradient and downgradient levels, and the presence of soil source areas, as defined below.	3/28/2023
Soil Sample Results Page 3	Soil cleanup objectives for PFOA and PFOS have been proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values:	NYSDEC will delay adding soil cleanup objectives for PFOA and PFOS to 6 NYCRR Part 375-6 until the PFAS rural soil background study has been completed. Until SCOs are in effect, the following are to be used as guidance values:	3/28/2023
Protection of Groundwater Page 3	PFOA (ppb) 1.1 PFOS (ppb) 3.7	PFOA (ppb) 0.8 PFOS (ppb) 1.0	3/28/2023

Citation and Page Number	Current Text	Corrected Text	Date
Footnote 2 Page 3	The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).	The Protection of Groundwater values are based on the above referenced ambient groundwater guidance values. Details on that calculation are available in the following document, prepared for the February 2022 proposed changes to Part 375 (https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375techsupport.pdf). The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).	3/28/2023
Testing for Imported Soil Page 4	If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable.	If the concentrations of PFOA and PFOS in leachate are at or above the ambient water quality guidance values for groundwater, then the soil is not acceptable.	3/28/2023
Routine Analysis, page 9	"However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1 or ISO 25101."	"However, laboratories analyzing environmental samples…PFOA and PFOS in drinking water by EPA Method 537, 537.1, ISO 25101, or Method 533."	9/15/2020
Additional Analysis, page 9, new paragraph regarding soil parameters	None	"In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (EPA Method 9060), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils."	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Data Assessment and Application to Site Cleanup Page 10	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFAS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Target levels for cleanup of PFAS in other media, including biota and sediment, have not yet been established by the DEC.	Until such time as Ambient Water Quality Standards (AWQS) and Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC.	9/15/2020
Water Sample Results Page 10	PFAS should be further assessed and considered as a potential contaminant of concern in groundwater or surface water (…) If PFAS are identified as a contaminant of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.	PFOA and PFOS should be further assessed and considered as potential contaminants of concern in groundwater or surface water (…) If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Soil Sample Results, page 10	"The extent of soil contamination for purposes of delineation and remedy selection should be determined by having certain soil samples tested by Synthetic Precipitation Leaching Procedure (SPLP) and the leachate analyzed for PFAS. Soil exhibiting SPLP results above 70 ppt for either PFOA or PFOS (individually or combined) are to be evaluated during the cleanup phase."	"Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6. Until SCOs are in effect, the following are to be used as guidance values. " [Interim SCO Table] "PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP. As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf. "	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Testing for Imported Soil Page 11	Soil imported to a site for use in a soil cap, soil cover, or as backfill is to be tested for PFAS in general conformance with DER-10, Section 5.4(e) for the PFAS Analyte List (Appendix F) using the analytical procedures discussed below and the criteria in DER-10 associated with SVOCs. If PFOA or PFOS is detected in any sample at or above 1 µg/kg, then soil should be tested by SPLP and the leachate analyzed for PFAS. If the SPLP results exceed 10 ppt for either PFOA or PFOS (individually) then the source of backfill should be rejected, unless a site-specific exemption is provided by DER. SPLP leachate criteria is based on the Maximum Contaminant Levels proposed for drinking water by New York State's Department of Health, this value may be updated based on future Federal or State promulgated regulatory standards. Remedial parties have the option of analyzing samples concurrently for both PFAS in soil and in the SPLP leachate to minimize project delays. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.	Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above 10 ppt (the Maximum Contaminant Levels established for drinking water by the New York State Department of Health), then the soil is not acceptable. PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.	9/15/2020

Citation and Page Number	Current Text	Corrected Text	Date
Footnotes	None	[1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances. [2] The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the soil cleanup objective for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).	9/15/2020
Additional Analysis, page 9	In cases… soil parameters, such as Total Organic Carbon (EPA Method 9060), soil…	In cases… soil parameters, such as Total Organic Carbon (Lloyd Kahn), soil…	1/8/2021
Appendix A, General Guidelines, fourth bullet	List the ELAP-approved lab(s) to be used for analysis of samples	List the ELAP- certified lab(s) to be used for analysis of samples	1/8/2021
Appendix E, Laboratory Analysis and Containers	Drinking water samples collected using this protocol are intended to be analyzed for PFAS by ISO Method 25101.	Drinking water samples collected using this protocol are intended to be analyzed for PFAS by EPA Method 537, 537.1, 533, or ISO Method 25101	1/8/2021
Water Sample Results Page 9	"In addition, further assessment of water may be warranted if either of the following screening levels are met: a. any other individual PFAS (not PFOA or PFOS) is detected in water at or above 100 ng/L; or b. total concentration of PFAS (including PFOA and PFOS) is detected in water at or above 500 ng/L"	Deleted	6/15/2021

Citation and Page Number	Current Text	Corrected Text	Date
Routine Analysis, Page XX	Currently, New York State Department of Health's Environmental Laboratory Approval Program (ELAP)… criteria set forth in the DER's laboratory guidelines for PFAS in non-potable water and solids (Appendix H - Laboratory Guidelines for Analysis of PFAS in Non-Potable Water and Solids).	Deleted	5/31/2022
Analysis and Reporting, Page XX	As of October 2020, the United States Environmental Protection Agency (EPA) does not have a validated method for analysis of PFAS for media commonly analyzed under DER remedial programs (non-potable waters, solids). DER has developed the following guidelines to ensure consistency in analysis and reporting of PFAS.	Deleted	5/31/2022
Routine Analysis, Page XX	LC-MS/MS analysis for PFAS using methodologies based on EPA Method 537.1 is the procedure to use for environmental samples. Isotope dilution techniques should be utilized for the analysis of PFAS in all media.	EPA Method 1633 is the procedure to use for environmental samples.	
Soil Sample Results, Page XX	Soil cleanup objectives for PFOA and PFOS will be proposed in an upcoming revision to 6 NYCRR Part 375-6	Soil cleanup objectives for PFOA and PFOS have been proposed in an upcoming revision to 6 NYCRR Part 375-6	
Appendix A	"Include in the text… LC-MS/MS for PFAS using methodologies based on EPA Method 537.1"	"Include in the text ….EPA Method 1633"	
Appendix A	"Laboratory should have ELAP certification for PFOA and PFOS in drinking water by EPA Method 537, 537.1, EPA Method 533, or ISO 25101"	Deleted	
Appendix B	"Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1"	"Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633"	

Citation and Page Number	Current Text	Corrected Text	Date
Appendix C	"Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1"	"Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633"	
Appendix D	"Samples collected using this protocol are intended to be analyzed for PFAS using methodologies based on EPA Method 537.1"	"Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633"	
Appendix G		Updated to include all forty PFAS analytes in EPA Method 533	
Appendix H		Deleted	
Appendix I	Appendix I	Appendix H	
Appendix H	"These guidelines are intended to be used for the validation of PFAS analytical results for projects within the Division of Environmental Remediation (DER) as well as aid in the preparation of a data usability summary report."	"These guidelines are intended to be used for the validation of PFAS using EPA Method 1633 for projects within the Division of Environmental Remediation (DER)."	
Appendix H	"The holding time is 14 days…"	"The holding time is 28 days…"	
Appendix H, Initial Calibration	"The initial calibration should contain a minimum of five standards for linear fit…"	"The initial calibration should contain a minimum of six standards for linear fit…"	
Appendix H, Initial Calibration	Linear fit calibration curves should have an R^2 value greater than 0.990.	Deleted	
Appendix H, Initial Calibration Verification	Initial Calibration Verification Section	Deleted	
Appendix H	secondary Ion Monitoring Section	Deleted	
Appendix H	Branched and Linear Isomers Section	Deleted	

Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under NYSDEC's Part 375 Remedial Programs

Objective

New York State Department of Environmental Conservation's Division of Environmental Remediation (DER) performs or oversees sampling of environmental media and subsequent analysis of PFAS as part of remedial programs implemented under 6 NYCRR Part 375. To ensure consistency in sampling, analysis, reporting, and assessment of PFAS, DER has developed this document which summarizes currently accepted procedures and updates previous DER technical guidance pertaining to PFAS.

Applicability

All work plans submitted to DEC pursuant to one of the remedial programs under Part 375 shall include PFAS sampling and analysis procedures that conform to the guidelines provided herein.

As part of a site investigation or remedial action compliance program, whenever samples of potentially affected media are collected and analyzed for the standard Target Analyte List/Target Compound List (TAL/TCL), PFAS analysis should also be performed. Potentially affected media can include soil, groundwater, surface water, and sediment. Based upon the potential for biota to be affected, biota sampling and analysis for PFAS may also be warranted as determined pursuant to a Fish and Wildlife Impact Analysis. Soil vapor sampling for PFAS is not required.

Field Sampling Procedures

DER-10 specifies technical guidance applicable to DER's remedial programs. Given the prevalence and use of PFAS, DER has developed "best management practices" specific to sampling for PFAS. As specified in DER-10 Chapter 2, quality assurance procedures are to be submitted with investigation work plans. Typically, these procedures are incorporated into a work plan, or submitted as a stand-alone document (e.g., a Quality Assurance Project Plan). Quality assurance guidelines for PFAS are listed in Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS.

Field sampling for PFAS performed under DER remedial programs should follow the appropriate procedures outlined for soils, sediments, or other solids (Appendix B), non-potable groundwater (Appendix C), surface water (Appendix D), public or private water supply wells (Appendix E), and fish tissue (Appendix F).

QA/QC samples (e.g. duplicates, MS/MSD) should be collected as specified in DER-10, Section 2.3(c). For sampling equipment coming in contact with aqueous samples only, rinsate or equipment blanks should be collected. Equipment blanks should be collected at a minimum frequency of one per day per site or one per twenty samples, whichever is more frequent.

Analysis and Reporting

The investigation work plan should describe analysis and reporting procedures, including laboratory analytical procedures for the methods discussed below. As specified in DER-10 Section 2.2, laboratories should provide a full Category B deliverable. In addition, a Data Usability Summary Report (DUSR) should be prepared by an independent, third-party data validator. Electronic data submissions should meet the requirements provided at: https://www.dec.ny.gov/chemical/62440.html.

DER has developed a *PFAS Analyte List* (Appendix G) for remedial programs to understand the nature of contamination at sites. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. If lab and/or matrix specific issues are encountered for any analytes, the DER project manager, in consultation with the DER chemist, will make case-by-case decisions as to whether certain analytes may be temporarily or permanently discontinued from analysis at each site. As with other contaminants that are analyzed for at a site, the *PFAS Analyte List* may be refined for future sampling events based on investigative findings.

Routine Analysis

EPA Method 1633 is the procedure to use for environmental samples. Reporting limits for PFOA and PFOS in aqueous samples should not exceed 2 ng/L. Reporting limits for PFOA and PFOS in solid samples should not exceed 0.5 µg/kg. Reporting limits for all other PFAS in aqueous and solid media should be as close to these limits as possible. If laboratories indicate that they are not able to achieve these reporting limits for the entire *PFAS Analyte List*, site-specific decisions regarding acceptance of elevated reporting limits for specific PFAS can be made by the DER project manager in consultation with the DER chemist. Data review guidelines were developed by DER to ensure data comparability and usability (Appendix H - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids).

Additional Analysis

Additional laboratory methods for analysis of PFAS may be warranted at a site, such as the Synthetic Precipitation Leaching Procedure (SPLP) and Total Oxidizable Precursor Assay (TOP Assay).

In cases where site-specific cleanup objectives for PFOA and PFOS are to be assessed, soil parameters, such as Total Organic Carbon (Lloyd Kahn), soil pH (EPA Method 9045), clay content (percent), and cation exchange capacity (EPA Method 9081), should be included in the analysis to help evaluate factors affecting the leachability of PFAS in site soils.

SPLP is a technique used to determine the mobility of chemicals in liquids, soils and wastes, and may be useful in determining the need for addressing PFAS-containing material as part of the remedy. SPLP by EPA Method 1312 should be used unless otherwise specified by the DER project manager in consultation with the DER chemist.

Impacted materials can be made up of PFAS that are not analyzable by routine analytical methodology. A TOP Assay can be utilized to conceptualize the amount and type of oxidizable PFAS which could be liberated in the environment, which approximates the maximum concentration of perfluoroalkyl substances that could be generated if all polyfluoroalkyl substances were oxidized. For example, some polyfluoroalkyl substances may degrade or transform to form perfluoroalkyl substances (such as PFOA or PFOS), resulting in an increase in perfluoroalkyl substance concentrations as contaminated groundwater moves away from a source. The TOP Assay converts, through oxidation, polyfluoroalkyl substances (precursors) into perfluoroalkyl substances that can be detected by routine analytical methodology.[1]

[1] TOP Assay analysis of highly contaminated samples, such as those from an AFFF (aqueous film-forming foam) site, can result in incomplete oxidation of the samples and an underestimation of the total perfluoroalkyl substances.

Commercial laboratories have adopted methods which allow for the quantification of targeted PFAS in air and biota. The EPA's Office of Research and Development (ORD) is currently developing methods which allow for air emissions characterization of PFAS, including both targeted and non-targeted analysis of PFAS. Consult with the DER project manager and the DER chemist for assistance on analyzing biota/tissue and air samples.

Data Assessment and Application to Site Cleanup

Until such time as Soil Cleanup Objectives (SCOs) for PFOA and PFOS are published, the extent of contaminated media potentially subject to remediation should be determined on a case-by-case basis using the procedures discussed below and the criteria in DER-10. Preliminary target levels for cleanup of PFOA and PFOS in other media, including biota and sediment, have not yet been established by the DEC.

Water Sample Results

NYSDEC has adopted ambient water quality guidance values for PFOA and PFOS. Groundwater samples should be compared to the human health criteria of 6.7 ng/l (ppt) for PFOA and 2.7 ng/l (ppt) for PFOS. These human health criteria should also be applied to surface water that is used as a water supply. This guidance also includes criteria for surface water for PFOS applicable for aquatic life, which may be applicable at some sites. Drinking water sample results should be compared to the NYS maximum contaminant level (MCL) of 10 ng/l (ppt). Analysis to determine if PFOA and PFOS concentrations are attributable to the site should include a comparison between upgradient and downgradient levels, and the presence of soil source areas, as defined below.

If PFOA and/or PFOS are identified as contaminants of concern for a site, they should be assessed as part of the remedy selection process in accordance with Part 375 and DER-10.

Soil Sample Results

NYSDEC will delay adding soil cleanup objectives for PFOA and PFOS to 6 NYCRR Part 375-6 until the PFAS rural soil background study has been completed. Until SCOs are in effect, the following are to be used as guidance values:

Guidance Values for Anticipated Site Use	PFOA (ppb)	PFOS (ppb)
Unrestricted	0.66	0.88
Residential	6.6	8.8
Restricted Residential	33	44
Commercial	500	440
Industrial	600	440
Protection of Groundwater[2]	0.8	1.0

PFOA and PFOS results for soil are to be compared against the guidance values listed above. These guidance values are to be used in determining whether PFOA and PFOS are contaminants of concern for the site and for determining remedial action objectives and cleanup requirements. Site-specific remedial objectives for protection of groundwater can also be presented for evaluation by DEC. Development of site-specific remedial objectives for protection of groundwater will require analysis of additional soil parameters relating to leachability. These

[2] The Protection of Groundwater values are based on the above referenced ambient groundwater guidance values. Details on that calculation are available in the following document, prepared for the February 2022 proposed changes to Part 375 (https://www.dec.ny.gov/docs/remediation_hudson_pdf/part375techsupport.pdf). The movement of PFAS in the environment is being aggressively researched at this time; that research will eventually result in more accurate models for the behaviors of these chemicals. In the meantime, DEC has calculated the guidance value for the protection of groundwater using the same procedure used for all other chemicals, as described in Section 7.7 of the Technical Support Document (http://www.dec.ny.gov/docs/remediation_hudson_pdf/techsuppdoc.pdf).

additional analyses can include any or all the parameters listed above (soil pH, cation exchange capacity, etc.) and/or use of SPLP.

As the understanding of PFAS transport improves, DEC welcomes proposals for site-specific remedial objectives for protection of groundwater. DEC will expect that those may be dependent on additional factors including soil pH, aqueous pH, % organic carbon, % Sand/Silt/Clay, soil cations: K, Ca, Mg, Na, Fe, Al, cation exchange capacity, and anion exchange capacity. Site-specific remedial objectives should also consider the dilution attenuation factor (DAF). The NJDEP publication on DAF can be used as a reference: https://www.nj.gov/dep/srp/guidance/rs/daf.pdf.

Testing for Imported Soil

Testing for PFAS should be included any time a full TAL/TCL analyte list is required. Results for PFOA and PFOS should be compared to the applicable guidance values. If PFOA or PFOS is detected in any sample at or above the guidance values then the source of backfill should be rejected, unless a site-specific exemption is provided by DER based on SPLP testing, for example. If the concentrations of PFOA and PFOS in leachate are at or above the ambient water quality guidance values for groundwater, then the soil is not acceptable.

PFOA, PFOS and 1,4-dioxane are all considered semi-volatile compounds, so composite samples are appropriate for these compounds when sampling in accordance with DER-10, Table 5.4(e)10. Category B deliverables should be submitted for backfill samples, though a DUSR is not required.

Appendix A - Quality Assurance Project Plan (QAPP) Guidelines for PFAS

The following guidelines (general and PFAS-specific) can be used to assist with the development of a QAPP for projects within DER involving sampling and analysis of PFAS.

General Guidelines in Accordance with DER-10

- Document/work plan section title – Quality Assurance Project Plan
- Summarize project scope, goals, and objectives
- Provide project organization including names and resumes of the project manager, Quality Assurance Officer (QAO), field staff, and Data Validator
    - The QAO should not have another position on the project, such as project or task manager, that involves project productivity or profitability as a job performance criterion
- List the ELAP certified lab(s) to be used for analysis of samples
- Include a site map showing sample locations
- Provide detailed sampling procedures for each matrix
- Include Data Quality Usability Objectives
- List equipment decontamination procedures
- Include an "Analytical Methods/Quality Assurance Summary Table" specifying:
    - Matrix type
    - Number or frequency of samples to be collected per matrix
    - Number of field and trip blanks per matrix
    - Analytical parameters to be measured per matrix
    - Analytical methods to be used per matrix with minimum reporting limits
    - Number and type of matrix spike and matrix spike duplicate samples to be collected
    - Number and type of duplicate samples to be collected
    - Sample preservation to be used per analytical method and sample matrix
    - Sample container volume and type to be used per analytical method and sample matrix
    - Sample holding time to be used per analytical method and sample matrix
- Specify Category B laboratory data deliverables and preparation of a DUSR

Specific Guidelines for PFAS

- Include in the text that sampling for PFAS will take place
- Include in the text that PFAS will be analyzed by EPA Method 1633
- Include the list of PFAS compounds to be analyzed (*PFAS Analyte List*)
- Include the laboratory SOP for PFAS analysis
- List the minimum method-achievable Reporting Limits for PFAS
    - Reporting Limits should be less than or equal to:
        - Aqueous – 2 ng/L (ppt)
        - Solids – 0.5 µg/kg (ppb)
- Include the laboratory Method Detection Limits for the PFAS compounds to be analyzed
-
- Include detailed sampling procedures
    - Precautions to be taken
    - Pump and equipment types
    - Decontamination procedures
    - Approved materials only to be used
- Specify that regular ice only will be used for sample shipment
- Specify that equipment blanks should be collected at a minimum frequency of 1 per day per site for each matrix

Appendix B - Sampling Protocols for PFAS in Soils, Sediments and Solids

General

The objective of this protocol is to give general guidelines for the collection of soil, sediment and other solid samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Containers

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in to contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel spoon
- stainless steel bowl
- steel hand auger or shovel without any coatings

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Sampling is often conducted in areas where a vegetative turf has been established. In these cases, a pre-cleaned trowel or shovel should be used to carefully remove the turf so that it may be replaced at the conclusion of sampling. Surface soil samples (e.g. 0 to 6 inches below surface) should then be collected using a pre-cleaned, stainless steel spoon. Shallow subsurface soil samples (e.g. 6 to ~36 inches below surface) may be collected by digging a hole using a pre-cleaned hand auger or shovel. When the desired subsurface depth is reached, a pre-cleaned hand auger or spoon shall be used to obtain the sample.

When the sample is obtained, it should be deposited into a stainless steel bowl for mixing prior to filling the sample containers. The soil should be placed directly into the bowl and mixed thoroughly by rolling the material into the middle until the material is homogenized. At this point the material within the bowl can be placed into the laboratory provided container.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A soil log or sample log shall document the location of the sample/borehole, depth of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix C - Sampling Protocols for PFAS in Monitoring Wells

General

The objective of this protocol is to give general guidelines for the collection of groundwater samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including plumbers tape and sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel inertia pump with HDPE tubing
- peristaltic pump equipped with HDPE tubing and silicone tubing
- stainless steel bailer with stainless steel ball
- bladder pump (identified as PFAS-free) with HDPE tubing

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Monitoring wells should be purged in accordance with the sampling procedure (standard/volume purge or low flow purge) identified in the site work plan, which will determine the appropriate time to collect the sample. If sampling using standard purge techniques, additional purging may be needed to reduce turbidity levels, so samples contain a limited amount of sediment within the sample containers. Sample containers that contain sediment may cause issues at the laboratory, which may result in elevated reporting limits and other issues during the sample preparation that can compromise data usability. Sampling personnel should don new nitrile gloves prior to sample collection due to the potential to contact PFAS containing items (not related to the sampling equipment) during the purging activities.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Additional equipment blank samples may be collected to assess other equipment that is utilized at the monitoring well
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A purge log shall document the location of the sample, sampling equipment, groundwater parameters, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix D - Sampling Protocols for PFAS in Surface Water

General

The objective of this protocol is to give general guidelines for the collection of surface water samples for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Samples collected using this protocol are intended to be analyzed for PFAS using EPA Method 1633.

The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include: stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer.

A list of acceptable equipment is provided below, but other equipment may be considered appropriate based on sampling conditions.

- stainless steel cup

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Where conditions permit, (e.g. creek or pond) sampling devices (e.g. stainless steel cup) should be rinsed with site medium to be sampled prior to collection of the sample. At this point the sample can be collected and poured into the sample container.

If site conditions permit, samples can be collected directly into the laboratory container.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- Collect one equipment blank per day per site and minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers
- Request appropriate data deliverable (Category B) and an electronic data deliverable

Documentation

A sample log shall document the location of the sample, sampling equipment, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate. Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appropriate rain gear (PVC, polyurethane, or rubber rain gear are acceptable), bug spray, and sunscreen should be used that does not contain PFAS. Well washed cotton coveralls may be used as an alternative to bug spray and/or sunscreen.

PPE that contains PFAS is acceptable when site conditions warrant additional protection for the samplers and no other materials can be used to be protective. Documentation of such use should be provided in the field notes.

Appendix E - Sampling Protocols for PFAS in Private Water Supply Wells

General

The objective of this protocol is to give general guidelines for the collection of water samples from private water supply wells (with a functioning pump) for PFAS analysis. The sampling procedure used should be consistent with Sampling Guidelines and Protocols – Technological Background and Quality Control/Quality Assurance for NYS DEC Spill Response Program – March 1991 (http://www.dec.ny.gov/docs/remediation_hudson_pdf/sgpsect5.pdf), with the following limitations.

Laboratory Analysis and Container

Drinking water samples collected using this protocol are intended to be analyzed for PFAS by EPA Method 537, 537.1, 533, or ISO Method 25101. The preferred material for containers is high density polyethylene (HDPE). Pre-cleaned sample containers, coolers, sample labels, and a chain of custody form will be provided by the laboratory.

Equipment

Acceptable materials for sampling include stainless steel, HDPE, PVC, silicone, acetate, and polypropylene. Additional materials may be acceptable if pre-approved by New York State Department of Environmental Conservation's Division of Environmental Remediation.

No sampling equipment components or sample containers should come in contact with aluminum foil, low density polyethylene, glass, or polytetrafluoroethylene (PTFE, Teflon™) materials (e.g. plumbers tape), including sample bottle cap liners with a PTFE layer.

Equipment Decontamination

Standard two step decontamination using detergent (Alconox is acceptable) and clean, PFAS-free water will be performed for sampling equipment. All sources of water used for equipment decontamination should be verified in advance to be PFAS-free through laboratory analysis or certification.

Sampling Techniques

Locate and assess the pressure tank and determine if any filter units are present within the building. Establish the sample location as close to the well pump as possible, which is typically the spigot at the pressure tank. Ensure sampling equipment is kept clean during sampling as access to the pressure tank spigot, which is likely located close to the ground, may be obstructed and may hinder sample collection.

Prior to sampling, a faucet downstream of the pressure tank (e.g., washroom sink) should be run until the well pump comes on and a decrease in water temperature is noted which indicates that the water is coming from the well. If the homeowner is amenable, staff should run the water longer to purge the well (15+ minutes) to provide a sample representative of the water in the formation rather than standing water in the well and piping system including the pressure tank. At this point a new pair of nitrile gloves should be donned and the sample can be collected from the sample point at the pressure tank.

Sample Identification and Logging

A label shall be attached to each sample container with a unique identification. Each sample shall be included on the chain of custody (COC).

Quality Assurance/Quality Control

- Immediately place samples in a cooler maintained at 4 ± 2º Celsius using ice
- Collect one field duplicate for every sample batch, minimum 1 duplicate per 20 samples. The duplicate shall consist of an additional sample at a given location
- Collect one matrix spike / matrix spike duplicate (MS/MSD) for every sample batch, minimum 1 MS/MSD per 20 samples. The MS/MSD shall consist of an additional two samples at a given location and identified on the COC
- If equipment was used, collect one equipment blank per day per site and a minimum 1 equipment blank per 20 samples. The equipment blank shall test the new and decontaminated sampling equipment utilized to obtain a sample for residual PFAS contamination. This sample is obtained by using laboratory provided PFAS-free water and passing the water over or through the sampling device and into laboratory provided sample containers.
- A field reagent blank (FRB) should be collected at a rate of one per 20 samples. The lab will provide a FRB bottle containing PFAS free water and one empty FRB bottle. In the field, pour the water from the one bottle into the empty FRB bottle and label appropriately.
- Request appropriate data deliverable (Category B) and an electronic data deliverable
- For sampling events where multiple private wells (homes or sites) are to be sampled per day, it is acceptable to collect QC samples at a rate of one per 20 across multiple sites or days.

Documentation

A sample log shall document the location of the private well, sample point location, owner contact information, sampling equipment, purge duration, duplicate sample, visual description of the material, and any other observations or notes determined to be appropriate and available (e.g. well construction, pump type and location, yield, installation date). Additionally, care should be performed to limit contact with PFAS containing materials (e.g. waterproof field books, food packaging) during the sampling process.

Personal Protection Equipment (PPE)

For most sampling Level D PPE is anticipated to be appropriate. The sampler should wear nitrile gloves while conducting field work and handling sample containers.

Field staff shall consider the clothing to be worn during sampling activities. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFAS materials should be avoided. All clothing worn by sampling personnel should have been laundered multiple times.

Appendix F - Sampling Protocols for PFAS in Fish

This appendix contains a copy of the current SOP developed by the Division of Fish and Wildlife (DFW) entitled "General Fish Handling Procedures for Contaminant Analysis" (Ver. 8). This SOP should be followed when collecting fish for contaminant analysis. Note, however, that the Bureau of Ecosystem Health will not be supplying bags or tags. All supplies are the responsibility of the collector

Procedure Name: General Fish Handling Procedures for Contaminant Analysis

Number: FW-005

Purpose: This procedure describes data collection, fish processing and delivery of fish collected for contaminant monitoring. It contains the chain of custody and collection record forms that should be used for the collections.

Organization: Environmental Monitoring Section
Bureau of Ecosystem Health
Division of Fish and Wildlife (DFW)
New York State Department of Environmental Conservation (NYSDEC)
625 Broadway
Albany, New York 12233-4756

Version: 8

Previous Version Date: 21 March 2018

Summary of Changes to this Version: Updated bureau name to Bureau of Ecosystem Health. Added direction to list the names of all field crew on the collection record. Minor formatting changes on chain of custody and collection records.

Originator or Revised by: Wayne Richter, Jesse Becker

Date: 26 April 2019

Quality Assurance Officer and Approval Date: Jesse Becker, 26 April 2019

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GENERAL FISH HANDLING PROCEDURES FOR CONTAMINANT ANALYSES

A. Original copies of all continuity of evidence (i.e., Chain of Custody) and collection record forms must accompany delivery of fish to the lab. A copy shall be directed to the Project Leader or as appropriate, Wayne Richter. All necessary forms will be supplied by the Bureau of Ecosystem Health. Because some samples may be used in legal cases, it is critical that each section is filled out completely. Each Chain of Custody form has three main sections:

1. The top box is to be filled out **and signed** by the person responsible for the fish collection (e.g., crew leader, field biologist, researcher). This person is responsible for delivery of the samples to DEC facilities or personnel (e.g., regional office or biologist).

2. The second section is to be filled out **and signed** by the person responsible for the collections while being stored at DEC, before delivery to the analytical lab. This may be the same person as in (1), but it is still required that they complete the section. Also important is the **range of identification numbers** (i.e., tag numbers) included in the sample batch.

3. Finally, the bottom box is to record any transfers between DEC personnel and facilities. Each subsequent transfer should be **identified, signed, and dated**, until laboratory personnel take possession of the fish.

B. The following data are required on each **Fish Collection Record** form:

1. Project and Site Name.

2. DEC Region.

3. All personnel (and affiliation) involved in the collection.

4. Method of collection (gill net, hook and line, etc.)

5. Preservation Method.

C. The following data are to be taken on each fish collected and recorded on the **Fish Collection Record** form:

1. Tag number - Each specimen is to be individually jaw tagged at time of collection with a unique number. Make sure the tag is turned out so that the number can be read without opening the bag. Use tags in sequential order. For small fish or composite samples place the tag inside the bag with the samples. The Bureau of Ecosystem Health can supply the tags.

2. Species identification (please be explicit enough to enable assigning genus and species). Group fish by species when processing.

3. Date collected.

4. Sample location (waterway and nearest prominent identifiable landmark).

5. Total length (nearest mm or smallest sub-unit on measuring instrument) and weight (nearest g or

smallest sub-unit of weight on weighing instrument). Take all measures as soon as possible with calibrated, protected instruments (e.g. from wind and upsets) and prior to freezing.

6. Sex - fish may be cut enough to allow sexing or other internal investigation, but do not eviscerate. Make any incision on the right side of the belly flap or exactly down the midline so that a left-side fillet can be removed.

D. General data collection recommendations:

1. It is helpful to use an ID or tag number that will be unique. It is best to use metal striped bass or other uniquely numbered metal tags. If uniquely numbered tags are unavailable, values based on the region, water body and year are likely to be unique: for example, R7CAY11001 for Region 7, Cayuga Lake, 2011, fish 1. If the fish are just numbered 1 through 20, we have to give them new numbers for our database, making it more difficult to trace your fish to their analytical results and creating an additional possibility for errors.

2. Process and record fish of the same species sequentially. Recording mistakes are less likely when all fish from a species are processed together. Starting with the bigger fish species helps avoid missing an individual.

3. If using Bureau of Ecosystem Health supplied tags or other numbered tags, use tags in sequence so that fish are recorded with sequential Tag Numbers. This makes data entry and login at the lab and use of the data in the future easier and reduces keypunch errors.

4. Record length and weight as soon as possible after collection and before freezing. Other data are recorded in the field upon collection. An age determination of each fish is optional, but if done, it is recorded in the appropriate “Age” column.

5. For composite samples of small fish, record the number of fish in the composite in the Remarks column. Record the length and weight of each individual in a composite. All fish in a composite sample should be of the same species and members of a composite should be visually matched for size.

6. Please submit photocopies of topographic maps or good quality navigation charts indicating sampling locations. GPS coordinates can be entered in the Location column of the collection record form in addition to or instead for providing a map. These records are of immense help to us (and hopefully you) in providing documented location records which are not dependent on memory and/or the same collection crew. In addition, they may be helpful for contaminant source trackdown and remediation/control efforts of the Department.

7. When recording data on fish measurements, it will help to ensure correct data recording for the data recorder to call back the numbers to the person making the measurements.

E. Each fish is to be placed in its own individual plastic bag. For small fish to be analyzed as a composite, put all of the fish for one composite in the same bag but use a separate bag for each composite. It is important to individually bag the fish to avoid difficulties or cross contamination when processing the fish for chemical analysis. Be sure to include the fish’s tag number inside the bag, preferably attached to the fish with the tag number turned out so it can be read. Tie or otherwise secure the bag closed. **<u>The Bureau of Ecosystem Health will supply the bags.</u>** If necessary, food grade bags may be procured from a suitable vendor (e.g., grocery store). It is preferable to redundantly label each bag with a manila tag tied between the knot and the body of the bag. This tag should be labeled with the project name, collection location, tag number, collection date, and fish species. If scales are collected, the scale envelope should be labeled with the same information.

F. Groups of fish, by species, are to be placed in one large plastic bag per sampling location. **<u>The Bureau of Ecosystem Health will supply the larger bags</u>.** Tie or otherwise secure the bag closed. Label the site bag with a manila tag tied between the knot and the body of the bag. The tag should contain: project, collection location, collection date, species and **tag number ranges**. Having this information on the manila tag enables lab staff to know what is in the bag without opening it.

G. Do not eviscerate, fillet or otherwise dissect the fish unless specifically asked to. If evisceration or dissection is specified, the fish must be cut along the exact midline or on the right side so that the left side fillet can be removed intact at the laboratory. If filleting is specified, the procedure for taking a standard fillet (SOP PREPLAB 4) must be followed, including removing scales.

H. Special procedures for PFAS: Unlike legacy contaminants such as PCBs, which are rarely found in day to day life, PFAS are widely used and frequently encountered. Practices that avoid sample contamination are therefore necessary. While no standard practices have been established for fish, procedures for water quality sampling can provide guidance. The following practices should be used for collections when fish are to be analyzed for PFAS:

No materials containing Teflon.
No Post-it notes.
No ice packs; only water ice or dry ice.
Any gloves worn must be powder free nitrile.
No Gore-Tex or similar materials (Gore-Tex is a PFC with PFOA used in its manufacture).
No stain repellent or waterproof treated clothing; these are likely to contain PFCs.
Avoid plastic materials, other than HDPE, including clipboards and waterproof notebooks.
Wash hands after handling any food containers or packages as these may contain PFCs. Keep pre-wrapped food containers and wrappers isolated from fish handling.
Wear clothing washed at least six times since purchase.
Wear clothing washed without fabric softener.
Staff should avoid cosmetics, moisturizers, hand creams and similar products on the day of sampling as many of these products contain PFCs (Fujii et al. 2013). Sunscreen or insect repellent should not contain ingredients with “fluor” in their name. Apply any sunscreen or insect repellent well downwind from all materials. Hands must be washed after touching any of these products.

I. All fish must be kept at a temperature <45° F (<8° C) immediately following data processing. As soon as possible, freeze at -20° C ± 5° C. Due to occasional freezer failures, daily freezer temperature logs are required. The freezer should be locked or otherwise secured to maintain chain of custody.

J. In most cases, samples should be delivered to the Analytical Services Unit at the Hale Creek field station. Coordinate delivery with field station staff and send copies of the collection records, continuity of evidence forms and freezer temperature logs to the field station. For samples to be analyzed elsewhere, non-routine collections or other questions, contact Wayne Richter, Bureau of Ecosystem Health, NYSDEC, 625 Broadway, Albany, New York 12233-4756, 518-402-8974, or the project leader about sample transfer. Samples will then be directed to the analytical facility and personnel noted on specific project descriptions.

K. A recommended equipment list is at the end of this document.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF FISH AND WILDLIFE
FISH COLLECTION RECORD

Project and Site Name ____ DEC Region ____________

Collections made by (include all crew) ____

Sampling Method: ☐Electrofishing ☐Gill netting ☐Trap netting ☐Trawling ☐Seining ☐Angling ☐Other ____________________

Preservation Method: ☐Freezing ☐Other ____________________ Notes (SWFDB survey number): ____________________

FOR LAB USE ONLY- LAB ENTRY NO.	COLLECTION OR TAG NO.	SPECIES	DATE TAKEN	LOCATION	AGE	SEX &/OR REPROD. CONDIT	LENGTH ( )	WEIGHT ( )	REMARKS

richter: revised 2011, 5/7/15, 10/4/16, 3/20/17; becker: 3/23/17, 4/26/19

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CHAIN OF CUSTODY

I, ______________________________, of ____ collected the
(Print Name) (Print Business Address)

following on ____________________, 20____ from ____
(Date) (Water Body)

in the vicinity of ____
(Landmark, Village, Road, etc.)

Town of _______________________________________, in _________________________________ County.

Item(s) ____

____

Said sample(s) were in my possession and handled according to standard procedures provided to me prior to collection. The sample(s) were placed in the custody of a representative of the New York State Department of Environmental Conservation on ___________________________________, 20______.

____ ___________________________
Signature Date

I, __________________________________, received the above mentioned sample(s) on the date specified and assigned identification number(s) ____ to the sample(s). I have recorded pertinent data for the sample(s) on the attached collection records. The sample(s) remained in my custody until subsequently transferred, prepared or shipped at times and on dates as attested to below.

______________________________________ ___________________
Signature Date

SECOND RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
THIRD RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
FOURTH RECIPIENT (Print Name)	TIME & DATE	PURPOSE OF TRANSFER
SIGNATURE	UNIT	
RECEIVED IN LABORATORY BY (Print Name)	TIME & DATE	REMARKS
SIGNATURE	UNIT	
LOGGED IN BY (Print Name)	TIME & DATE	ACCESSION NUMBERS
SIGNATURE	UNIT	

richter: revised 21 April 2014; becker: 23 March 2017, 26 April, 2019

NOTICE OF WARRANTY

By signature to the chain of custody (reverse), the signatory warrants that the information provided is truthful and accurate to the best of his/her ability. The signatory affirms that he/she is willing to testify to those facts provided and the circumstances surrounding the same. Nothing in this warranty or chain of custody negates responsibility nor liability of the signatories for the truthfulness and accuracy of the statements provided.

HANDLING INSTRUCTIONS

On day of collection, collector(s) name(s), address(es), date, geographic location of capture (attach a copy of topographic map or navigation chart), species, number kept of each species, and description of capture vicinity (proper noun, if possible) along with name of Town and County must be indicated on reverse.

Retain organisms in manila tagged plastic bags to avoid mixing capture locations. Note appropriate information on each bag tag.

Keep samples as cool as possible. Put on ice if fish cannot be frozen within 12 hours. If fish are held more than 24 hours without freezing, they will not be retained or analyzed.

Initial recipient (either DEC or designated agent) of samples from collector(s) is responsible for obtaining and recording information on the collection record forms which will accompany the chain of custody. This person will seal the container using packing tape and writing his signature, the time and the date across the tape onto the container with indelible marker. Any time a seal is broken, for whatever purpose, the incident must be recorded on the Chain of Custody (reason, time, and date) in the purpose of transfer block. Container then is resealed using new tape and rewriting signature, with time and date.

EQUIPMENT LIST

Scale or balance of appropriate capacity for the fish to be collected.

Fish measuring board.

Plastic bags of an appropriate size for the fish to be collected and for site bags.

Individually numbered metal tags for fish.

Manila tags to label bags.

Small envelops, approximately 2” x 3.5”, if fish scales are to be collected.

Knife for removing scales.

Chain of custody and fish collection forms.

Clipboard.

Pens or markers.

Paper towels.

Dish soap and brush.

Bucket.

Cooler.

Ice.

Duct tape.

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

Appendix G – PFAS Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonic acids	Perfluorobutanesulfonic acid	PFBS	375-73-5
	Perfluoropentanesulfonic acid	PFPeS	2706-91-4
	Perfluorohexanesulfonic acid	PFHxS	355-46-4
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanesulfonic acid	PFOS	1763-23-1
	Perfluorononanesulfonic acid	PFNS	68259-12-1
	Perfluorodecanesulfonic acid	PFDS	335-77-3
	Perfluorododecanesulfonic acid	PFDoS	79780-39-5
Perfluoroalkyl carboxylic acids	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	PFHpA	375-85-9
	Perfluorooctanoic acid	PFOA	335-67-1
	Perfluorononanoic acid	PFNA	375-95-1
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUnA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTeDA	376-06-7
Per- and Polyfluoroether carboxylic acids	Hexafluoropropylene oxide dimer acid	HFPO-DA	13252-13-6
	4,8-Dioxa-3H-perfluorononanoic acid	ADONA	919005-14-4
	Perfluoro-3-methoxypropanoic acid	PFMPA	377-73-1
	Perfluoro-4-methoxybutanoic acid	PFMBA	863090-89-5
	Nonafluoro-3,6-dioxaheptanoic acid	NFDHA	151772-58-6
Fluorotelomer sulfonic acids	4:2 Fluorotelomer sulfonic acid	4:2-FTS	757124-72-4
	6:2 Fluorotelomer sulfonic acid	6:2-FTS	27619-97-2
	8:2 Fluorotelomer sulfonic acid	8:2-FTS	39108-34-4
Fluorotelomer carboxylic acids	3:3 Fluorotelomer carboxylic acid	3:3 FTCA	356-02-5
	5:3 Fluorotelomer carboxylic acid	5:3 FTCA	914637-49-3
	7:3 Fluorotelomer carboxylic acid	7:3 FTCA	812-70-4
Perfluorooctane sulfonamides	Perfluorooctane sulfonamide	PFOSA	754-91-6
	N-methylperfluorooctane sulfonamide	NMeFOSA	31506-32-8
	N-ethylperfluorooctane sulfonamide	NEtFOSA	4151-50-2
Perfluorooctane sulfonamidoacetic acids	N-methylperfluorooctane sulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethylperfluorooctane sulfonamidoacetic acid	N-EtFOSAA	2991-50-6
Perfluorooctane sulfonamide ethanols	N-methylperfluorooctane sulfonamidoethanol	MeFOSE	24448-09-7
	N-ethylperfluorooctane sulfonamidoethanol	EtFOSE	1691-99-2

Group	Chemical Name	Abbreviation	CAS Number
Ether sulfonic acids	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (F-53B Major)	9Cl-PF3ONS	756426-58-1
	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (F-53B Minor)	11Cl-PF3OUdS	763051-92-9
	Perfluoro(2-ethoxyethane) sulfonic acid	PFEESA	113507-82-7

Appendix H - Data Review Guidelines for Analysis of PFAS in Non-Potable Water and Solids

General

These guidelines are intended to be used for the validation of PFAS using EPA Method 1633 for projects within the Division of Environmental Remediation (DER). Data reviewers should understand the methodology and techniques utilized in the analysis. Consultation with the end user of the data may be necessary to assist in determining data usability based on the data quality objectives in the Quality Assurance Project Plan. A familiarity with the laboratory's Standard Operating Procedure may also be needed to fully evaluate the data. If you have any questions, please contact DER's Quality Assurance Officer, Dana Barbarossa, at dana.barbarossa@dec.ny.gov.

Preservation and Holding Time

Samples should be preserved with ice to a temperature of less than 6°C upon arrival at the lab. The holding time is 28 days to extraction for aqueous and solid samples. The time from extraction to analysis for aqueous samples is 28 days and 40 days for solids.

Temperature greatly exceeds 6ºC upon arrival at the lab*	Use professional judgement to qualify detects and non-detects as estimated or rejected
Holding time exceeding 28 days to extraction	Use professional judgement to qualify detects and non-detects as estimated or rejected if holding time is grossly exceeded

*Samples that are delivered to the lab immediately after sampling may not meet the thermal preservation guidelines. Samples are considered acceptable if they arrive on ice or an attempt to chill the samples is observed.

Initial Calibration

The initial calibration should contain a minimum of six standards for linear fit and six standards for a quadratic fit. The relative standard deviation (RSD) for a quadratic fit calibration should be less than 20%.

The low-level calibration standard should be within 50% - 150% of the true value, and the mid-level calibration standard within 70% - 130% of the true value.

%RSD >20%	J flag detects and UJ non detects

Continuing Calibration Verification

Continuing calibration verification (CCV) checks should be analyzed at a frequency of one per ten field samples. If CCV recovery is very low, where detection of the analyte could be in question, ensure a low level CCV was analyzed and use to determine data quality.

CCV recovery <70 or >130%	J flag results

Blanks

There should be no detections in the method blanks above the reporting limits. Equipment blanks, field blanks, rinse blanks etc. should be evaluated in the same manner as method blanks. Use the most contaminated blank to evaluate the sample results.

Blank Result	Sample Result	Qualification
Any detection	<Reporting limit	Qualify as ND at reporting limit
Any detection	>Reporting Limit and >10x the blank result	No qualification
>Reporting limit	>Reporting limit and <10x blank result	J+ biased high

Field Duplicates

A blind field duplicate should be collected at rate of one per twenty samples. The relative percent difference (RPD) should be less than 30% for analyte concentrations greater than two times the reporting limit. Use the higher result for final reporting.

RPD >30%	Apply J qualifier to parent sample

Lab Control Spike

Lab control spikes should be analyzed with each extraction batch or one for every twenty samples. In the absence of lab derived criteria, use 70% - 130% recovery criteria to evaluate the data.

Recovery <70% or >130% (lab derived criteria can also be used)	Apply J qualifier to detects and UJ qualifier to non detects

Matrix Spike/Matrix Spike Duplicate

One matrix spike and matrix spike duplicate should be collected at a rate of one per twenty samples. Use professional judgement to reject results based on out of control MS/MSD recoveries.

Recovery <70% or >130% (lab derived criteria can also be used)	Apply J qualifier to detects and UJ qualifier to non detects of parent sample only
RPD >30%	Apply J qualifier to detects and UJ qualifier to non detects of parent sample only

Extracted Internal Standards (Isotope Dilution Analytes)

Problematic analytes (e.g. PFBA, PFPeA, fluorotelomer sulfonates) can have wider recoveries without qualification. Qualify corresponding native compounds with a J flag if outside of the range.

Recovery <50% or >150%	Apply J qualifier
Recovery <25% or >150% for poor responding analytes	Apply J qualifier
Isotope Dilution Analyte (IDA) Recovery <10%	Reject results

Signal to Noise Ratio

The signal to noise ratio for the quantifier ion should be at least 3:1. If the ratio is less than 3:1, the peak is discernable from the baseline noise and symmetrical, the result can be reported. If the peak appears to be baseline noise and/or the shape is irregular, qualify the result as tentatively identified.

Reporting Limits

If project-specific reporting limits were not met, please indicate that in the report along with the reason (e.g. over dilution, dilution for non-target analytes, high sediment in aqueous samples).

Peak Integrations

Target analyte peaks should be integrated properly and consistently when compared to standards. Ensure branched isomer peaks are included for PFAS where standards are available. Inconsistencies should be brought to the attention of the laboratory or identified in the data review summary report.

APPENDIX D
Climate Screening Checklist

Climate Screening Checklist

Background Information

- Project Manager: Abdullah Albuytari
- Site Name: Proposed 180 East 125th Street Redevelopment Site
- Site Number: C231160
- Site Location: 180 East 125th Street, New York, New York
- Site Elevation (average above sea level): Approximately 18 feet above sea level
- ClimAID Region (Responding Climate Change in New York State (ClimAID) - NYSERDA): Region 4 - New York City and Long Island
- Remedial Stage/site classification: Pending BCP Acceptance
- Contamination - Media Impacted/ Contaminants of Concern: Soil, groundwater, soil vapor
- Proposed/Current Remedy: Investigation/Design Phase
- What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years?

  Remedy anticipated for completion in approximately 2 years. If required, engineering controls will remain in place, be maintained or replaced as needed for duration of requirement under future site management.
- Is the site in proximity to any sensitive receptors? (e.g. wetlands, waterbodies, residential properties, hospitals, schools, drinking water supplies, etc.)

  Yes, multiple residential properties, a nursing home, and a park are within 500 feet of the Site.

Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA) (Use DECinfolocator: DECinfo Locator (ny.gov))?

☒ **Yes** ☐ **No**

If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why.

☐ **Yes** ☐ **No**

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐ **Yes** ☐ **No**

Climate Screening Table*

Potential Climate Hazards	**Relevant to the Site Location** (Y/N/NA)[1]	**Projected Change** (Reference data source/Model)[3]	**Potential to Impact Remedy** (Y/N)	**Is remedy/site already resilient?** (Y/N)[4]
Precipitation	Potentially		N/A	N/A
Temperature[2] (Extreme Heat or Cold Weather Impacts)	Y	Y (Resilience Analysis and Planning Tool - RAPT)	Y	Future remedy will evaluate
Sea Level Rise	N	N/A (NOAA Relative Sea Level Trends)	N/A	N/A
Flooding	N	N/A (FEMA FloodMapper)	N/A	N/A
Storm Surge	N	N/A (NWS Storm Surge Hazard Map)	N/A	N/A
Wildfire	N	N/A (NYSDEC Fire Danger Map)	N/A	N/A
Drought	N	N/A (NYSDEC Drought Condition Map)	N/A	N/A
Storm Severity	Y	Y (Resilience Analysis and Planning Tool-RAPT)	Y	Future remedy will evaluate
Landslides	N	N/A	N/A	N/A
Other Hazards:	N/A	N/A	N/A	N/A

* Links to potential data sources can be found on the following page

[1] If the first column is N --> The rest of the columns will be N/A, the hazard is not applicable to the site.

[2] Extreme Heat: periods of three or more days above 90°F- Extreme Cold: Individual days with minimum temperatures at or below 0 degrees F (NYSERDA ClimAID report)

[3] List the projected change in specific terms or units e.g. inches of rain fall, feet of sea level rise, etc.

[4] If final column is Y, provide reasoning, if the final column is N --> Climate Vulnerability Assessment (CVA) required.

Required Next Steps (If no further action is required, provide justification):

Upon development of the future remedy, more robust analysis of elements needed to aid in resiliency planning for the redevelopment will be incorporated into a Climate Vulnerabilitiy Assessment.

Potential Data Sources (not an exhaustive list)- from Superfund Climate Resilience: Vulnerability Assessment | US EPA

NYSERDA ClimAID report- Responding Climate Change in New York State (ClimAID) - NYSERDA

FEMA- National Flood Hazard Layer | FEMA.gov

NOAA- National Storm Surge Risk Maps - Version 3 (noaa.gov)

Department of Agriculture Forest Service Wildfire Risk to Communities

EPA Climate Change Indicators in the United States

EPA Climate Resilience Evaluation & Awareness Tool (CREAT) | U.S. Climate Resilience Toolkit

EPA National Stormwater Calculator

National Integrated Drought Information System U.S. Drought Portal

National Interagency Coordination Center National Interagency Fire Center

National Oceanic and Atmospheric Administration Coastal Services Digital Coast

- Resources to help communities assess coastal hazards, such as the Sea Level Rise Viewer for visualizing community-level impacts of flooding or sea level rise and downloadable LIDAR data

National Oceanic and Atmospheric Administration National Centers for Environmental Information website

National Oceanic and Atmospheric Administration Sea Level Trends

National Weather Service Climate Prediction Center

National Weather Service National Hurricane Center

National Weather Service Sea, Lake, and Overland Surges from Hurricanes (SLOSH)

National Weather Service Storm Surge Hazard Maps

U.S. Federal Government Climate Resilience Toolkit: The Climate Explorer

U.S. Army Corps of Engineers Climate Prepardness and Resilience

U.S. Geological Survey Coastal Change Hazards Portal

U.S. Geological Survey Landslide Hazards Program

U.S. Geological Survey National Ground-water Monitoring Network Data Portal

U.S. Geological Survey National Climate Change Viewer

U.S. Geological Survey National Water Dashboard

U.S. Geological Survey StreamStats

NYS Department of State- Assess | Department of State (ny.gov)

NYSERDA NY Costal Floodplain Mapper- Home Page (ny.gov)

NYSDEC Costal Erosion Hazards- Coastal Areas Regulated By The CEHA Permit Program - NYDEC

NYSDOH Heat Index- health.ny.gov/environmental/weather/vulnerability_index/county_maps.htm

APPENDIX E
Green Sustainable Remediation Documentation

Sustainable Remediation Summary - Drilling

Activities	CO_2 Emissions	Percent Total	Onsite NOx emissions	Percent Total	Onsite SOx Emissions	Percent Total	Onsite PM_{10} Emissions	Percent Total	Total NOx emissions	Percent Total	Total SOx Emissions	Percent Total	Total PM_{10} Emissions	Percent Total	Total Energy Used	Percent Total	Accident Risk Fatality	Percent Total	Accident Risk Injury	Percent Total
	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	MMBTU	%		%		%
Material Productions	0.02	1.51	NA	-	NA	-	NA	-	3.5E-05	2.9	7.0E-05	39.2	1.4E-05	11.7	1.2E-01	0.81	NA	NA	NA	NA
Transportation-Personnel	0.98	85.15	NA	-	NA	-	NA	-	3.1E-04	26.1	5.5E-06	3.1	2.8E-05	23.0	1.3E+01	86.2	1.1E-05	63.3	8.8E-04	36.5
Transportation-Equip/materials	0.07	6.33	NA	-	NA	-	NA	-	2.3E-05	1.9	4.1E-07	0.2	2.0E-06	1.7	9.6E-01	6.4	3.9E-07	2.3	3.1E-05	1.3
Equipment Use and Misc	0.08	7.01	7.7E-04	100.0	7.9E-05	100.0	7.0E-05	100.0	8.2E-04	69.0	1.0E-04	57.5	7.6E-05	63.7	9.8E-01	6.6	5.9E-06	34.5	1.5E-03	62.2
Residual Handling	0.00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-
Total	1.16	100	7.74E-04	100.0	7.91E-05	100	6.97E-05	100	1.19E-03	100	1.78E-04	100	1.20E-04	100	1.49E+01	100	1.7E-05	100	2.4E-03	100

Environmental Footprint Summary continued

Activities	Water Usage	Percent Total	Electrical Usage	Lost Hours - Injury	Percent Total
	gallons	%	MWH		%
Material Productions	NA	NA	NA	NA	NA
Transportation-Personnel	NA	NA	NA	7.0E-03	36.5
Transportation-Equipment	NA	NA	NA	2.5E-04	1.3
Equipment Use and Misc	0.00	-	0.00E+00	1.2E-02	62.2
Residual Handling	NA	NA	NA	0.0E+00	-
Total	0.00E+00	100	0.00E+00	1.92E-02	100.0

Footprint Reduction

NA: Not Available or Not Applicable

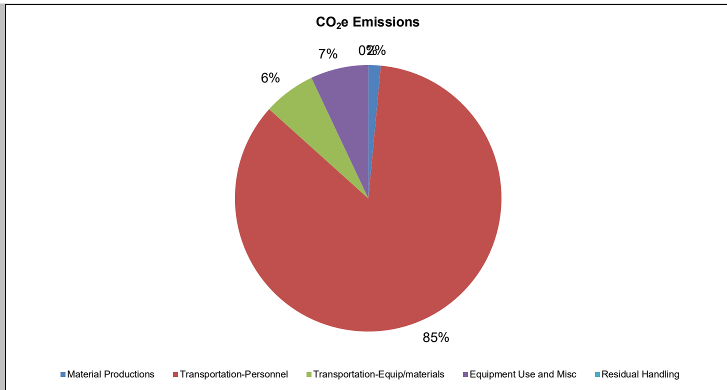
Total electricity replacement (MWh)	0.00E+00
Total electricity replacement (mmBtu)	0.00E+00
Percent electricity from renewable sources (%)	0.0%
Landfill gas reduction (metric ton CO_2 e)	0.00E+00
GHG emissions (metric ton CO2 e)	0.00E+00
NOx emissions (metric ton)	0.00E+00
SOx emissions (metric ton)	0.00E+00
PM10 emissions (metric ton)	0.00E+00
Water consumption reduction (gallons)	0.00E+00

Additional Sustainability Metrics

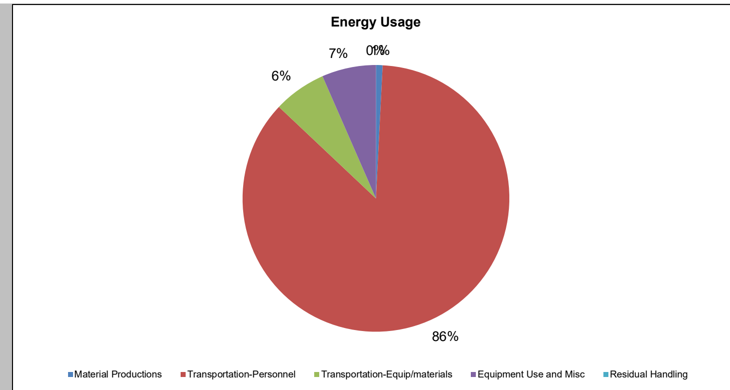
Non-Hazardous Waste Landfill Space (tons)	0.0
Hazardous Waste Landfill Space (tons)	0.0
Topsoil Consumption (yd^3)	0.0
Cost of Phase ($)	0.0
Lost Hours - Injury	0.0

Duration of Phase

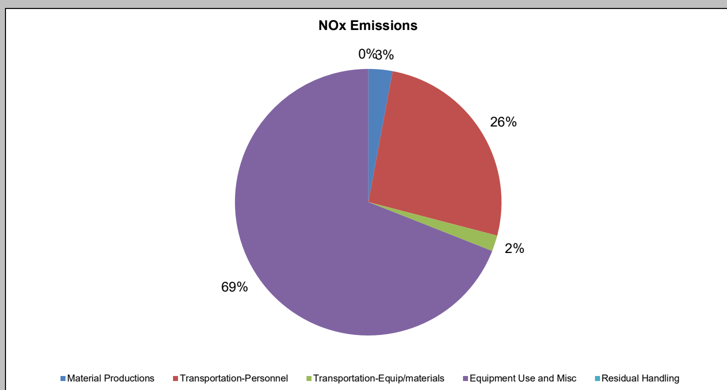
Duration (unit time)	1



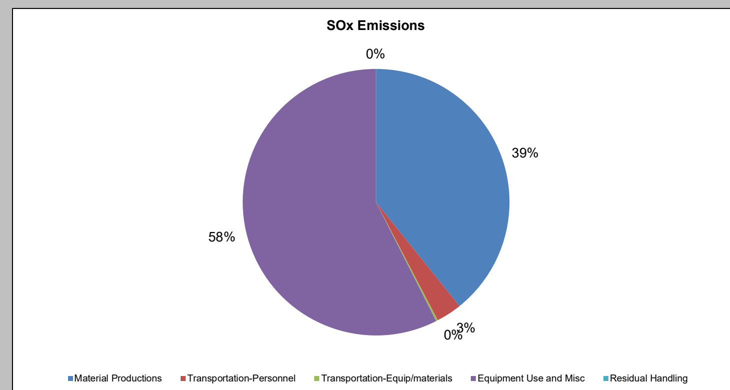
CO2e Emissions
0%
2%
7%
6%
85%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



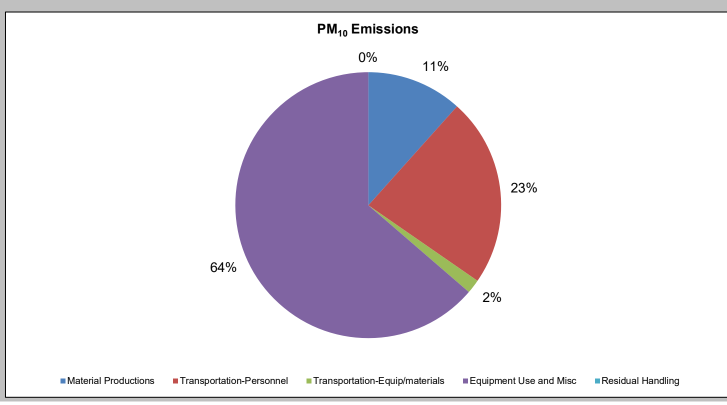
Energy Usage
0%
1%
7%
6%
86%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



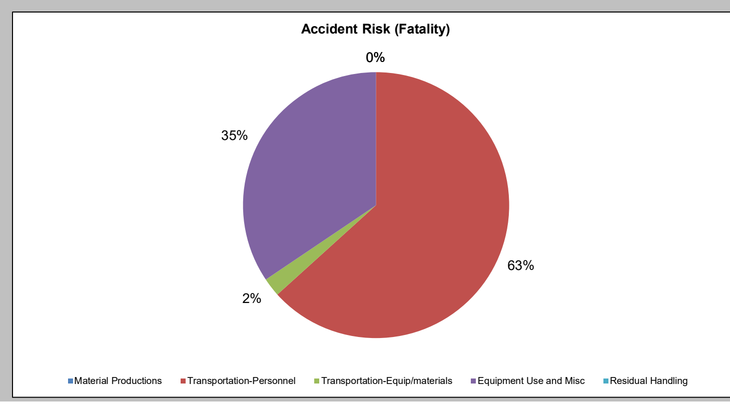
NOx Emissions
0%
3%
26%
2%
69%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



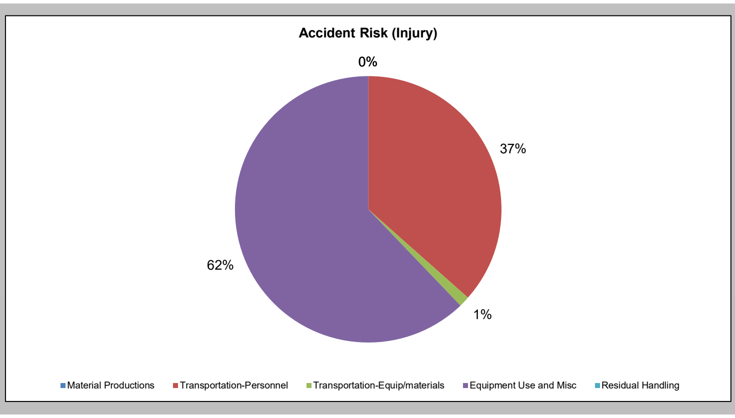
SOx Emissions
0%
39%
58%
0%
3%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



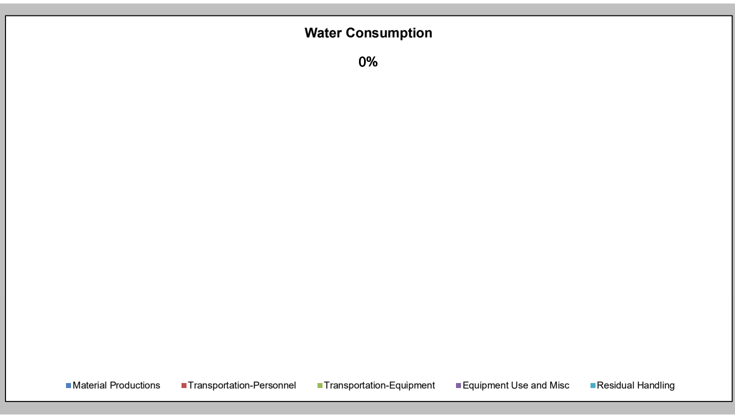
PM10 Emissions
0%
11%
23%
2%
64%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



Accident Risk (Fatality)
0%
35%
63%
2%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



Accident Risk (Injury)
0%
37%
1%
62%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



Water Consumption
0%
Material Productions
Transportation-Personnel
Transportation-Equipment
Equipment Use and Misc
Residual Handling

Sustainable Remediation Summary - Well Construction/Development

Activities	CO_2 Emissions	Percent Total	Onsite NOx emissions	Percent Total	Onsite SOx Emissions	Percent Total	Onsite PM_{10} Emissions	Percent Total	Total NOx emissions	Percent Total	Total SOx Emissions	Percent Total	Total PM_{10} Emissions	Percent Total	Total Energy Used	Percent Total	Accident Risk Fatality	Percent Total	Accident Risk Injury	Percent Total
	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	MMBTU	%		%		%
Material Productions	0.43	79.35	NA	-	NA	-	NA	-	6.9E-04	95.1	9.7E-04	99.9	1.3E-04	97.7	1.3E+02	98.85	NA	NA	NA	NA
Transportation-Personnel	0.00	-	NA	-	NA	-	NA	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-
Transportation-Equip/materials	0.00	-	NA	-	NA	-	NA	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-
Equipment Use and Misc	0.00	0.00	0.0E+00	-	0.0E+00	-	0.0E+00	-	2.5E-09	0.0	3.3E-09	0.0	1.8E-09	0.0	5.9E-05	0.0	0.0E+00	-	0.0E+00	-
Residual Handling	0.11	20.65	0.0E+00	-	0.0E+00	-	0.0E+00	-	3.5E-05	4.9	6.3E-07	0.1	3.2E-06	2.3	1.5E+00	1.2	6.2E-07	100.0	5.0E-05	100.0
Total	0.55	100	0.00E+00	0.0	0.00E+00	0	0.00E+00	0	7.21E-04	100	9.72E-04	100	1.35E-04	100	1.28E+02	100	6.2E-07	100	5.0E-05	100

Environmental Footprint Summary continued

Activities	Water Usage	Percent Total	Electrical Usage	Lost Hours - Injury	Percent Total
	gallons	%	MWH		%
Material Productions	NA	NA	NA	NA	NA
Transportation-Personnel	NA	NA	NA	0.0E+00	-
Transportation-Equipment	NA	NA	NA	0.0E+00	-
Equipment Use and Misc	50.00	100.00	8.03E-06	0.0E+00	-
Residual Handling	NA	NA	NA	4.0E-04	100.0
Total	5.00E+01	100	8.03E-06	4.02E-04	100.0

Footprint Reduction

NA: Not Available or Not Applicable

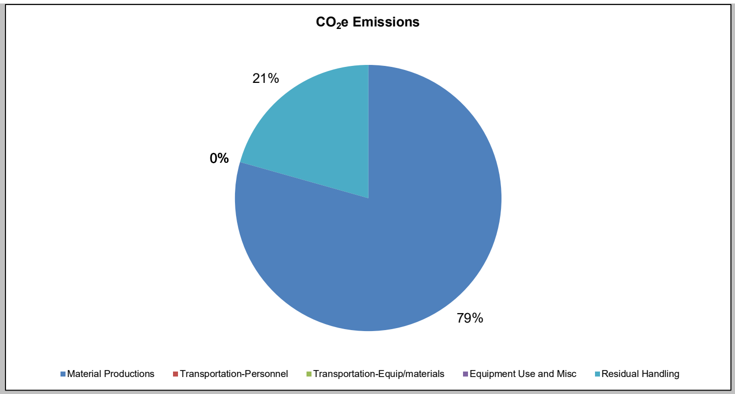
Total electricity replacement (MWh)	0.00E+00
Total electricity replacement (mmBtu)	0.00E+00
Percent electricity from renewable sources (%)	24.2%
Landfill gas reduction (metric ton CO_2 e)	0.00E+00
GHG emissions (metric ton CO2 e)	0.00E+00
NOx emissions (metric ton)	0.00E+00
SOx emissions (metric ton)	0.00E+00
PM10 emissions (metric ton)	0.00E+00
Water consumption reduction (gallons)	0.00E+00

Additional Sustainability Metrics

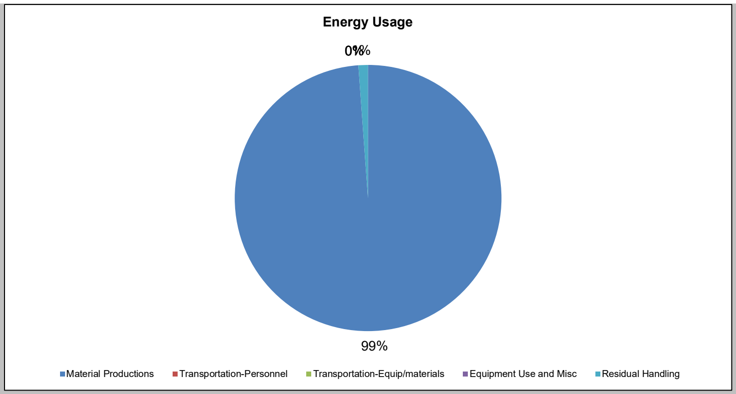
Non-Hazardous Waste Landfill Space (tons)	0.0
Hazardous Waste Landfill Space (tons)	0.0
Topsoil Consumption (yd^3)	0.0
Cost of Phase ($)	0.0
Lost Hours - Injury	0.0

Duration of Phase

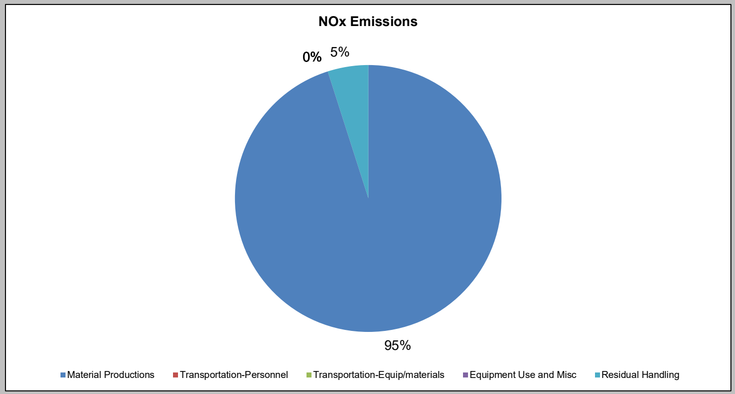
Duration (unit time)	1



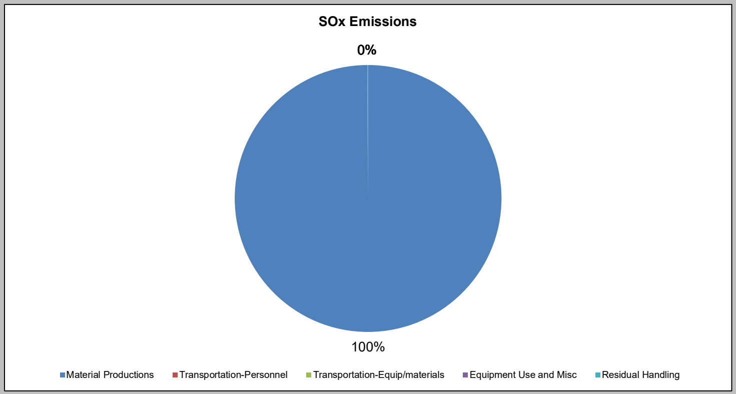
CO$_2$e Emissions
21%
0%
79%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



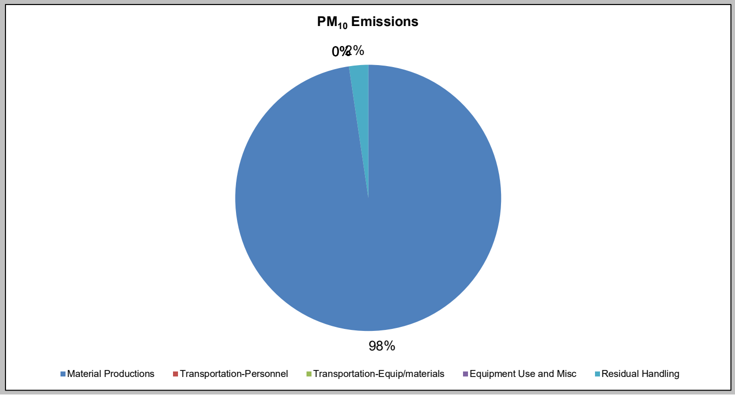
Energy Usage
0%
1%
99%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



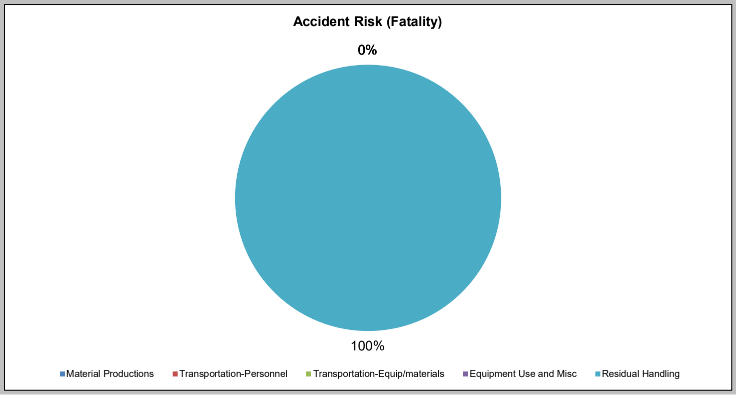
NOx Emissions
0%
5%
95%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



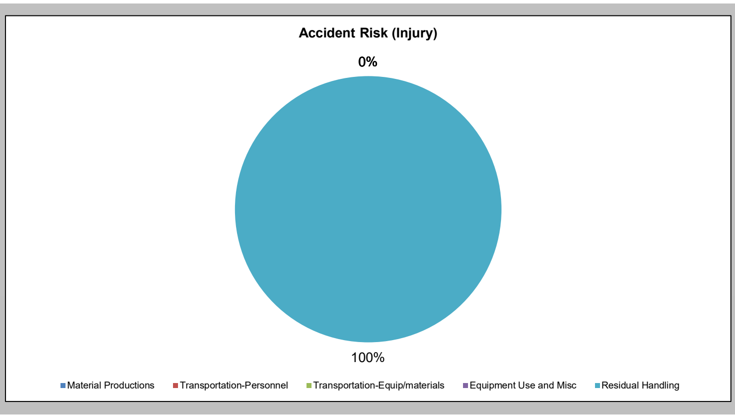
SOx Emissions
0%
100%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling

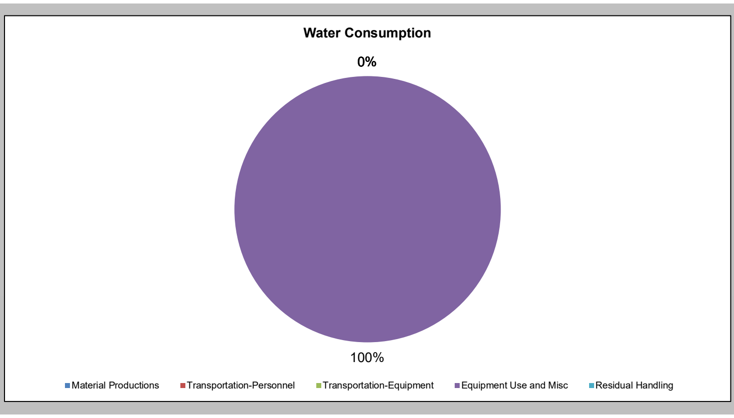


PM$_{10}$ Emissions
0%
2%
98%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



Accident Risk (Fatality)
0%
100%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling


Accident Risk (Injury)
0%
100%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling


Water Consumption
0%
100%
Material Productions
Transportation-Personnel
Transportation-Equipment
Equipment Use and Misc
Residual Handling

Sustainable Remediation Summary - Sampling

Activities	CO_2 Emissions	Percent Total	Onsite NOx emissions	Percent Total	Onsite SOx Emissions	Percent Total	Onsite PM_{10} Emissions	Percent Total	Total NOx emissions	Percent Total	Total SOx Emissions	Percent Total	Total PM_{10} Emissions	Percent Total	Total Energy Used	Percent Total	Accident Risk Fatality	Percent Total	Accident Risk Injury	Percent Total
	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	MMBTU	%		%		%
Material Productions	0.00	-	NA	-	NA	-	NA	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	NA	NA	NA	NA
Transportation-Personnel	0.11	100.00	NA	-	NA	-	NA	-	4.1E-05	100.0	1.4E-06	99.9	8.3E-06	100.0	1.4E+00	100.0	4.7E-06	92.9	3.8E-04	46.1
Transportation-Equip/materials	0.00	-	NA	-	NA	-	NA	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-
Equipment Use and Misc	0.00	0.00	0.0E+00	-	0.0E+00	-	0.0E+00	-	8.5E-10	0.0	1.1E-09	0.1	6.4E-10	0.0	2.0E-05	0.0	3.6E-07	7.1	4.4E-04	53.9
Residual Handling	0.00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-
Total	0.11	100	0.00E+00	0.0	0.00E+00	0	0.00E+00	0	4.09E-05	100	1.44E-06	100	8.29E-06	100	1.39E+00	100	5.0E-06	100	8.2E-04	100

NA: Not Available or Not Applicable

Environmental Footprint Summary continued

Activities	Water Usage	Percent Total	Electrical Usage	Lost Hours - Injury	Percent Total
	gallons	%	MWH		%
Material Productions	NA	NA	NA	NA	NA
Transportation-Personnel	NA	NA	NA	3.0E-03	46.1
Transportation-Equipment	NA	NA	NA	0.0E+00	-
Equipment Use and Misc	33.00	100.00	2.77E-06	3.5E-03	53.9
Residual Handling	NA	NA	NA	0.0E+00	-
Total	3.30E+01	100	2.77E-06	6.53E-03	100.0

Footprint Reduction

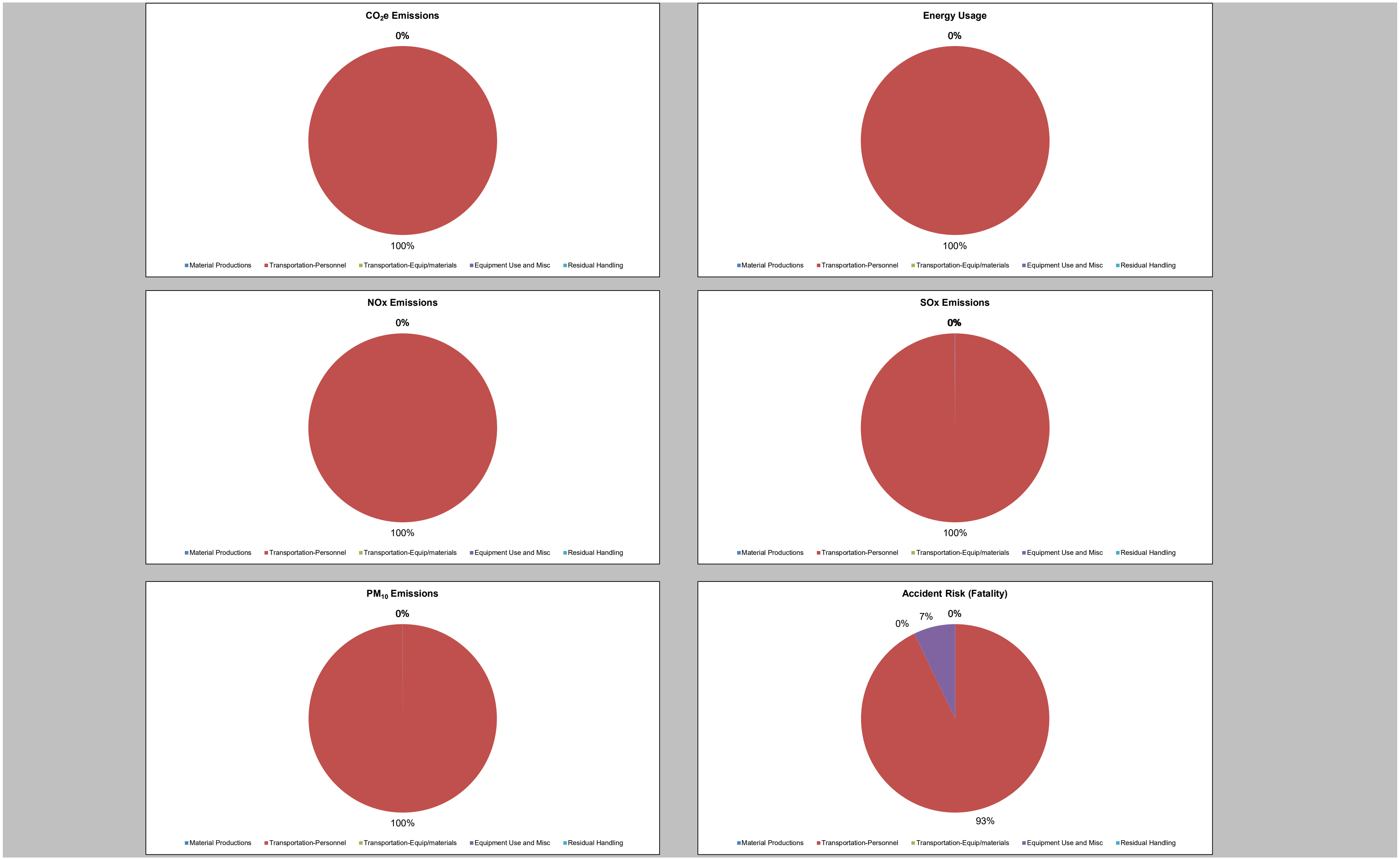
Total electricity replacement (MWh)	0.00E+00
Total electricity replacement (mmBtu)	0.00E+00
Percent electricity from renewable sources (%)	24.2%
Landfill gas reduction (metric ton CO_2 e)	0.00E+00
GHG emissions (metric ton CO2 e)	0.00E+00
NOx emissions (metric ton)	0.00E+00
SOx emissions (metric ton)	0.00E+00
PM10 emissions (metric ton)	0.00E+00
Water consumption reduction (gallons)	0.00E+00

Additional Sustainability Metrics

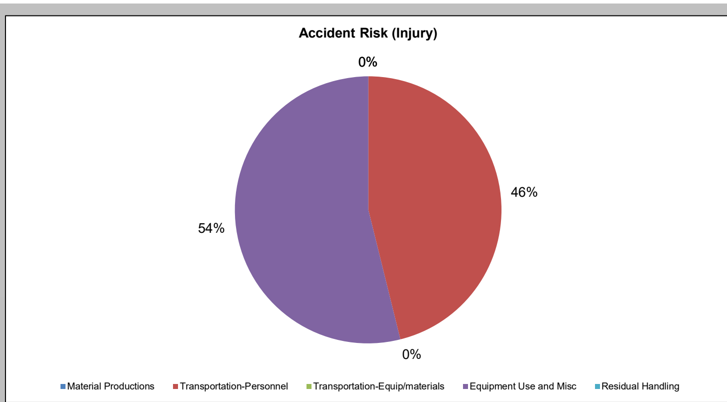
Non-Hazardous Waste Landfill Space (tons)	0.0
Hazardous Waste Landfill Space (tons)	0.0
Topsoil Consumption (yd^3)	0.0
Cost of Phase ($)	0.0
Lost Hours - Injury	0.0

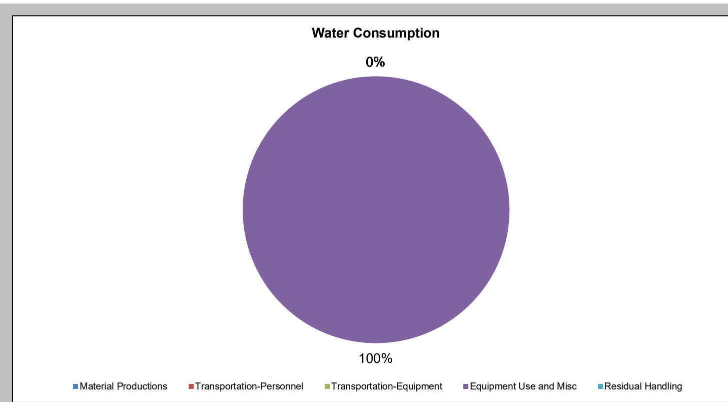
Duration of Phase

Duration (unit time)	1



CO2e Emissions
0%
100%
Energy Usage
0%
100%
NOx Emissions
0%
100%
SOx Emissions
0%
100%
PM10 Emissions
0%
100%
Accident Risk (Fatality)
0%
7%
0%
93%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling


Accident Risk (Injury)
0%
46%
54%
0%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling


Water Consumption
0%
100%
Material Productions
Transportation-Personnel
Transportation-Equipment
Equipment Use and Misc
Residual Handling

Sustainable Remediation Summary - Remedy

Activities	CO_2 Emissions	Percent Total	Onsite NOx emissions	Percent Total	Onsite SOx Emissions	Percent Total	Onsite PM_{10} Emissions	Percent Total	Total NOx emissions	Percent Total	Total SOx Emissions	Percent Total	Total PM_{10} Emissions	Percent Total	Total Energy Used	Percent Total	Accident Risk Fatality	Percent Total	Accident Risk Injury	Percent Total
	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	metric ton	%	MMBTU	%		%		%
Material Productions	0.00	-	NA	-	NA	-	NA	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	NA	NA	NA	NA
Transportation-Personnel	35.70	7.05	NA	-	NA	-	NA	-	1.2E-02	0.4	2.4E-04	0.0	1.2E-03	0.0	4.6E+02	5.1	2.7E-04	63.1	2.2E-02	30.9
Transportation-Equip/materials	0.00	-	NA	-	NA	-	NA	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-	0.0E+00	-
Equipment Use and Misc	67.91	13.40	1.3E-01	100.0	3.0E-02	100.0	1.3E-02	100.0	3.6E-01	13.8	2.0E-01	14.3	3.4E-02	0.5	1.0E+03	11.0	1.6E-04	36.9	4.8E-02	69.1
Residual Handling	403.12	79.55	0.0E+00	-	0.0E+00	-	0.0E+00	-	2.3E+00	85.8	1.2E+00	85.7	6.4E+00	99.5	7.7E+03	83.9	0.0E+00	-	0.0E+00	-
Total	506.74	100	1.29E-01	100.0	2.99E-02	100	1.31E-02	100	2.63E+00	100	1.41E+00	100	6.48E+00	100	9.18E+03	100	4.3E-04	100	7.0E-02	100

Environmental Footprint Summary continued

Activities	Water Usage	Percent Total	Electrical Usage	Lost Hours - Injury	Percent Total
	gallons	%	MWH		%
Material Productions	NA	NA	NA	NA	NA
Transportation-Personnel	NA	NA	NA	1.7E-01	30.9
Transportation-Equipment	NA	NA	NA	0.0E+00	-
Equipment Use and Misc	0.00	-	0.00E+00	3.9E-01	69.1
Residual Handling	NA	NA	NA	0.0E+00	-
Total	0.00E+00	100	0.00E+00	5.59E-01	100.0

Footprint Reduction

NA: Not Available or Not Applicable

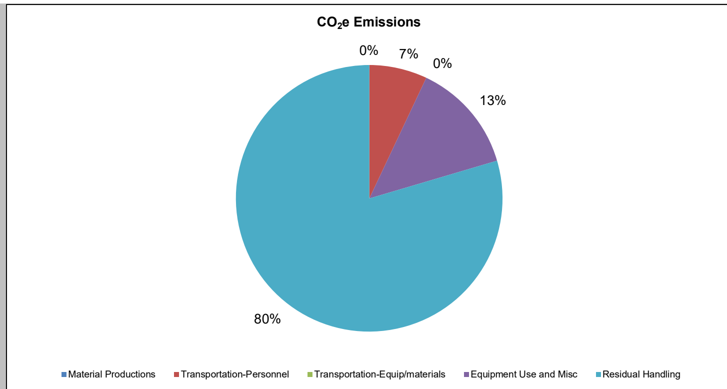
Total electricity replacement (MWh)	0.00E+00
Total electricity replacement (mmBtu)	0.00E+00
Percent electricity from renewable sources (%)	0.0%
Landfill gas reduction (metric ton CO_2 e)	0.00E+00
GHG emissions (metric ton CO2 e)	0.00E+00
NOx emissions (metric ton)	0.00E+00
SOx emissions (metric ton)	0.00E+00
PM10 emissions (metric ton)	0.00E+00
Water consumption reduction (gallons)	0.00E+00

Additional Sustainability Metrics

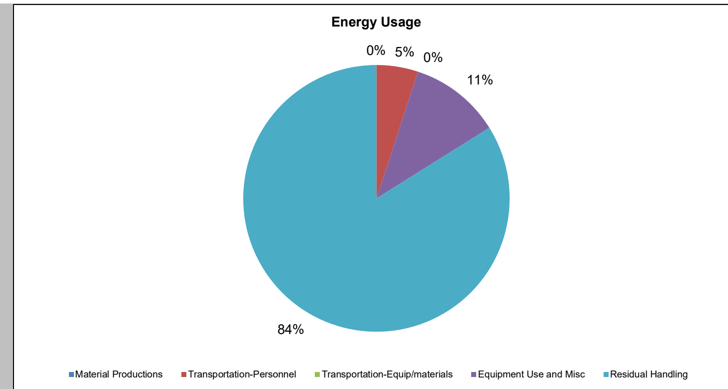
Non-Hazardous Waste Landfill Space (tons)	34449.5
Hazardous Waste Landfill Space (tons)	1000.0
Topsoil Consumption (yd^3)	0.0
Cost of Phase ($)	0.0
Lost Hours - Injury	0.6

Duration of Phase

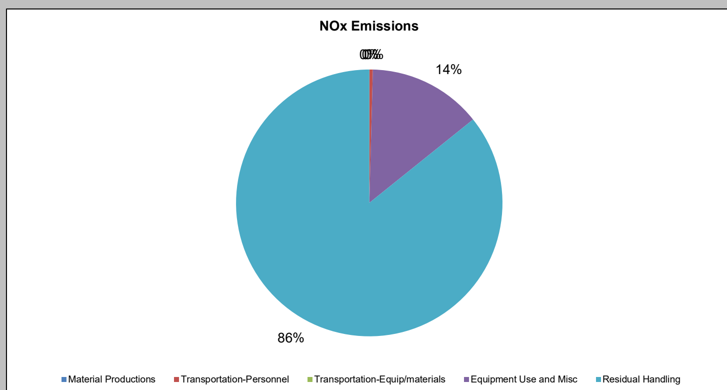
Duration (unit time)	1



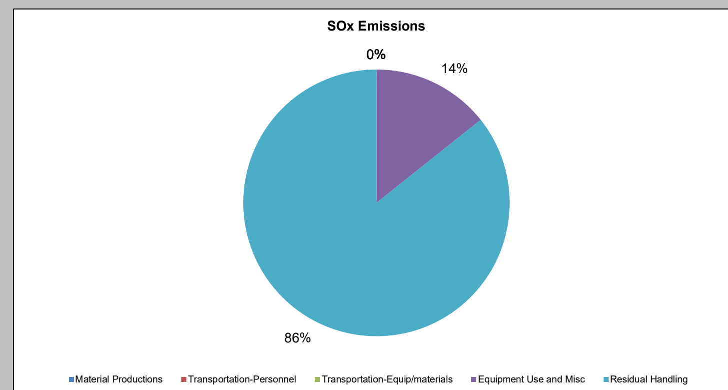
CO_2e Emissions
0%
7%
0%
13%
80%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



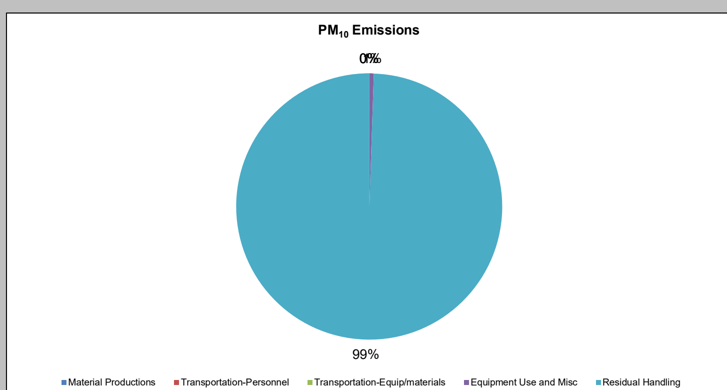
Energy Usage
0%
5%
0%
11%
84%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



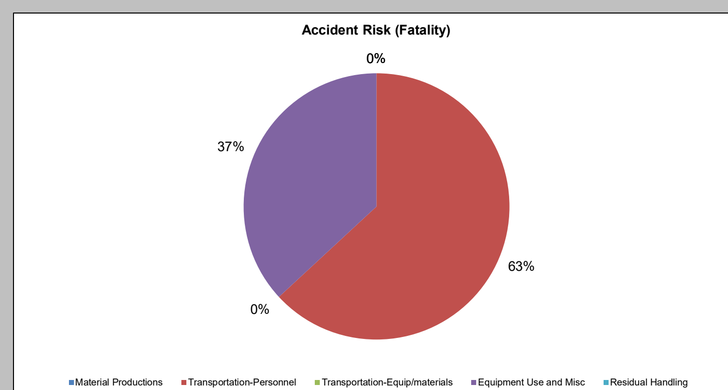
NOx Emissions
14%
86%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



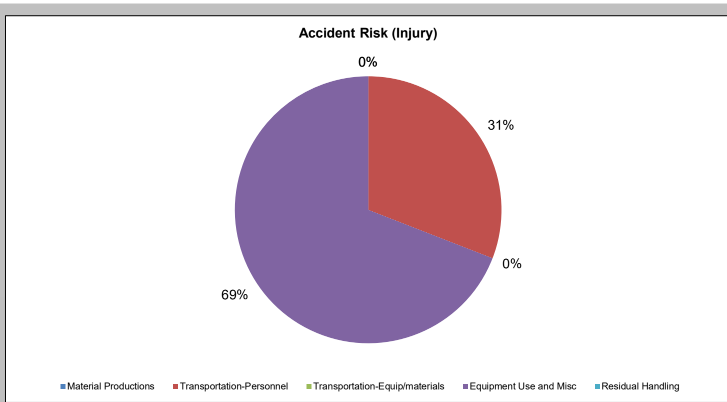
SOx Emissions
0%
14%
86%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



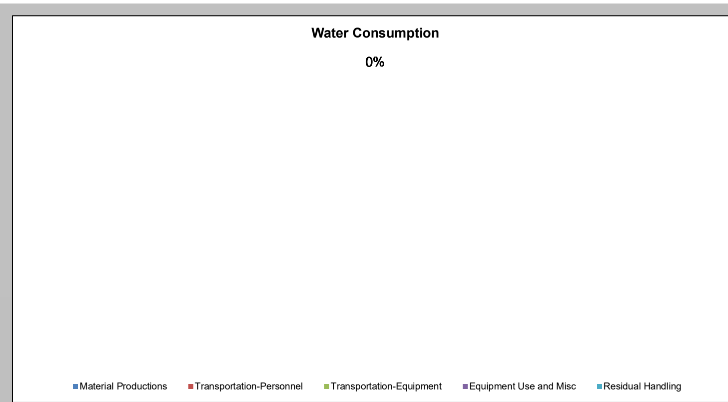
PM_{10} Emissions
99%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



Accident Risk (Fatality)
0%
37%
63%
0%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



Accident Risk (Injury)
0%
31%
0%
69%
Material Productions
Transportation-Personnel
Transportation-Equip/materials
Equipment Use and Misc
Residual Handling



Water Consumption
0%
Material Productions
Transportation-Personnel
Transportation-Equipment
Equipment Use and Misc
Residual Handling

APPENDIX F
Health and Safety Plan

HALEY & ALDRICH, INC.
SITE-SPECIFIC SAFETY PLAN

FOR

180 East 125th Street Redevelopment Site

180 East 125th Street, New York, NY

Project/File No. 0209815

Gensuite EZ Scan®

BI - Developers

Prepared By: Hailey Russell **Date: 1/2/2025**

Approvals: The following signatures constitute approval of this Health & Safety Plan.

Field Safety Manager: Luke J. McCartney, P.G. **Date: 1/2/2025**

Project Manager: Sarah Commisso **Date: 1/2/2025**

HASP Valid Through: 12/31/2025

Table of Contents

Attachments

STOP WORK AUTHORITY

In accordance with Haley & Aldrich (Haley & Aldrich) Stop Work Authority Operating Procedure (OP1035), any individual has the right to refuse to perform work that he or she believes to be unsafe without fear of retaliation. He or she also has the authority, obligation, and responsibility to stop others from working in an unsafe manner.

STOP Work Authority is the stop work policy for all personnel and subcontractors on the Site. When work has been stopped due to an unsafe condition, Haley & Aldrich site management (e.g., Project Manager [PM], Site Health & Safety Officer [SHSO], etc.) and the Haley & Aldrich Senior Project Manager (SPM) will be notified immediately.

Reasons for issuing a stop work order include, but are not limited to:

- The belief/perception that injury to personnel or accident causing significant damage to property or equipment is imminent.
- An Haley & Aldrich subcontractor is in breach of site safety requirements and/or their own site HASP.
- Identifying a substandard condition (e.g., severe weather) or activity that creates an unacceptable safety risk as determined by a qualified person.

Work will not resume until the unsafe act has been stopped OR sufficient safety precautions have been taken to remove or mitigate the risk to an acceptable degree. Stop work orders will be documented as part of an on-site stop work log, on daily field reports to include the activity/activities stopped, the duration, person stopping work, person in-charge of stopped activity/activities, and the corrective action agreed to and/or taken. Once work has been stopped, only the Haley & Aldrich SPM or SHSO can give the order to resume work. Haley & Aldrich senior management is committed to support anyone who exercises his or her “Stop Work” authority.

ISSUANCE AND COMPLIANCE

This HASP has been prepared in accordance with Occupational Safety and Health Administration (OSHA) regulations (CFR 29, Parts 1904, 1910, and 1926) if such are applicable.

The specific requirements of this HASP include precautions for hazards that exist during this project and may be revised as new information is received or as site conditions change.

- This HASP must be signed by all Haley & Aldrich personnel involved in implementation of the SOW (Section 2 of this HASP).
- This HASP, or a current signed copy, must be retained at all times when Haley & Aldrich staff are present.
- Revisions to this HASP must be outlined within the contents of the HASP. If immediate or minor changes are necessary, the Field Safety Manager (FSM), Haley & Aldrich, SSO and/or Project Manager (PM) may use Attachment 1 (HASP Amendment Form), presented at the end of this HASP. Any revision to the HASP requires employees and subcontractors to be informed of the changes so that they understand the requirements of the change.
- Deviations from this HASP are permitted with approval from the Haley & Aldrich FSM, PM, or Senior Health & Safety Manager (SHSM). Unauthorized deviations may constitute a violation of Haley & Aldrich company procedures/policies and may result in disciplinary action.
- This HASP will be relied upon by Haley & Aldrich's subcontractors and visitors to the site. Haley & Aldrich's subcontractors must have their own HASP which will address hazards specific to their trade that is not included in this HASP. This HASP will be made available for review to Haley & Aldrich's subcontractors and other interested parties (e.g. Facility personnel and regulatory agencies) to ensure that Haley & Aldrich has properly informed our subcontractors and others of the potential hazards associated with the implementation of the SOW to the extent that Haley &Aldrich is aware.

This site-specific HASP provides only site-specific descriptions and work procedures. General safety and health compliance programs in support of this HASP (e.g., injury reporting, medical surveillance, personal protective equipment (PPE) selection, etc.) are described in detail in the Haley &Aldrich Corporate Health and Safety Program Manual and within Haley & Aldrich's Standard Operating Procedures Both the manual and SOPs can be located on the Haley & Aldrich's Company Intranet. When appropriate, users of this HASP should always refer to these resources and incorporate to the extent possible. The manual and SOPs are available to clients and regulators upon request.

EMERGENCY EVENT PROCEDURES

1 - ASSESS THE SCENE

- **STOP WORK**
- Review the situation and ascertain if it's safe to enter the area.
- Evacuate the site if the conditions are unsafe.

2 - EVALUATE THE EMERGENCY

- **Call 911, or designated emergency number, if required.**
- **Provide first aid for the victim if qualified and safe to do so.**
  - First aid will be addressed using the onsite first aid kit. *
    - If providing first aid, remember to use proper first aid universal precautions if blood or bodily fluids are present.
- **If exposure to hazardous substance is suspected, immediately vacate the contaminated area.**
  - Remove any contaminated clothing and/or equipment.
  - Wash any affected dermal/ocular area(s) with water for at least 15 minutes.
  - Seek immediate medical assistance if any exposure symptoms are present.

* *Note: Haley & Aldrich employees are not required or expected to administer first aid / CPR to any Haley & Aldrich staff member, Contractor, or Civilian personnel at any time; it is Haley & Aldrich´s position that those who do are doing so on their own behalf and not as a function of their job.*

3 - SECURE THE AREA

- **Cordon off the incident area, if possible.**
  - Notify any security personnel, if required.
  - Escort all non-essential personnel out of the area, if able.

4 - REPORT ON-SITE ACCIDENTS / INCIDENTS TO PM / SSO

- **Notify the PM and SSO as soon as it is safe to do so.**
  - Assist PM and SSO in completing any additional tasks, as required.

5 - INVESTIGATE / REPORT THE INCIDENT

- **Record details of the incident for input to the Gensuite.**
  - Complete any additional forms as requested by the PM and SSO.

6 - TAKE CORRECTIVE ACTION

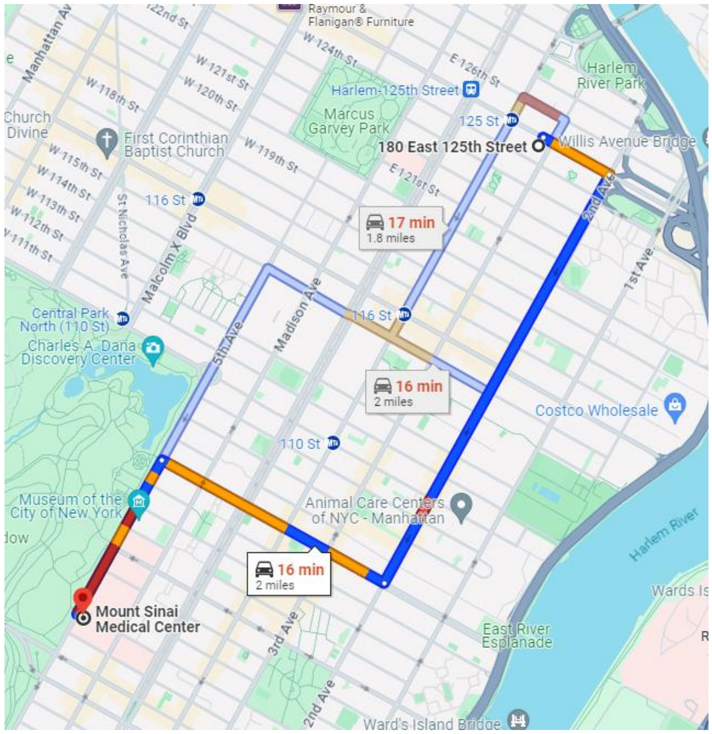
- **Implement corrective actions per the PM following root cause analysis.**
  - Complete Lessons Learned form.

PROJECT INFORMATION AND CONTACTS	
Project Name: 180 East 125th Street Redevelopment Site	**Haley & Aldrich File No.:** 0209815
Location: 180 East 125th Street, New York, New York	
Client/Site Contact: Phone Number:	JCS Realty NY 917.770.8702
Haley & Aldrich Field Representative: Phone Number: Emergency Phone Number:	**Omar Colon** 516.618.2560 347.853.6629
Haley & Aldrich Project Manager: Phone Number: Emergency Phone Number:	**Sarah Commisso** 332.240.1716 929.746.8015
Field Safety Manager: Phone Number: Emergency Phone Number:	Ferguson, Brian 617.886.7439 617.908.2761
Nearest Hospital: Address: (see map on next page) Phone Number:	**Mount Sinai Medical Center** 1 Gustave L Levy Place New York, NY 10029 212.241.6500
Nearest Occ. Health Clinic: http://www.talispoint.com/liberty/ext/ Address: (see map on next page) Phone Number:	**CityMD Urgent Care East 79th** 1143 Lexington Avenue New York, NY 10075 646.350.4815
Liberty Mutual Claim Policy	**WC6-Z11-254100-035**
WORKCARE Injury & Illness HOTLINE	**1-888-449-7787**
Emergency Response Number:	911
Other Local Emergency Response Number:	N/A
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	911

DIRECTIONS TO THE NEAREST HOSPITAL

[Liberty Mutual Medical Location Directory]

Mount Sinai Medical Center:



Directions to the Nearest Hospital:

180 E 125th St
New York, NY 10035

↑ Head southeast on E 125th St/Dr Martin Luther King Jr Blvd toward 3rd Ave

0.2 mi

↱ Turn right onto 2nd Ave

1.0 mi

↱ Turn right onto E 106th St
Pass by Chase Bank (on the right)

0.5 mi

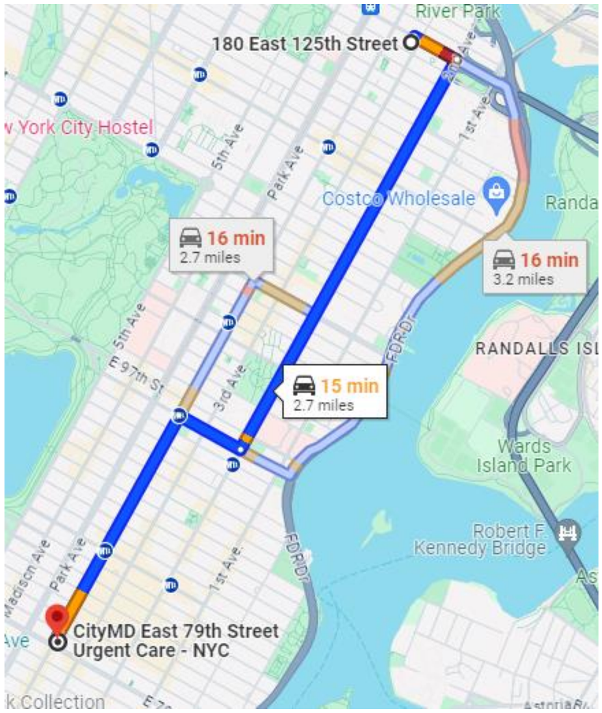
↰ Turn left onto 5th Ave/Museum Mile
Destination will be on the left

0.4 mi

Mount Sinai Medical Center
1 Gustave L. Levy Pl, New York, NY 10029

DIRECTIONS TO THE NEAREST URGENT CARE

[Liberty Mutual Medical Location Directory]



Directions to the Nearest Occupational Clinic:

180 E 125th St
New York, NY 10035

↑ Head southeast on E 125th St/Dr Martin Luther King Jr Blvd toward 3rd Ave

0.2 mi

↱ Turn right onto 2nd Ave

1.5 mi

↱ Turn right onto E 96th St

0.2 mi

↰ Turn left at the 2nd cross street onto Lexington Ave
ⓘ Destination will be on the left

0.8 mi

CityMD East 79th Street Urgent Care - NYC
1143 Lexington Ave, New York, NY 10021

1. WORK SCOPE

This Site-Specific Health and Safety Plan addresses the health and safety practices and procedures that will be exercised by all Haley & Aldrich employees participating in all work on the Project Site. This plan is based on an assessment of the site-specific health and safety risks available to Haley & Aldrich and Haley & Aldrich's experience with other similar project sites. The scope of work includes the following:

Geophysical Survey, Drilling, Soil, Groundwater, and Soil Vapor Sampling.

Project Task Breakdown

Task No.	Task Description	Employee(s) Assigned	Work Date(s) or Duration
1.	Geophysical Survey		1 Day
2.	Drilling & Pre-Clearing		7 Days
3.	Soil, groundwater, and soil vapor sampling		7 Days

Subcontractor(s) Tasks

Firm Name	Work Activity	Work Date(s) or Duration
Lakewood Environmental Services Corp.	Drilling	7 Days Anticipated
Projected Start Date: 1/2/2025		
Projected Completion Date: 1/9/2025		

Firm Name	Work Activity	Work Date(s) or Duration
Lakewood Environmental Services Corp.	Geophysical Survey	1 Day Anticipated
Projected Start Date: 1/2/2025		
Projected Completion Date: 1/2/2025		

2. SITE OVERVIEW / DESCRIPTION

Site Classification

Commercial

Site Description

The Site is located in the Harlem neighborhood of Manhattan and is identified as Block 1773, Lot 27 on the New York City tax map. The Site is approximately 42,540 square feet (sq ft) (0.98 acres) and is currently a vacant undeveloped lot. The Site is bound by East 125th Street followed by mixed-use commercial and residential buildings and offices to the north, East 124th Street followed by mixed-use commercial and residential buildings and warehousing to the south, Fire Department of the City of New York (FDNY) Engine 35 Fire House and Third Avenue followed by mixed-use commercial and residential buildings to the east, and a vacant undeveloped lot followed by Lexington Avenue to the west.

Background and Historic Site Usage

Based on the findings of the July 2024 Phase I Environmental Site Assessment (ESA) prepared by Haley & Aldrich of New York, The Site was first developed as early as 1896 with multiple two to four story dwellings on the eastern portion of the Site, a school on the southern portion of the Site, and the northwestern portion of the Site was undeveloped. The 1911 Sanborn Map shows buildings constructed on the northern portion of the Site which were indicated as vacant, and the school was converted to a lodging house. A railroad station was present in the street adjacent to the Site on the corner of East 125th Street and 3rd Avenue. The Site remained relatively unchanged until the early 1950s when the former lodging house and several buildings on the eastern portion of the Site were labeled as “furniture” on Sanborn Maps and printing operations were indicated on the northern portion of the subject property. By 1968, a building was constructed on the southwest portion of the Site and was occupied by the United States Postal Service. Additionally, the railroad station was no longer present. According to aerial photographs, between 1984 and 1991, the structures on the northern and eastern portions of the Site were demolished and the Site was converted into a parking lot. By 2013, the Site was occupied by a Pathmark supermarket and a Rainbow clothing store with a rooftop parking area. According to the NYC Department of Finance Office of the City Register, the United States Postal Service sold the property in 2014. Since this time, all structures have been demolished and the Site is currently vacant.

Site Status

Indicate current activity status and describe operations at the site:

Inactive

Vacant

Site Plan

Is a site plan or sketch available? Yes

Work Areas
List and identify each specific work areas(s) on the job site and indicate its location(s) on the site plan: Entire site

Site Plan


LEGEND
SITE BOUNDARY
PARCEL BOUNDARY
NOTES
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NEW YORK COUNTY
3. AERIAL IMAGERY SOURCE: NEARMAP, 16 JUNE 2024
EAST 125TH STREET
EAST 124TH STREET
3RD AVENUE
BLOCK: 11773
LOT: 27
0
40
80
SCALE IN FEET
HALEY ALDRICH
PHASE I ENVIRONMENTAL SITE ASSESSMENT
180 EAST 125TH STREET
NEW YORK, NEW YORK
SITE PLAN
JUNE 2024
FIGURE 2

3. HAZARD ASSESSMENT

Indicate all hazards that may be present at the site and for each task. If any of these potential hazards are checked, it is the Project Manager's responsibility to determine how to eliminate / minimize the hazard to protect onsite personnel.

Site Chemical Hazards

Is this Site impacted with chemical contamination? Yes

Source of information about contaminants: Previous Investigation

Contaminant of Concern	Location/Media	Concentration	Units
Polycyclic aromatic hydrocarbons (PAHs)	**Soil**	**24**	**mg/kg**
Barium	**Soil**	**1440**	**mg/kg**
Lead	**Soil**	**3040**	**mg/kg**
Mercury	**Soil**	**2.75**	**mg/kg**
Polycyclic aromatic hydrocarbons (PAHs)	**Groundwater**	**0.37**	**ug/L**
Organochlorine Pesticides	**Groundwater**	**0.015**	**ug/L**
Polychlorinated biphenyls (PCBs)	**Groundwater**	**0.282**	**ug/L**
Chromium	**Groundwater**	**57**	**ug/L**
Lead	**Groundwater**	**194**	**ug/L**
BTEX/VOCs	**Soil Vapor**	**2910**	**ug/m3**
Tetrachloroethylene	**Soil Vapor**	**254**	**ug/m3**
Trichloroethylene	**Soil Vapor**	**29**	**ug/m3**

Polycyclic aromatic hydrocarbons (PAHs): are a class of chemicals that occur naturally in coal, crude oil, and gasoline. They also are produced when coal, oil, gas, wood, garbage, and tobacco are burned. PAHs generated from these sources can bind to or form small particles in the air. High-temperature cooking will form PAHs in meat and in other foods. Naphthalene is a PAH that is produced commercially in the United States to make other chemicals and mothballs. Cigarette smoke contains many PAHs.

BTEX/VOCs: BTEX is an acronym for benzene, toluene, ethylbenzene and xylenes. These compounds are VOCs, are common in petroleum-related products (e.g., oil, gasoline, coal-tar DNAPL, etc.), and frequently co-occur at hazardous waste sites. Benzene, toluene, ethylbenzene, and xylenes have acute and chronic harmful effects on the central nervous system. Benzene is classified as a carcinogen.

Short-term health effects of low-level BTEX exposure include drowsiness, dizziness, accelerated heart rate, headaches, tremors, confusion, and unconsciousness.

Lead: The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system. Long-term exposure to lead can result in decreased performance in some tests measuring functions of the nervous system in adults. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys and ultimately cause death.

Mercury: is an odorless, silver metallic liquid. It can be inhaled or absorbed through the skin. Contact may cause irritation to the skin or eyes. Toxic if ingested. Fume inhalation may cause irritation in the nose, throat or lungs. This is a corrosive chemical. Symptoms of poisoning include, muscle tremors, loss of appetite, and nausea. Long-term exposure may have effects on the central nervous system and kidneys. The PEL is 0.1 mg/m^3 averaged over an 8 hour shift.

Polychlorinated biphenyls (PCBs): are a group of manufactured organic chemicals that contain 209 individual chlorinated chemicals. PCBs are either oily liquids or solids and are colorless to light yellow in color. They have no known smell or taste. There are no known natural sources of PCBs. Some commercial PCB mixtures are known in the United States by their industrial trade name e.g. Aroclor.

Trichloroethylene: is a nonflammable colorless liquid with a sweet odor. Trichloroethylene vapor is heavier than air and is found in low lying areas.

Tetrachloroethylene: is a colorless liquid with a sharp sweet odor. Tetrachloroethylene vapor is heavier than air and will be found in low lying areas.

Barium: is a soft, silvery metal that rapidly tarnishes in air and reacts with water. It is mostly used in drilling fluids for oil and gas wells and used in paint and in glassmaking. All barium compounds are toxic; however, barium sulfate is insoluble and so can be safely swallowed. A suspension of barium sulfate is sometimes given to patients suffering from digestive disorders.

Barium has no known biological role, although barium sulfate has been found in one type of algae. Barium is toxic, as are its water- or acid-soluble compounds. Barium occurs only in combination with other elements. The major ores are barite (barium sulfate) and witherite (barium carbonate). Barium metal can be prepared by electrolysis of molten barium chloride, or by heating barium oxide with aluminum powder.

Benzene: Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death. The major effect of benzene from long-term (365 days or longer) exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection. Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries. It is not known whether benzene exposure affects the developing fetus in pregnant women or fertility in men. Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

VOCs: include all organic compounds (substances made up of predominantly carbon and hydrogen) with boiling temperatures in the range of 50-260 degrees C, excluding pesticides. This means that they are likely to be present as a vapor or gas in normal ambient temperatures. Substances which are included in the VOC category include aliphatic hydrocarbons (such as hexane), aldehydes, aromatic hydrocarbons (such as benzene, toluene, and the xylenes or BTEX), and oxygenated compounds (such as acetone and similar ketones). The term VOC often is used in a legal or regulatory context and in such cases the precise definition is a matter of law.

VOCs are released from oil and gasoline refining, storage and combustion as well as from a wide range of industrial processes. Processes involving fuels, solvents, paints or the use of chemicals are the most significant sources. VOCs may also be emitted from cleaning products, degreasing products, fabrics, carpets, plastic products, glues, printed material, varnishes, wax, disinfectants, and cosmetics.

Typically, VOCs are present in gas or vapor and will enter the body by breathing contaminated air. Higher concentrations of VOCs may occur in areas of poor ventilation.

Xylenes: are colorless liquids with a faint, sweet odor. There are three forms of xylene (meta-, ortho-, and para-), which are referred to as isomers. They are chemically classified as hydrocarbons, meaning they contain hydrogen and carbon atoms. These are chemicals of serious flammability and will easily ignite with heat, sparks or flames. Their flash point range is between 85-115 degrees F. The PEL is 10 ppm averaged over an 8 hour shift.

Typically, these are solvents in making paint, adhesives, and other chemicals. Their odor threshold varies greatly, and this should not be the sole indicator in exposures. Their vapors are heavier than air, but less dense than water, therefore they float. Can be inhaled or absorbed through the skin. Inhalation can irritate throat and nose and cause coughing, headache or dizziness. Absorption can cause skin rash, dryness or redness. Repeated exposures may affect concentration, memory, vision, and muscle coordination.

Site Hazards Checklist

Weather			
Hot Temperatures	Cold Temperatures	High Winds	Select Hazard

Hot Temperatures

Heat stress may occur at any time work is being performed at elevated ambient temperatures. Because heat stress is one of the most common and potentially serious illnesses associated with outdoor work during hot seasons, regular monitoring and other preventative measures are vital. Site workers must learn to recognize and treat the various forms of heat stress. The best approach is preventative heat stress management.

H&A employees and their subcontractors should be aware of potential health effects and/or physical hazards of working when there are hot temperatures or a high heat index. Refer OP1015-Heat Stress for a discussion on hot weather hazards.

Cold Temperatures

Cold stress may occur at any time work is being performed at low ambient temperatures and high velocity winds. Because cold stress is common and has potentially serious illnesses associated with outdoor work during cold seasons, regular monitoring and other preventative measures are vital.

Refer to OP1003-Cold Stress for additional information and mitigation controls.

High Winds

While high winds are commonly associated with severe thunderstorms and hurricanes they may also occur as a result of differences in air pressures, such as when a cold front passes across the area. They can cause downed trees and power lines, and flying debris (such as dust or larger debris), which adds additional risks and could lead to power outages, transportation disruptions, damage to buildings and vehicles, and serious injury.

Wind Advisory are issued for sustained winds 25 to 39 mph and/or gusts to 57 mph. High Wind warnings are issued by the National Weather Service when high wind speeds may pose a hazard or is life threatening. The criteria for this warning will varies by state. The Beaufort Wind Scale is a helpful tool to when dealing with high winds.

Biological			
Mosquitoes	Stinging Insects	Large/Small Mammals	Choose an item.

Mosquitos

Work outdoors with temperatures above freezing will likely bring staff into contact with mosquitos. There are a variety of mosquito species that can transmit a range of diseases. Birds act as reservoirs for the viruses that can be collected by the mosquito and transmitted to a person. Majority of mosquitos are mainly a nuisance but staff need to take appropriate precautions to minimize the potential transmission of a virus that can result in one of the following diseases: West Nile, Eastern Equine Encephalitides and Western Encephalitides. Knowing some key steps that can minimize the risk of mosquito bites is, therefore, important in reducing the risks. Workers working outdoors should be aware that the use of PPE techniques is essential to preventing mosquito bites especially when working at sites where mosquitoes may be active and biting.

Use repellents containing DEET, picaridin, IR3535, and some oil of lemon eucalyptus and para-menthane-diol products provide longer-lasting protection. To optimize safety and effectiveness, repellents should be used according to the label instructions. Cover as much of your skin as possible by wearing shirts with long-sleeves, long pants, and socks whenever possible. Avoid use of perfumes and colognes when working outdoors during peak times when mosquitoes may be active; mosquitoes may be more attracted to individuals wearing perfumes and colognes.

Stinging Insects

Stinging Insects fall into two major groups: Apidae (honeybees and bumblebees) and vespids (wasps, yellow jackets, and hornets). Apidae are docile and usually do not sting unless provoked. The stinger of the honeybee has multiple barbs, which usually detach after a sting. Vespids have few barbs and can inflict multiple stings.

There are several kinds of stinging insects that might be encountered on the project site. Most stings will only result in a temporary injury. However, sometimes the effects can be more severe, even life-threatening depending on where you are stung and what allergies you have. Being stung in the throat area of the neck may cause edema (swelling caused by fluid build-up in the tissues) around the throat and may make breathing difficult.

In rare cases, a severe allergic reaction can occur. This can cause "anaphylaxis" or anaphylactic shock with symptoms appearing immediately or up to 30 minutes later. Symptoms include; Hives, itching and swelling in areas other than the sting site, swollen eyes/eyelids, wheezing, chest tightness, difficulty breathing, hoarse voice, swelling of the tongue, dizziness or sharp drop in blood pressure, shock, unconsciousness or cardiac arrest. Reactions can occur the first time you are stung or with subsequent stings. If you see any signs of reaction, or are unsure, call or have a co-worker call emergency medical services (e.g., 911) right away. Get medical help for stings near the eyes, nose or throat. Stay with the person who has been stung to monitor their reaction.

Staff who are allergic to bee stings are encouraged to inform their staff/project manager. If staff member carries an Epi-pen (i.e., epinephrine autoinjector) they are encouraged to inform their colleagues in case they are stung and are incapable of administering the injection. Examine site for any signs of activity or a hive/nest. If you see several insects flying around, see if they are entering/exiting from the same place. Most will not sting unless startled or attacked. Do not swat, let insects fly away on their own. If you must, walk away slowly or gently "blow" them away. If a nest is disturbed and you hear "wild" buzzing, protect your face with your hands and run from the area immediately. Wear long sleeves, long pants, and closed-toed boots. Wear light colored clothes such as khakis. Avoid brightly colored, patterned, or black clothing. Tie back long hair to avoid bees or wasps from entanglement. Do not wear perfumes, colognes or scented soaps as they contain fragrances that are attractive. If bee or wasp is found in your car, stop and leave windows open.

Small Mammals

Rodents, are the most abundant order of mammals. There are hundreds of species of rats; the most common are the black and brown rat. Other rodents you may encounter are mice, beavers, squirrels, guinea pigs, capybaras and coypu.

The Brown Rat has small ears, blunt nose, and short hair. It is approximately 14-18” long (with tail). They frequently infest garbage/rubbish, slaughterhouses, domestic dwellings, warehouses, and supermarkets. They also frequent any space with an easy meal and potential nesting sites. The Black Rat is identified by its tail, that is always longer than the length from the head to the body. It is also slimmer and more agile than the Brown rat. Its size varies according to its environment and food supply.

The House Mouse has the amazing ability to adapt and can frequently be found in human dwellings. In buildings, mice will live anywhere and difficult to keep out. Mice are omnivorous, they will eat anything. Rats and mice often become a serious problem in cold winter months when they seek food and warmth inside buildings. They may suddenly appear in large numbers when excavation work disturbs their in-ground nesting locations or their food source is changed.

Some major problems caused by rats and mice are contaminating the food they eat with urine and excrement. Gnawing into materials such as paper, wood, or upholstery, to use as nest material. Also gnawing plastic, cement, soft metals such as lead and aluminum, and wiring, which may cause a fire hazard. Occasionally biting people and may kill small animals. They, or the parasites they carry, like fleas, mites and worms, spread many diseases such as salmonella, trichinosis, rat bite fever, hantavirus, Weil's disease, and bubonic plague. They damage ornamental plants by burrowing among the roots or feeding on new growth. They also eat garden vegetables, such as corn and squash. These rodents have been a problem for centuries, because of their incredible ability to survive and are so difficult to eliminate. In addition, they are extremely compatible with human behavior and needs.

Avoid contact with rodents, if possible. Avoid contact with rodent excrement. Do not eat food or water that may have encountered rodent excrement. If exposed, wash hands and avoid touching your face with your hands.

Location/Terrain			
Slip/Trip/Falls	SIMOPS	Economically Depressed	Choose an item.

Slips, Trips & Falls

Slip and trip injuries are the most frequent injuries to workers. Statistics show most falls happen on the same level resulting from slips and trips. Both slips and trips result from unintended or unexpected change in the contact between the feet and the ground or walking surface. Good housekeeping, quality of walking surfaces (flooring), awareness of surroundings, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

Site workers will be walking on a variety of irregular surfaces, that may affect their balance. Extra care must be taken to walk cautiously near rivers because the bottom of the riverbed maybe slick and may not be visible. Rocks, gradient changes, sandy bottoms, and debris may be present but not observable.

Take your time and pay attention to where you are going. Adjust your stride to a pace that is suitable for the walking surface and the tasks you are doing. Check the work area to identify hazards - beware of trip hazards such as wet floors, slippery floors, and uneven surfaces or terrain. Establish and utilize a pathway free of slip and trip hazards. Choose a safer walking route. Carry loads you can see over. Keep work areas clean and free of clutter. Communicate hazards to on-site personnel and remove hazards as appropriate.

SIMOPS

SIMOPS are described as the potential class of activities which could bring about an undesired event or set of circumstances, e.g., safety, environment, damage to assets, schedule, commercial, financial, etc. SIMOPS are defined as performing two or more operations concurrently.

SIMOPS should be identified at an early stage before operations commence to understand issues such as schedule and physical clashes, maintenance activities, failure impacts, interferences between vessels, contracts and third part interfaces and environmental impacts.

Coordinate project with site activities. Identify and understand the hazards associated with the host and client's activities. Integrate site emergency response protocols where appropriate and communicate to all project staff. Integrate site communication protocols and communicate to all project staff.

Economically Depressed Areas

Economically depressed areas may have high crime rates. Projects involving work in and around inactive industrial sites may bring staff into contact with indigent and homeless persons. Staff could be subjected to crime that includes but may not be limited to thievery, vandalism, and violence. Prior to the start of work staff need to understand the work locations and the potential for exposure to low level crime.

Staff members should never work alone in these areas. A buddy system is required. Conduct during daylight hours. Secure equipment and vehicles. If warranted, contact the local police department for a security detail. Leave the work area immediately and contact the local authorities if staff members feel threatened or are threatened.

Miscellaneous			
Extended Shift	Choose an item.	Choose an item.	Choose an item.

Extended Shift

An extended shift can include extending a workday beyond eight hours. Extended or unusual work shifts may be more stressful physically, mentally, and emotionally. Non-traditional shifts and extended work hours may disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration. This leads to an increased risk of operator error, injuries and/or accidents. The degree to which an individual is exposed to fatigue risk factors depends upon the work schedule. As both the duration of the workday and the number of days worked increase so does the fatigue risk factors. Staff Managers need to be aware of the fatigue risk factors and ensure projects are structured to mitigate these factors. Staff Members also have a responsibility to manage the personal fatigue risk factors that they can control outside of work (e.g, duration and quality of sleep, diet, drugs, and alcohol)

Fatigue is a message to the body to rest and can be eliminated with proper rest. However, if rest is not possible, fatigue can increase and becomes distressing and eventually debilitating. Fatigue symptoms, both mental and physical, vary and depend on the person and degree of overexertion. Examples include: weariness, sleepiness, irritability, reduced alertness, lack of memory, concentration and motivation, increased susceptibility to illness, depression, headache, loss of appetite, and digestive problems.

When possible, managers should limit use of extended shifts and increase the number of days worked. Working shifts longer than 8 hours generally result in reduced productivity and alertness. Additional breaks and meals should be provided when working extended shift periods. Tasks requiring heavy physical labor or intense concentration should be performed at the beginning of the shift if possible. This is an important consideration for pre-emergency planning.

Make efforts, when feasible, to ensure that unavoidable extended work shifts and shift changes allow affected employees time for adequate rest and recovery. Project Managers need to plan to have an adequate number of personnel available to enable workers to take breaks, eat meals, relax, and sleep.

Plan for regular and frequent breaks throughout the work shift. If at remote sites, ensure if possible, that there is a quiet, secluded area designated for rest and recuperation. In addition to formal breaks such as lunch or dinner, encourage use of micro breaks to change positions, move about, and shift concentration. Personnel should look to obtain an adequate quantity and quality of sleep.

Task Hazard Summary

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Task 1 - Geophysical Survey

Surveying presents many challenges regarding safety given that the survey location is typically dynamic and can be at large construction sites, roadways, or in the woods. Before beginning a survey, determine potential hazards that might arise from the natural environment, the public, and the contractor's operations and plan the survey accordingly.

Work on a construction site will expose staff to heavy equipment, SIMOPs, and the hazards associated with the type of construction being conducted. Coordination with the site GC is critical. Work on a road way will expose staff to vehicular traffic and potentially foot traffic. The safety measures employed must be consistent with the MUTCD or equivalent state requirements. Staff need to maintain at least six feet of space between moving traffic and the work area. This includes work on shoulders as well as on the traveled way. Survey at the maximum space possible between moving traffic and the work area. Whenever feasible, each staff member must face moving traffic at all times. If it is not possible to face traffic, a lookout should be used. Work in remote areas may expose staff to wildlife, insects and poor communication. Equipment shall be carried properly so that pinch points are avoided and staff are not overloaded when moving from one location to another.

Use of proper PPE (e.g., High Visibility Vests) is an important component of conducting the work safely. Suspend survey operations when uncontrollable hazards develop. Resume work only when safe working conditions have been restored.

Task 2 – Drilling & Pre-Clearing

Drilling is conducted for a range of services that can include but are not limited to: soil characterization, environmental investigation, well installation, and ore exploration. Familiarity with basic drilling safety is an essential component of all drilling projects. Potential hazards related to drilling operations include, but are not limited to encountering underground or overhead utilities, traffic and heavy equipment, hoisting heavy tools, steel impacts, open rotation entanglement, and the planned or unexpected encountering of toxic or hazardous substances. While staff members do not operate drilling equipment, they may work in close proximity to operating drilling equipment and may be exposed to many of the same hazards as the drilling subcontractor. It is imperative that staff are aware of emergency stops and establish communication protocols with the drillers prior to the start of work.

See OP 1002 Drilling Safety for more information.

Ground disturbance activities such as excavating or drilling have the potential to contact underground utilities and may be considered a hazardous activity and a permit to work may be required. Once the H&A Project Manager has identified the work zone and the areas designated for ground disturbance the

PM or designee is required to delineate the area with either white paint or flags so that the appropriate agencies know which area to check for their respective utilities. Haley & Aldrich staff members must ensure that permission has been gained from the property owner to access the property prior to site entry and before marking any proposed exploration or drilling locations.

The Project Manager shall verify that the proposed dig or drill zones are adequately marked or staked prior to the locators site visit, and that the appropriate Line Location Organization/ Contractor has been notified (a minimum of 72 business hours in advance) of all planned ground disturbance activities and a request for line location has been registered with the applicable One Call or dial Before You Dig organization when applicable. Personnel that are required to mark the area need to identify and understand the hazards associated with the project area which can range from a public roadway to a greenspace in a remote location.

See OP1020 Work Near Utilities.

Task 3A – Soil Sampling

Soil sampling by H&A staff on active construction sites can be conducted in conjunction with a wide range activities such as building construction, earthwork and soil management related activities. These activities can include, but are not limited to: drill spoil characterization and management during building foundation element installation, characterization of excavated soils for management/disposal/reuse during earthwork activities, and as part of environmental remedial activities such as delineation and confirmation sampling. Familiarity with basic heavy construction safety, site conditions (geotechnical and environmental), and potential soil contaminants are essential components of soil sampling performed on active sites. Potential hazards related to soil sampling at construction sites include, but are not limited to: encountering site vehicle traffic and heavy equipment operations, manual lifting, generated waste, contact or exposure to impacted soil, and encountering unknown toxic or hazardous substances. Although soil sampling is commonly performed within active excavations, from stockpiles, or within trench excavations, sampling locations and situations will vary depending on site conditions. Care should be taken while entering and exiting excavations or trenches, and when accessing (climbing up or down) soil stockpiles, ensuring that the sampling area is not being actively accessed by construction equipment. Care should also be taken with handling of potentially environmentally impacted soil during sampling, with appropriate PPE identified and used. At no time during classification activities are personnel to reach for debris near machinery that is in operation, place any samples in their mouth, or come in contact with the soils without the use of gloves. Staff will have to carry and use a variety of sampling tools, equipment, containers, and potentially heavy sample bags. It is imperative that staff are aware of emergency / communication protocols with the Contractor prior to the start of work.

Task 3B – Soil Vapor Sampling

Soil gas sampling is employed as an indirect indicator of contamination in soil or groundwater particularly over and around landfill waste sites, or groundwater plumes. Soil gas sampling points can be installed manually using a slam bar or power driven mechanical devices (e.g., demolition hammer or Geoprobe) may be used based on site conditions (i.e., pavement, frozen ground, very dense clays, etc.).

Soil gas samples can be drawn through the probe itself, or through Teflon tubing inserted through the probe and attached to the probe point. Samples are collected and analyzed as described below. Other field air monitoring devices, such as the Combustible Gas Indicator (CGI) and the Organic Vapor Analyzer (OVA), can also be used, depending on specific site conditions.

Because the sample is being drawn from underground, and no contamination is introduced into the breathing zone, soil gas sampling usually occurs in Level D. Nevertheless, ambient air should be constantly monitored to obtain background and breathing zone readings during the sampling procedure in the event the seal around the sampling point is breached. As long as the levels in ambient air do not rise above background, no upgrade of the level of protection is needed. Also, an underground utility search must be performed prior to sampling.

Task 3C – Water Sampling

Environmental water sampling could include activities such as groundwater sampling from permanent or temporary wells, or surface water sampling from streams, rivers, lakes, ponds, lagoons, and surface impoundments.

Sampling tasks could involve uncapping, purging (pumping water out of the well), and sampling, and/or monitoring, new or existing monitoring wells. A mechanical pump may be used to purge the wells and can be hand-, gas-, or electric-operated. Water samples taken from the wells are then placed in containers and shipped to an analytical laboratory for analysis. The physical hazards of these operations are primarily associated with the collection methods and procedures used.

When sampling bodies of water containing known or suspected hazardous substances, adequate precautions must be taken to ensure the safety of sampling personnel. The sampling team member collecting the sample should not get too close to the edge, where ground failure or slips, trips or falls may cause him/her to lose his/her balance. The person performing the sampling should have fall restraint or protection for the task. When conducting sampling from a boat in an impoundment or flowing waters, appropriate vessel safety procedures should be followed. Avoid lifting heavy coolers with back muscles; instead, use ergonomic lifting techniques, team lift or mechanical lifts. Wear proper gloves, such as when handling sample containers to avoid contacting any materials that may have spilled out of the sample containers.

Inhalation and absorption of COCs are the primary routes of entry associated with water sampling, due to the manipulation of sample media and equipment, manual transfer of media into sample containers, and proximity of operations to the breathing zone. During this project, several different groundwater sampling methodologies may be used based on equipment accessibility and the types of materials to be sampled. These sampling methods may include hand or mechanical bailing. The primary hazards associated with these specific sampling procedures are not potentially serious; however, other operations in the area or the conditions under which samples must be collected may present chemical and physical hazards. The hazards directly associated with groundwater sampling procedures are generally limited to strains or sprains from hand bailing, and potential eye hazards. Exposure to water containing COCs is also possible. All tools and equipment that will be used at the site must be intrinsically safe (electronics and electrical equipment) and non-sparking or explosion-proof (hand tools).

Task Physical Hazards Checklist				
Potential Task Hazards	**Task 1** **Geophysical Survey**	**Task 2** **Drilling & Pre-Clearing**	**Task 3** **Soil, Groundwater, and Soil Vapor Sampling**	
Heavy Equipment	☒	☒	☒	
Noise	☐	☒	☒	
Slippery Surfaces	☒	☒	☒	
Congested Area	☒	☒	☒	
Ergonomics	☒	☒	☒	
Excavation/Trenching	☐	☐	☐	
Ground Disturbance	☐	☒	☒	
Line of Fire	☒	☒	☒	
Overhead Utilities	☒	☒	☐	
Underground Utilities	☒	☒	☒	
Sharp Objects	☐	☒	☒	
Other: Specify	☐	☐	☐	

Summary of Physical Hazards & Controls

Heavy Equipment

Staff must be careful and alert when working around heavy equipment, failure or breakage and limited visibility can lead to accidents and worker injury. Heavy equipment such as cranes, drills, haul trucks, or other can fail during operation increasing chances of worker injury. Equipment of this nature shall be visually inspected and checked for proper working order prior to commencement of field work. Those operating heavy equipment must meet all requirements to operate the equipment. Haley & Aldrich, Inc. staff that supervise projects or are associated with high risk projects that involve digging or drilling should use due diligence when working with a construction firm.

See OP1052 Heavy Equipment for additional information.

Controls

- Only approach equipment once you have confirmed contact with the operator (e.g., operator places the bucket on the ground).
- Always maintain visual contact with operators and keep out of the strike zone whenever possible.
- Always be alert to the position of the equipment around you.

- Always approach heavy equipment with an awareness of the swing radius and traffic routes of all equipment and never go beneath a hoisted load.
- Avoid fumes created by heavy equipment exhaust.

Noise

Working around heavy equipment (drill rigs, excavators, etc.) often creates excessive noise. The effects of noise include physical damage to the ear, pain, and temporary and/or permanent hearing loss. Workers can also be startled, annoyed, or distracted by noise during critical activities. Noise monitoring data that indicates that working within 25 feet of operating heavy equipment result in exposure to hazardous levels of noise (levels greater than 85 dBA).

See OP 1031 Hearing Conservation for additional information.

Controls

- Personnel are required to use hearing protection (earplugs or earmuffs) within 25 feet of any operating piece of heavy equipment.
- Limit the amount of time spent at a noise source.
- Move to a quiet area to gain relief from hazardous noise sources.
- Increase the distance from the noise source to reduce exposure.

Slippery Surfaces

Both slips and trips result from unintended or unexpected change in the contact between the feet and ground or walking surface. Good housekeeping, quality of walking surfaces, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents. Slips happen where there is too little friction or traction between the footwear and walking surface.

Common causes of slips are wet or oily surfaces, spills, weather hazards, loose unanchored rugs or mats and flooring or other walking surfaces that do not have same degree of traction in all areas.

Weather-related slips and falls become a serious hazard as winter conditions often make for wet or icy surfaces outdoors. Even wet organic material or mud can create hazardous walking conditions. Spills and leaks can also lead to slips and falls.

Controls

- Evaluate the work area to identify any conditions that may pose a slip hazard.
- Address any spills, drips or leaks immediately.
- Mark areas where slippery conditions exist.
- Select proper footwear or enhance traction with additional PPE.
- Where conditions are uncertain or environmental conditions result in slippery surfaces walk slowly, take small steps, and slide feet on wet or slippery surfaces.

Congested Areas

Working in congested areas can expose both workers and the public to a wide range of hazards depending upon the specific activities taking place. Staff Members need to understand the work scope, work areas, equipment on-site, and internal traffic patterns to minimize or eliminate exposure potential.

Controls

- Provide barricades, fencing, warning signs/signals and adequate lighting to protect people while working in or around congested areas.
- Vehicles and heavy equipment with restricted views to the rear should have functioning back-up alarms that are audible above the surrounding noise levels. Whenever possible, use a signaler to assist heavy equipment operators and/or drivers in backing up or maneuvering in congested areas.
- Lay out traffic control patterns to eliminate excessive congestion.
- Workers in congested areas should always wear high visibility clothing.
- Be aware of Line of Fire hazards when performing work activities in congested areas.
- Hazards associated with SIMOPs should be discussed daily at Tailgate Safety Meetings.

Ergonomics

Most Work-related Musculoskeletal Disorders (WMSDs) are caused by Ergonomic Stressors. Ergonomic Stressors are caused by poor workplace practices and/or insufficient design, which may present ergonomic risk factors. These stressors include, but not limited to, repetition, force, extreme postures, static postures, quick motions, contact pressure, vibration, and cold temperatures.

WMSDs are injuries to the musculoskeletal system, which involves bones, muscles, tendons, ligaments, and other tissues in the system. Symptoms may include numbness, tightness, tingling, swelling, pain, stiffness, fatigue, and/or redness. WMSD are usually caused by one or more Ergonomic Stressors. There may be individual differences in susceptibility and symptoms among employees performing similar tasks. Any symptoms are to be taken seriously and reported immediately.

See OP1053 Ergonomics for more information.

Controls

- Ensure workstations are ergonomically correct so bad posture is not required to complete tasks.
- Take periodic breaks over the course of the day.
- Stretch during break times.
- Break up tasks that require repetitive motion.
- Contact Corporate H&S with any ergonomic concerns

Excavation & Trenches

There are multiple hazards associated with working in and around excavations and trenches including cave-ins, potential running soils, dislodged excavated soils, lack of proper access and egress. Nonfatal, and even fatal, injuries may occur in association with excavation and trenching activities with a greater frequency than one might expect. Causes of bodily injury, illness, or death include asphyxiation, internal injuries due to physical crushing, falling objects and toxic exposures.

See OP1001 Excavation and Trenching Safety for more information.

Controls

- Do not enter an exaction unless it has been inspected and has appropriate protective measures in place: shoring, benching, or sloping.
    - Protective measures are required for excavations that are 5 feet or deeper.
- If entry is required verify with the on-site competent person that:

  - no atmospheric hazards exist or have the potential to exist
  - there is no standing water or water removal operations are in place
  - the daily inspection has occurred
  - spoil piles, equipment or other is at least 2 feet from the edge
  - There is safe access and egress to the excavation which can include ladders, steps, ramps or other safe means. The means of access and egress shall be no more than 25' away.
- If there is any doubt about the safety of the excavation personnel will not enter the excavation or trench and will contact the PM and the Regional Safety Manager.
- Do not stand on the long side of the cut. If required ensure there are no tension cracks.

Ground Disturbance

Ground disturbance is defined as any activity disturbing the ground. Ground disturbance activities include, but are not limited to, excavating, trenching, drilling (either mechanically or by hand), digging, plowing, grading, tunneling and pounding posts or stakes.

Because of the potential hazards associated with striking an underground utility or structure, the operating procedure for underground utility clearance shall be followed prior to performing any ground disturbance activities.

See OP1020 Working Near Utilities

Controls

Prior to performing ground disturbance activities, the following requirements should be applied:

- Confirm all approvals and agreements (as applicable) either verbal or written have been obtained.
- Request for line location has been registered with the applicable One-Call or Dial Before You Dig organization, when applicable.
  - Whenever possible, ground disturbance areas should be adequately marked or staked prior to the utility locators site visit.
- Notification to underground facility operator/owner(s) that may not be associated with any known public notification systems such as the One-Call Program regarding the intent to cause ground disturbance within the search zone.
- Notifications to landowners and/or tenant, where deemed reasonable and practicable.
- Proximity and Common Right of Way Agreements shall be checked if the line locator information is inconclusive.

Line of Fire

Line of fire refers to the path an object will travel. Examples of line of fire situations typically observed on project sites include lifting/hoisting, lines under tension, objects that can fall or roll, pressurized objects or lines, springs or stored energy, work overhead, vehicles and heavy equipment.

Controls

- Never walk under a suspended load.
- Be aware and stay clear of tensioned lines such as cable, chain and rope.
- Be cautious of torque stresses that drilling equipment and truck augers can generate. Equipment can rotate unexpectedly long after applied torque force has been stopped.
- Springs and other items can release tremendous energy if compressed and suddenly released

- Items under tension and pressure can release tremendous energy if it is suddenly released.
- Not all objects may be overhead; be especially mindful of top-heavy items and items being transported by forklift or flatbed.
- Secure objects that can roll such as tools, cylinders, and pipes.
- Stay clear of soil cuttings or soil stockpiles generated during drilling operations and excavations, be aware that chunks of soil, rocks, and debris can fall or roll.

Overhead Utilities

When work is undertaken near overhead electrical lines, the distance maintained from those lines shall also meet the minimum distances for electrical hazards as defined in Table 1 below. Note: utilities other than overhead electrical utilities need to be considered when performing work.

Table 1 Minimal Radial Clearance Distances *

Normal System Voltage Kilovolts (kV)	Required Minimal Radial Clearance Distance (feet/meters)
0 – 50	**10/3.05**
51 – 100	**12/3.66**
101 – 200	**15/4.57**
201 – 300	**10/6.1**
301 – 500	**25/7.62**
501 – 750	**35/10.67**
750 - 1000	**45/13.72**

* For those locations where the utility has specified more stringent safe distances, those distances shall be observed.

Controls

- To prevent damage, guy wires shall be visibly marked and work barriers or spotters provided in those areas where work is being conducted.
    - When working around guy wires, the minimum radial clearance distances for electrical power shall be observed.
- The PM shall research and determine if the local, responsible utility or client has more restrictive requirements than those stated in Table 1.
- If equipment cannot be positioned in accordance with the requirements established in Table 1 the lines need to be de-energized.

Underground Utilities

Various forms of underground/overhead utility lines or conveyance pipes may be encountered during site activities. Prior to the start of intrusive operations, utility clearance is mandated, as well as obtaining authorization from all concerned public utility department offices. Should intrusive operations cause equipment to come into contact with utility lines, the SHSO, Project Manager, and Regional H&S Manager shall be notified immediately. Work will be suspended until the client and applicable utility agency is contacted and the appropriate actions for the situation can be addressed.

See OP1020 Work Near Utilities for complete information.

Controls

- Obtain as-built drawings for the areas being investigated from the property owner;
- Visually review each proposed soil boring locations with the property owner or knowledgeable site representative;
- Perform a geophysical survey to locate utilities;
- Hire a private line locating firm to determine location of utility lines that are present at the property;
- Identifying a no-drill or dig zone;
- Hand dig or use vacuum excavation in the proposed ground disturbance locations if insufficient data is unavailable to accurately determine the location of the utility lines.

Sharp Objects

Workers who handle sharp edged objects like sheets of steel or glass are at risk of cuts. Workers who handle sharp edged objects are also at risk of cuts. Injuries may occur to hands, fingers, or legs when they are in the way of the blade, when the blade slips, or if an open blade is handled unexpectedly. Other hazards at job sites include stepping on sharp objects (e.g. wooden boards with protruding nails, sharp work-tools, chisels, etc.) and colliding with sharp and/or protruding objects.

Controls

Always be alert when handling sharps. Never look away or become distracted while handling sharp objects. Use caution when working with tools; use right tool for the job. Keep tools sharp, dull blades are a safety hazard, requiring more force to make cuts which can lead to tool slippage. Wear appropriate PPE and do not handle sharp objects (i.e., broken glass) with bare hands. Use mechanical devices, when possible. Stay away from building debris; avoid handling site debris or placing your hand where you cannot see. Watch out for barbed wire and electrical fences; cover with a car mat or equivalent to cross or walk around; use the buddy system to avoid entanglement; wear gloves. Do not leave unprotected sharps unattended. Use protective shields, cases, styrofoam blocks, etc. Pass a sharp by handing it over carefully by the handle with the blade down or retracted. Fixed open blades are prohibited. Always cut away from the body, making several passes when cutting thicker materials. Make sure blades are fitted properly into the knife. Never cut items with a blade or other sharp object on your lap. Never try to catch a blade or cutting tool that is falling.

4. PROTECTIVE MEASURES

The personal protective equipment and safety equipment (if listed) is specific to the associated task. The required PPE and equipment listed must be onsite during the task being performed. Work shall not commence unless the required PPE or Safety Equipment is present.

Required Safety & Personal Protective Equipment

Required Personal Protective Equipment (PPE)	**Task 1**	**Task 2**	**Task 3**	
	Geophysical Survey	**Drilling & Pre-Clearing**	**Soil, Soil Vapor, and Groundwater Sampling**	
Hard hat	☒	☒	☒	☐
Safety Glasses	☒	☒	☒	☐
Safety Toed Shoes	☒	☒	☒	☐
Nitrile Gloves	☒	☒	☒	☐
Cut Resistant Gloves	☒	☒	☒	☐
Tyvek Suit	☐	☐	☐	☐
Hearing Protection	☒	☒	☒	☐
Level of protection required	D	D	D	Select
Required Safety Equipment				
First Aid Kit	☒	☒	☒	☐

5. TRAINING REQUIREMENTS

The table below lists the training requirements staff must have respective to their assigned tasks and that are required to access the Site.

Site Specific Training Requirements
HAZWOPER - 40 Hour (Initial)
HAZWOPER - 8 Hour (Annual Refresher)

Task Specific Training Requirements

Required Training Type	Task 1	Task 2	Task 3	
	Geophysical Survey	Drilling & Pre-Clearing	Soil, Soil Vapor, and Groundwater Sampling	
N/A	☐	☐	☐	☐

6. AIR MONITORING PLAN AND EQUIPMENT

Exposures to airborne substances shall be fully characterized throughout project operations to ensure that exposure controls are effectively selected and modified as needed.

Is air/exposure monitoring required at this work site for personal protection? Yes

Is perimeter monitoring required for community protection? Yes

Air monitoring plan not applicable No

Air Monitoring/Screening Equipment Requirements

Aeroqual AQS 1 station with Dust Sentry and VOC sensor

Photo-Ionization Detector (PID) 10.6eV

The required equipment listed above must be on site. Work shall not commence unless the equipment is present and in working order.

Dust Suppression Techniques

Preventative measures for dust generation may include wetting site fill and soil, construction of an engineered construction entrance with gravel pad, a truck wash area, covering soils with tarps, and limiting vehicle speeds to five miles per hour.

Personal Exposure Monitoring

No asbestos, lead-based paint, or radiological hazards have been identified within the vicinity of the proposed excavation area at the Site (see Section 2.0). Therefore, personal exposure monitoring is not required during excavation.

Monitoring Plans

Parameter/ Contaminant	Equipment	Action Level	Response Activity
VOCs	PID 10.6 eV	< 10 ppm	Continue work and monitoring.
		>10 ppm for 5 minutes	Clear Instrument and Re-Monitor the Area. Implement PPE upgrades
		>10 ppm for >5 minutes	Evacuate the area and call the FSM and/or PM for further guidance. Implement engineering controls.

Zone Location and Monitoring Interval
Upwind and Downwind of the Work Zone. Recorded every 15 minutes

***If chemical does not have an action level use TLV or REL, whichever is lowest, to be used as an action level. If TLV or REL are the same as PEL, cut the PEL in half for an action level.**

7. DECONTAMINATION & DISPOSAL METHODS

All possible and necessary steps shall be taken to reduce or minimize contact with chemicals and contaminated/impacted materials while performing field activities (e.g., avoid sitting or leaning on, walking through, dragging equipment through or over, tracking, or splashing potential or known contaminated/impacted materials.)

Personal Hygiene Safeguards

The following minimum personal hygiene safeguards shall be adhered to:

1. No smoking or tobacco products in any project work areas.
2. No eating or drinking in the exclusion zone.
3. It is required that personnel present on site wash hands before eating, smoking, taking medication, chewing gum/tobacco, using the restroom, or applying cosmetics and before leaving the site for the day.

It is recommended that personnel present on site shower or bathe at home at the end of each day of working on the site.

Decontamination Supplies

All decontamination should be conducted at the project site in designated zones or as dictated by Client requirements. Decontamination should not be performed on Haley & Aldrich owned or leased premises.

☐ Acetone	☒ Distilled Water	☐ Polyethylene Sheeting
☒ Alconox Soap	☒ Drums	☐ Pressure/Steam Cleaner
☒ Brushes	☐ Hexane	☐ Tap Water
☒ Disposal Bags	☐ Methanol	☐ Wash tubs
☒ 5 Gallon Buckets	☒ Paper Towels	☐ Other: Specify

Location of Decontamination Station

Describe/Enter location of decontamination station or refer to a figure where it is shown.

Standard Personal Decontamination Procedures

Outer gloves and boots should be decontaminated periodically as necessary and at the end of the day. Brush off solids with a hard brush and clean with soap and water or other appropriate cleaner whenever possible. Remove inner gloves carefully by turning them inside out during removal. Wash hands and forearms frequently. It is good practice to wear work-designated clothing while on-site which can be removed as soon as possible. Non-disposable overalls and outer work clothing should be bagged onsite prior to laundering. If gross contamination is encountered on-site contact the Project Manager and Field Safety Manager to discuss proper decontamination procedures.

The steps required for decontamination will depend upon the degree and type of contamination but will generally follow the sequence below.

1. Remove and wipe clean hard hat
2. Rinse boots and gloves of gross contamination
3. Scrub boots and gloves clean
4. Rinse boots and gloves
5. Remove outer boots (if applicable)
6. Remove outer gloves (if applicable)
7. Remove Tyvek coverall (if applicable)
8. Remove respirator, wipe clean and store (if applicable)
9. Remove inner gloves (if outer gloves were used)

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles.

Small Equipment Decontamination

Pretreatment of heavily contaminated equipment may be conducted as necessary:

1. Remove gross contamination using a brush or wiping with a paper towel
2. Soak in a solution of Alconox and water (if possible)
3. Wipe off excess contamination with a paper towel

Standard decontamination procedure:

4. Wash using a solution of Alconox and water
5. Rinse with potable water
6. Rinse with methanol (or equivalent)
7. Rinse with distilled/deionized water

Inspect the equipment for any remaining contamination and repeat as necessary.

Disposal Methods

Procedures for disposal of contaminated materials, decontamination waste, and single use personal protective equipment shall meet applicable client, locate, State, and Federal requirements.

Disposal of Single Use Personal Protective Equipment

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles. PPE that is grossly contaminated must be bagged (sealed and field personnel should communicate with the Project Manager to determine proper disposal.

Disposal Method for Contaminated Soil

- Contaminated soil cuttings and spoils must be containerized for disposal off-site unless otherwise specifically directed.
- Soil cuttings and spoils determined to be free of contamination through field screening can usually be returned to the boreholes or excavations from which they came.

8. SITE CONTROL

The overall purpose of site control is to minimize potential contamination of workers, protect the public from the site's hazards, and prevent vandalism. Site control is especially important in emergency situations. The degree of site control necessary depends on site characteristics, site size, and the surrounding community. The following information identifies the elements used to control the activities and movements of people and equipment at the project site.

Communication

Internal
Haley & Aldrich site personnel will communicate with other Haley & Aldrich staff member and/or subcontractors or contractors with:

Face to Face Communication

External
H&S site personnel will use the following means to communicate with off-site personnel or emergency services.

Cellular Phones

Visitors

Project Site
Will visitors be required to check-in prior to accessing the project site?

Yes

Visitor Access
Authorized visitors that require access to the project site need to be provided with known information with respect to the site operations and hazards as applicable to the purpose of their site visit. Authorized visitors must have the required PPE and appropriate training to access the project site.

Zoning

Work Zone
The work zone will be clearly delineated to ensure that the general public or unauthorized worker access is prevented. The following will be used:

Temporary Fencing
Cones
Flagging Tape
Barricades

9. SITE SPECIFIC EMERGENCY RESPONSE PLAN

The Emergency Response Plan addresses potential emergencies at this site, procedures for responding to these emergencies, roles, responsibilities during emergency response, and training. This section also describes the provisions this project has made to coordinate its emergency response with other contractors onsite and with offsite emergency response organizations (as applicable).

During the development of this emergency response plan, local, state, and federal agency disaster, fire, and emergency response organizations were consulted (if required) to ensure that this plan is compatible and integrated with plans of those organizations. Documentation of the dates of these consultations are the names of individuals contacted is kept on file and available upon request.

The site has been evaluated for potential emergency occurrences, based on site hazards, and the major categories of emergencies that could occur during project work are:

- Fire(s)/Combustion
- Hazardous Material Event
- Medical Emergency
- Natural Disaster

A detailed list of emergency types and response actions are summarized in Table 9.2 below. Prior to the start of work, the SSO will update the table with any additional site-specific information regarding evacuations, muster points, or additional emergency procedures. The SSO will establish evacuation routes and assembly areas for the Site. All personnel entering the Site will be informed of these routes and assembly areas.

Pre-Emergency Planning

Before the start of field activities, the Project Manager will ensure preparation has been made in anticipation of emergencies. Preparatory actions include the following:

Meeting with the subcontractor/and or client concerning the emergency procedures in the event a person is injured. Appropriate actions for specific scenarios will be reviewed. These scenarios will be discussed, and responses determined before the sampling event commences. A form of emergency communication (i.e.; Cell phone, Air horn, etc.) between the Project Manager and subcontractor and/or client will be agreed on before the work commences.

A training session (i.e., "safety meeting") given by the Project Manager or their designee informing all field personnel of emergency procedures, locations of emergency equipment and their use, and proper evacuation procedures.

Ensuring field personnel are aware of the existence of the emergency response HASP and ensuring a copy of the HASP accompanies the field team(s).

Onsite Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate work rescue, contamination control and reduction or post-emergency cleanup. Emergency response equipment stocked

Table 9.1 Emergency Equipment and Emergency PPE			
Emergency Equipment	**Specific Type**	**Quantity Stocked**	**Location Stored**
First Aid Kit	Enter text	1	To be mounted on construction wall along 4th Avenue on the western edge of Site.
Emergency PPE	**Specific Type**	**Quantity Stocked**	**Location Stored**

EVACUATION ALARM
Will be communicated during the Onsite Kickoff Meeting
EVACUATION ROUTES
Will be given a map after site specific training
EVACUATION MUSTER POINT(S)/ SHELTER AREA(S)
Will be given a locations after site specific training
EVACUTION RESPONSE DRILLS
The Site relies on outside emergency responders and a drill is not required.

Table 9.2 – Emergency Planning

Emergency Type	Notification	Response Action	Evacuation Plan/Route
Chemical Exposure	Report event to PM immediately	Refer to Safety Data Sheet for required actions	Remove personnel from work zone
Fire - Small	Notify PM and contact 911	Use fire extinguisher if safe and qualified to do so	Mobilize to *Muster Point*
Fire – Large/Explosion	Notify PM and contact 911	Evacuate immediately	Mobilize to *Muster Point*
Hazardous Material – Spill/Release	Notify PM; PM will contact PM to determine if additional agency notification is	If practicable don PPE and use spill kit and applicable procedures to contain the release	See Evacuation Map for route, move at least 100 ft upwind of spill location
Medical – Bloodborne Pathogen	Notify PM	If qualified dispose in container or call client or city to notify for further instruction.	None Anticipated
Medical – First Aid	Notify PM	If qualified perform first aid duties	None Anticipated
Medical – Trauma	If life threatening or transport is required call 911, immediately	Wait at site entrance for ambulance	None Anticipated
Security Threat	Notify PM who will call 911 as warranted	Keep all valuables out of site and work zones delineated.	None Anticipated
Weather – Earthquake/Tsunami's	STOP WORK and evacuate Site upon any earthquake	Turn off equipment and evacuate as soon as is safe to do so	Mobilize to *Shelter Location*
Weather – Lightning Storm	STOP WORK	Work may resume 30 minutes after the last observed lightning.	None Anticipated
Weather – Tornadoes/Hurricanes	Monitor weather conditions STOP WORK and evacuate the site	Evacuate to shelter location or shelter in place immediately	Mobilize to *Shelter Location*
MUSTER POINT Will be communicated during the Onsite Kickoff Meeting		*SHELTER LOCATION* Will be communicated during the Onsite Kickoff Meeting	
In case of site emergencies, site personnel shall be evacuated per this table and will not participate in emergency response activities. Site emergencies shall be reported to local, state, and federal governmental agencies as required.			

10. HASP ACKNOWLEDGEMENT FORM

All Haley & Aldrich employees onsite must sign this form prior to entering the site.

I hereby acknowledge receipt of, and briefing on, this HASP prior to the start of on-site work. I declare that I understand and agree to follow the provisions, processes, and procedures set forth herein at all times while working on this site.

Printed Name	Signature	Date

ATTACHMENT A
HASP AMENDMENT FORM

HASP AMENDMENT FORM

This form is to be used whenever there is an immediate change in the project scope that will require an amendment to the HASP. For project scope changes associated with "add-on" tasks, the changes must be made in the body of the HASP. Before changes can be made, a review of the potential hazards must be initiated by the Haley & Aldrich Project Manager.

This original form must remain on site with the original HASP. If additional copies of this HASP have been distributed, it is the Project Manager's responsibility to forward a signed copy of this amendment to those who have copies.

Amendment No.	
Site Name	
Work Assignment No.	
Date	
Type of Amendment	
Reason for Amendment	
Alternate Safeguard Procedures	
Required Changes in PPE	

Project Manager Name (Print)	Project Manager Signature	Date

Health & Safety Approver Name (Print)	Health & Safety Approver Signature	Date

ATTACHMENT B
TRAINING REQUIREMENTS

TRAINING REQUIREMENTS

Health and Safety Training Requirements

Personnel will not be permitted to supervise or participate in field activities until they have been trained to a level required by their job function and responsibility. Haley & Aldrich staff members, contractors, subcontractors, and consultants who have the potential to be exposed to contaminated materials or physical hazards must complete the training described in the following sections.

The Haley & Aldrich Project Manager/FSM will be responsible for maintaining and providing to the client/site manager documentation of Haley & Aldrich staff members' compliance with required training as requested. Records shall be maintained per OSHA requirements.

40-Hour Health and Safety Training

The 40-Hour Health and Safety Training course provides instruction on the nature of hazardous waste work, protective measures, proper use of personal protective equipment, recognition of signs and symptoms which might indicate exposure to hazardous substances, and decontamination procedures. It is required for all personnel working on-site, such as equipment operators, general laborers, and supervisors, who may be potentially exposed to hazardous substances, health hazards, or safety hazards consistent with 29 CFR 1910.120.

8-hour Annual Refresher Training

Personnel who complete the 40-hour health and safety training are subsequently required to attend an annual 8-hour refresher course to remain current in their training. When required, site personnel must be able to show proof of completion (i.e., certification) at an 8-hour refresher training course within the past 12 months.

8-Hour Supervisor Training

On-site managers and supervisors directly responsible for, or who supervise staff members engaged in hazardous waste operations, should have eight additional hours of Supervisor training in accordance with 29 CFR 1910.120. Supervisor Training includes, but is not limited to, accident reporting/investigation, regulatory compliance, work practice observations, auditing, and emergency response procedures.

Additional Training for Specific Projects

Haley & Aldrich personnel will ensure their personnel have received additional training on specific instrumentation, equipment, confined space entry, construction hazards, etc., as necessary to perform their duties. This specialized training will be provided to personnel before engaging in the specific work activities including:

- Client specific training or orientation
- Competent person excavations
- Confined space entry (entrant, supervisor, and attendant)
- Heavy equipment including aerial lifts and forklifts
- First aid/ CPR
- Use of fall protection
- Use of nuclear density gauges
- Asbestos awareness

ATTACHMENT C

ROLES AND RESPONSIBILITIES

SITE ROLES AND RESPONSIBILITIES
Haley & Aldrich Personnel
Field Safety Manager (FSM)
The Haley & Aldrich FSM is a full-time Haley & Aldrich staff member, trained as a safety and health professional, who is responsible for the interpretation and approval of this Safety Plan. Modifications to this Safety Plan cannot be undertaken by the PM or the SSO without the approval of the FSM. Specific duties of the FSM include: • Approving and amending the Safety Plan for this project • Advising the PM and SHSOs on matter relating to health and safety • Recommending appropriate personal protective equipment (PPE) and air monitoring instrumentation • Maintaining regular contact with the PM and SSO to evaluate the conditions at the property and new information which might require modifications to the HASP and • Reviewing and approving JSAs developed for the site-specific hazards.
Project Manager (PM)
The Haley & Aldrich PM is responsible for ensuring that the requirements of this HASP are implemented at that project location. Some of the PM´s specific responsibilities include: • Assuring that all personnel to whom this HASP applies have received a copy of it; • Providing the FSM with updated information regarding environmental conditions at the site and the scope of site work; • Providing adequate authority and resources to the on-site SHSO to allow for the successful implementation of all necessary safety procedures; • Supporting the decisions made by the SHSO; • Maintaining regular communications with the SHSO and, if necessary, the FSM; • Coordinating the activities of all subcontractors and ensuring that they are aware of the pertinent health and safety requirements for this project; • Providing project scheduling and planning activities; and • Providing guidance to field personnel in the development of appropriate Job Safety Analysis (JSA) relative to the site conditions and hazard assessment.
Site Health & Safety Officer (SHSO)
The SHSO is responsible for field implementation of this HASP and enforcement of safety rules and regulations. SHSO functions may include some or all of the following: • Act as Haley & Aldrich´s liaison for health and safety issues with client, staff, subcontractors, and agencies. • Verify that utility clearance has been performed by Haley & Aldrich subcontractors. • Oversee day-to-day implementation of the Safety Plan by Haley & Aldrich personnel on site.

- Interact with subcontractor project personnel on health and safety matters.
- Verify use of required PPE as outlined in the safety plan.
- Inspect and maintain Haley & Aldrich safety equipment, including calibration of air monitoring instrumentation used by Haley & Aldrich.
- Perform changes to HASP and document in Appendix A of the HASP as needed and notify appropriate persons of changes.
- Investigate and report on-site accidents and incidents involving Haley & Aldrich and its subcontractors.
- Verify that site personnel are familiar with site safety requirements (e.g., the hospital route and emergency contact numbers).
- Report accidents, injuries, and near misses to the Haley & Aldrich PM and FSM as needed.

The SHSO will conduct initial site safety orientations with site personnel (including subcontractors) and conduct toolbox and safety meetings thereafter with Haley & Aldrich employees and Haley & Aldrich subcontractors at regular intervals and in accordance with Haley & Aldrich policy and contractual obligations. The SHSO will track the attendance of site personnel at Haley & Aldrich orientations, toolbox talks, and safety meetings.

Field Personnel

Haley & Aldrich personnel are responsible for following the health and safety procedures specified in this HASP and for performing their work in a safe and responsible manner. Some of the specific responsibilities of the field personnel are as follows:

- Reading the HASP in its entirety prior to the start of on-site work;
- Submitting a completed Safety Plan Acceptance Form and documentation of medical surveillance and training to the SHSO prior to the start of work;
- Attending the pre-entry briefing prior to beginning on-site work;
- Bringing forth any questions or concerns regarding the content of the Safety Plan to the PM or the SHSO prior to the start of work;
- Stopping work when it is not believed it can be performed safely;
- Reporting all accidents, injuries and illnesses, regardless of their severity, to the SHSO;
- Complying with the requirements of this safety plan and the requests of the SHSO; and
- Reviewing the established JSAs for the site-specific hazards on a daily basis and prior to each shift change, if applicable.

Visitors

Authorized visitors (e.g., Client Representatives, Regulators, Haley & Aldrich management staff, etc.) requiring entry to any work location on the site will be briefed by the Site Supervisor on the hazards present at that location. Visitors will be escorted at all times at the work location and will be responsible for compliance with their employer´s health and safety policies. In addition, this safety plan specifies the minimum acceptable qualifications, training and personal protective equipment which are required for entry to any controlled work area; visitors must comply with these requirements at all times. Unauthorized visitors, and visitors not meeting the specified qualifications, will not be permitted within established controlled work areas.

SUBCONTRACTOR PERSONNEL

Subcontractor Site Representative

Each contractor and subcontractor shall designate a Contractor Site Representative. The Contractor Site Representative will interface directly with Insert Staff Name Here, the Subcontractor Site Safety Manager, with regards to all areas that relate to this safety plan and safety performance of work conducted by the contractor and/or subcontractor workforce. Contractor Site Representatives for this site are listed in the Contact Summary Table at the beginning of the Safety Plan.

Subcontractor Site Safety Manager

Each contractor / subcontractor will provide a qualified representative who will act as their Site Safety Manager (Sub-SSM). This person will be responsible for the planning, coordination, and safe execution of subcontractor tasks, including preparation of job hazard analyses (JHA), performing daily safety planning, and coordinating directly with the Haley & Aldrich SHSO for other site safety activities. This person will play a lead role in safety planning for Subcontractor tasks, and in ensuring that all their employees and lower tier subcontractors are in adherence with applicable local, state, and/or federal regulations, and/or industry and project specific safety standards or best management practices.

General contractors / subcontractors are responsible for preparing a site-specific HASP and/or other task specific safety documents (e.g., JHAs), which are, at a minimum, in compliance with local, state, and/or federal other regulations, and/or industry and project specific safety standards or best management practices. The contractor(s)/subcontractor(s) safety documentation will be at least as stringent as the health and safety requirements of the Haley & Aldrich Project specific HASP.

Safety requirements include, but are not limited to: legal requirements, contractual obligations and industry best practices. Contractors/subcontractors will identify a site safety representative during times when contractor/subcontractor personnel are on the Site. All contractor/subcontractor personnel will undergo a field safety orientation conducted by the Haley & Aldrich SHSO and/or PM prior to commencing site work activities. All contractors / subcontractors will participate in Haley & Aldrich site safety meetings and their personnel will be subject to training and monitoring requirements identified in this Safety Plan. If the contractors / subcontractors means and methods deviate from the scope of work described in Section 1 of this Safety Plan, the alternate means and methods must be submitted, reviewed and approved by the Haley & Aldrich SHSO and/or PM prior to the commencement of the work task. Once approved by the Haley & Aldrich SHSO and/or PM, the alternate means and methods submittal will be attached to this Safety Plan as an Addendum.

ATTACHMENT D
JOB SAFETY ANALYSES

Safety
in everything we do

180 EAST 125TH STREET REDEVELOPMENT SITE

KEY TASK 1: Geophysical Survey		
Subtask Category	**Potential Hazards**	**Controls**
GPR Survey - Site Walk	Slips, Trips, and Falls	• Take your time and pay attention to where you are going • Adjust your stride to a pace that is suitable for the walking surface and tasks you are doing • Check the work area to identify hazards – beware of trip hazards such as wet floors, slippery floors, and uneven surfaces or terrain • Establish and utilize a pathway free of slip and trip hazards • Choose a safer walking route • Carry loads you can see over • Keep work areas clean and free of clutter • Communicate hazards to on-site personnel – remove hazards as appropriate
GPR Survey – Site Walk	Vehicle traffic/safety	• Watch out for vehicular traffic in and around work area • Access work area along routes that are the least busy
KEY TASK 2: Drilling & Pre-Clearing		
Subtask Category	**Potential Hazards**	**Controls**
Drilling	Work site access and controls	• Observe all work site access and controls before entering work area • Use only routes that are designated for personnel • Do not change or alter established work site access or controls
Drilling	Utility locators and underground hazards	• Complete the Subsurface Clearance Checklist prior to any intrusive drilling activities

		• Observe work from a distance in case of utility strike • Immediately evacuate work area in the event of a utility strike
Drilling	Heavy equipment	• Personal protective equipment, licensed excavator/machine operators • Maintain a safe distance from moving equipment and observe equipment swing radii
Drilling	Noise reduction	• Personal protective equipment, ear plugs or ear muffs
Drilling	Cold stress	• Take breaks indoors, hand warmers
Drilling	Weather-related hazards	• Avoid slippery surfaces as a result of weather • Seek shelter in the event of a lightning storm and stay clear of potential lightning receptors
Drilling	Vehicle traffic/safety	• Watch out for vehicular traffic in and around work area • Access work area along routes that are the least busy
Drilling	Slips, trips, and falls	• As above
KEY TASK 3: Soil, Groundwater, and Soil Vapor Sampling		
Subtask Category	**Potential Hazards**	**Controls**
Soil, Soil Vapor, GW Sampling	Slips, trips, and falls	• As above
Soil, Soil Vapor, GW Sampling	Vehicle traffic/safety	• As above
Soil, Soil Vapor, GW Sampling	Weather-related hazards	• As above
Soil, Soil Vapor, GW Sampling	Cold stress	• As above
Soil, Soil Vapor, GW Sampling	Lifting	• You know where you are going • The area around the load is clear of obstacles • Doors are open and there is nothing on the floor that could trip someone or make them slip • You have a good grip on the load

		• Your hands, the load and any handles are not slippery • If you are lifting with someone else, both of you know what you are doing before you start • You should adopt the following technique when lifting the load: • Put your feet around the load and your body over it (if this is not feasible, try to keep your body as close as possible to the load and in front of it) • Use the muscles of your legs when lifting • Keep your back straight • Pull the load as close as possible to your body • Lift and carry the load with straight arms
Soil, Soil Vapor, GW Sampling	Tool/Equipment Use	• Inspect any tools or equipment before you use them • Ensure that any cords or plugs are not frayed or damaged • Only use tools/equipment for the purpose they are meant to be used – tools/equipment are not toys to be played with • Think of the steps in which you will use the tools/equipment before using them • Handle all tools/equipment in a safe manner • If unsure how to use a tool/equipment, be sure to receive proper training or instruction prior to using them • Use tools/equipment at a safe pace • Do not force tools/equipment to work

ATTACHMENT E
PROJECT SITE FORMS

PROJECT INFORMATION

Site Name:		Project Manager:	
Location:		Client Leader/LSRP:	
Client Name:		Scope of Work:	
Project Number:		Date of SSC Event:	

PROJECT BASICS (Completed prior to the start of field activities)

Site Contact Person Identified? Circle one: Yes No				
Contact Person/Company Name/Phone Number:				
Subcontractor & On-Site Representatives:				
Have the subsurface activities been explained to the subcontractor? Circle one: Yes No				
Public utility mark-out completed? Circle one: Yes No				
Public Mark-out/called in by Company/Representative:			Date:	
Ticket Number:		Utilities Notified and Response received:		

PRE-CLEARANCE (Completed prior to breaking ground or determining final locations)

Private Utility Mark-out completed? Circle one: Yes No		Date:	
Work area and each intrusive location scanned for all utilities? Circle one: Yes No			
Private Mark-out completed by Subcontractor & Representative:			
Depth of accuracy (feet):		Limitations:	
Type of equipment used:			

Utility Identified & Marked-out	Depth (ft)	Yes	No	Utility Identified & Marked-out	Depth (ft)	Yes	No
Electricity (Red)				Sewer (Green)			
Gas (Yellow)				Telephone Data (Orange)			
Water (Blue)				Fuel/Oil			
Reclaimed H_2O/Irrigation (Purple)				Proposed excavation (white)			

SCOPE OF WORK

Scope of Work provided to subcontractors? Circle one: Yes No					
Number of intrusive locations:		Targeted depth (feet):		Diameter of Borehole (inches):	
Proposed intrusive locations within 10 feet of marked and/or known utility? Circle one: Yes No					
Final locations confirmed at least 10 feet away from all utilities? Circle one: Yes No					

FIELD OBSERVATIONS

Other Utilities & Visual Clues Observed	Yes	No	Other Utilities & Visual Clues Observed	Yes	No
Natural gas meters			Fire suppression		
Water meters			Fire hydrants		
Cable markers			Fire sprinkler lines		
Sewer drains/cleanouts			Sprinkler/irrigation systems		
Overhead lines (give 15' x 15' of clearance)			Utility poles with conduit leading to the ground		
Pipeline and pipeline markers			Utility boxes		
Underground storage tank (UST)			Manholes		
UST fill ports and vent pipes			Pavement scarring		
Lights			Remote buildings with no visible utilities		
Signage			Other (specify):		
Steam lines			Other (specify):		

Any mitigations taken if points cannot be obtained or site type was not listed:____________________________________

____

Mitigations taken by whom: ____

Utility Point System: Gain points to protect against utility strike

Site Description	Minimum Points Needed
Combination of 2 or more Site Types	5
Commercial/Office Park	5
Downtown/Urban Development	5
Manufacturing/Active	5
Manufacturing/Non-Active	5
Mine	5
Rail	5
Residential	5
Roadway (right-of-way, highway, and secondary routes)	5
Roadway (right-of-way, rural route)	5
Universities/Government Campus/Airports	5
Abandoned/Non-Active/Vacant	3
Remote (field, woods, undisturbed)	2
Work over water	2
Site Type Not Listed Above	Consult with the PM, Utility Specialist, and Project Team
Cannot Gain Minimum Points	Perform hand clearing/soft dig/vacuum excavation

1 Point Value (2 Maximum from this Category)
Facility/contact supplied information (GIS figure with photo overlay; extensive client records and drawings)
The utilities have been marked using GPS or surveyed (with minimum accuracy of 0.1 foot)
A review of the work scope with a knowledgeable site contact (client contact, site manager, maintenance manager or other site personnel) about the site's history and utility locations/conditions (with a utility site drawing). **A knowledgeable site contact is someone who has regular responsibilities for managing site infrastructure, construction activities, and/or retaining site drawings/figures.**
A visual inspection of the site to verify that the utilities match the drawings and figures (completed after the State One Call Subsurface Clearance Checklist)
Confirmation of the low density of subsurface utilities (based on site maps, previous private utility locates)
Shallow boring advancement (<2 feet below ground surface (bgs) with non-mechanical drilling techniques)

2 Point Values
As-built drawings (plot plans, as-builts, pipeline or facilities maps, and/or lease drawings), reviewed and verified by client for updated changes
Confirmation that utilities cut off at street and align with drawings and figures
Drawing/figure (measured to scale, shows site utilities as visually verified during site walk); includes any new or repaired lines that match site (e.g., pavement scarring); depth and diameter of utilities; and recent (includes any new construction activity)
Survey data and figures produced by Haley & Aldrich and/or Haley & Aldrich site utility experience with additional site inspection
Site drawing and figures from prior private utility locate created by Haley & Aldrich (drawing must include GPS coordinates and utilities are to scale)
GPR/EM Cable location by private utility locate directly above proposed ground disturbance/borehole location

3 Point Values	3 Point Values (Open Excavations Only)
Hand Clearing/Soft Dig/Vacuum Excavation to 5 feet bgs using the following soft dig clearance methods listed from least invasive to most: • Probing • Hand Digging • Hand Auguring • Vacuum Extraction • Air/Water Knife with Vacuum Extraction	Hand Clearing/Soft Dig/Vacuum Excavation using the following soft dig clearance methods to confirm location of known utilities prior to using mechanical excavation: • Probing • Hand Digging • Vacuum Extraction

Health & Safety Tailgate Meeting Form

Project:	Project No.:
Location:	Project Manager:
Subcontractor(s):	Date:
Site Safety & Health Officer (SSHO):	SSHO Contact Info:

Emergency Procedures

If an emergency occurs, follow procedure outlined in the HASP and contact numbers below. If non-life-threatening injury occurs, contact PM to report the incident. Seek first-aid treatment from the Occupational Health Center, as outlined in the HASP.

Emergency Dispatch phone number if other than 911:	
Local Hospital:	Local Hospital Phone #:
Evacuation/Muster Point:	Alt Evacuation/Muster Point:

Simultaneous Operations (SIMOPS)

SIMOPS or Multi-Crew Activity	▣ Yes	☐ No	If yes, describe SIMOPS:	
Has SIMOPS been communicated to all workforce?	☐ Yes	☐ No		
SIMOPS PIC:			**Phone Number:**	

Task Identification

Task	**Responsible Company**	**Task Supervisor**

Required Permits/Forms (*check all that apply*)

☐None	☐Lifting Plan	☐Other:
☐Confined Space Entry Permit	☐Hot Work Permit	☐Other:
☐Lock-out / Tag-out (LOTO)	☐Ground Disturbance Permit	☐Other:
☐Excavation Permit	☐Other:	☐Other:

Discussion of Work Hazards *(check all that apply)*

☐Chemical	☐Hazardous materials (lead, asbestos, etc.)	☐Radiological
☐Confined space	☐Hosting and rigging	☐Stored energy LOTO
☐Congested work area	☐Hot work	☐Traffic control
☐Elevated work	☐Material handling	☐Weather and/or temp extremes
☐Ergonomics	☐Noise pollution	☐Waste generation
☐Emergency egress	☐Oxygen deficiency	☐Other:

Required PPE *(check all that apply)*

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Hearing Protection	Safety Eyewear	Hard Hat	Safety Toed Shoes	Leather or Palm Protective	Safety Vest	Protective Clothing	Respiratory Protection	PFD	Face Shield	Fall Protection

Tailgate Topic / Hazard Discussion

Item	Discussion

Management of Change (MoC)

Does the work activity require a MoC? If yes, has it been authorized by applicable management? ☐No ☐Yes
Has the safety information been updated to incorporate any change in product, equipment, material or process? This information should include how to investigate accidents, audit compliance with safety procedures, and plan for emergency responses. ☐No ☐Yes
Have the procedures for a MoC been reviewed and evaluated? ☐No ☐Yes
Have all affected staff been informed and trained on the new equipment, process, or other changes? Health and safety hazards must be emphasized including processes/procedures in an emergency. The training must occur before any staff is allowed to operate the equipment or perform the job relating to the changes. ☐No ☐Yes
Have written procedures been put into place for the next time there is a change in safety management? ☐No ☐Yes

Best Practice(s) Observed? ☐ Yes ☐ No If yes, describe:	**H&S Observations/ Near Misses/ Incidents Reported?** ☐ Yes ☐ No If yes, describe:
Safe Work Interventions? ☐ Yes ☐ No If yes, describe:	**Have additional hazards and risk controls been identified for future work?** ☐ Yes ☐ No If yes, update appropriate job hazard analysis (JHA).

Site Safety & Health Officer Acknowledgement

At the conclusion of the day, I certify that the work site has been inspected and is being left in a safe and clean condition and any incidents have been properly reported.

Signature Date

Worker Acknowledgement

By signing here, you are stating the following:

1. You understand the hazards and risk control actions associated with each task you are about to perform.
2. You understand the permit to work requirements pertinent to the work you are about to perform (if applicable).
3. You are aware that no tasks or work that is not risk-assessed is to be performed.
4. You also are aware of your obligation to implement 'Safe Work'.
5. You arrived and departed fit for duty.
6. You are physically and mentally fit for duty.
7. You are not under the influence of any type of medication, drugs, or alcohol that could affect your ability to work safely.
8. You are aware of your responsibility to bring any illness, injury (regardless of where or when it occurred), or fatigue issue you may have to the attention of the SSHO.
9. You signed out uninjured unless you have otherwise informed the SSHO.

Name (print)	Company	Initials & Sign In/Out Time		COVID-19 Self-Declaration
		In & Fit	Out & Fit	On File

Visitor Log (*Site Visitors not involved in the work activities*)

Name (print)	Company	Initials & Sign In/Out Time		COVID-19 Self Declaration
		In & Fit	Out & Fit	On File

HALEY ALDRICH

SOIL BORING LOG

BORING NO.

Page 1 of

PROJECT		PROJECT #	
LOCATION		PROJECT MGR.	
CLIENT		FIELD REP.	
CONTRACTOR		DATE STARTED	
DRILLER		DATE FINISHED	

Elevation ft.	Datum	Boring Location		
Item	Casing	Sampler	Rig Make & Model	Surface Conditions	Drilling Notes
Type			Completion Depth (ft.)	Drilling Method		
Inside Diameter (in.)						
Hammer Weight (lb.)			Number of Samples			
Hammer Fall (in.)						

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0							
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data				Well Construction Information			Summary
Date	Time	Elapsed Time (hr.)	Depth in feet to: Water	Type	Depth	Notes	Overburden (Linear ft.) Rock Cored (Linear ft.) Number of Samples
							BORING NO.

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

Form #3000

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

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Soil Boring Log

BORING NO.

Page of

Depth (ft.)	Recovery (ft)	PID (ppm)	Odor	Moisture	Description Depth (ft)	**Visual-Manual Identification & Description** (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	**Remarks** (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)

NOTES:

FILE NO.

BORING NO.

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

Form #3000

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

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PERMANENT WELL INSTALLATION REPORT

Well No.

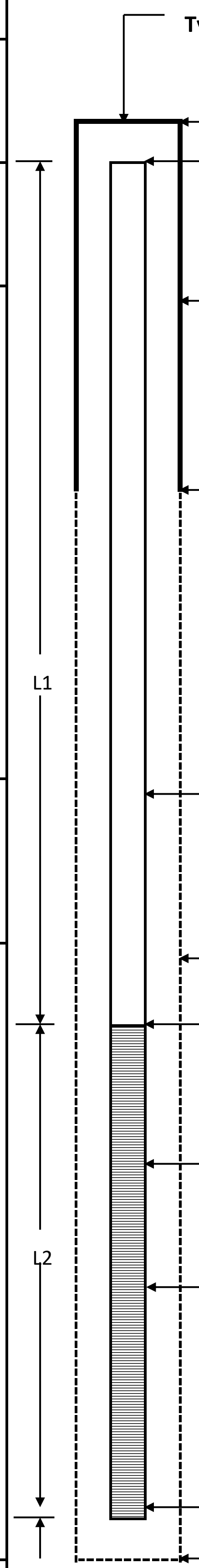
Boring No.

PROJECT		**H&A FILE NO.**	
LOCATION		**PROJECT MGR.**	
CLIENT		**FIELD REP.**	
CONTRACTOR		**DATE INSTALLED**	
DRILLER		**WATER LEVEL**	

Ground El. ____ ft	**Location** ____	**Drilling Equipment** ____	**Guard Pipe** ☐
El. Datum ____	____	____	**Roadway Box** ☐

SOIL/ROCK CONDITIONS	**BOREHOLE BACKFILL**

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



Type of protective cover/lock (circle one): Pent.bolt 9/16" hex. 1/2" hex. 7/10" hex.

Padlock key no.__________

Height/Depth of top of guard pipe/roadway box above/below ground surface ________ **ft**

Height/Depth of top of riser pipe above/below ground surface ________ **ft**

Type of protective casing: ________

Length ________ **ft**

Inside Diameter ________ **in**

Depth of bottom of guard pipe/roadway box ________ **ft**

Type of Seals	**Top of Seal (ft)**	**Thickness (ft)**

Type of riser pipe: ________

Inside diameter of riser pipe ________ **in**

Type of backfill around riser ________

Diameter of borehole ________ **in**

Depth to top of well screen ________ **ft**

Type of screen Machine Slotted PVC

Screen gauge or size of openings ________ **in**

Diameter of screen ________ **in**

Type of backfill around screen ________

Depth of bottom of well screen ________ **ft**

Depth of bottom of borehole ________ **ft**

(Not to Scale)

________ ft + ________ ft = ________ ft

Riser Pay Length (L1) Length of Screen (L2) Pay length

COMMENTS:

Form 2007

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT		H&A FILE NO.	
LOCATION		PROJECT MGR.	
CLIENT		FIELD REP	
CONTRACTOR		DATE	

GROUNDWATER SAMPLING INFORMATION

Well ID:	______________	Well Volume:	______________	Start Time:	______________
Well Depth:	______________	Equipment:	______________	Sample Time:	______________
Depth to Water:	______________				

GROUNDWATER QUALITY PARAMETERS

Time	Volume purged, gallons or liters (circle one)	Temp, C (+/-3%)	Conductivity, us/cm (+/- 3%)	Dissolved Oxygen, mg/L (+/- 10%)	pH (+/-0.1)	ORP/eH, mv (+/-10mv)	Turbidity, NTU (<5 NTU)	Depth to Water (ft)

Notes:

Synoptic Water Level Measurement Log

PROJECT
LOCATION
CLIENT
H&A FILE NO.
PROJECT MANAGER
FIELD REP.
GAUGING DATE
WEATHER

MONITORING WELL ID	TIME	DEPTH TO WATER (FT BELOW TOC)	TOP OF CASING (FT)	GROUNDWATER ELEVATION (FT)

Comments:

1. Monitoring wells "X" through "X" were surveyed by "Insert Name of Surveyor" on "Day Month Year"
2. Wells were gauged on "Day Month Year"
3. Elevation refers to the North American Vertical Datum of 1988 (NAVD88).
4. All dimensions are in US survey feet.

SOIL VAPOR/INDOOR/AMBIENT AIR SAMPLING LOG

Project Name/Location: ______________________________ Project Number: ____________

Site: ______________________________
Date Collected: ______________________________
Personnel: ______________________________
Weather: ______________________________
Humidity: ______________________________

Sample ID	Caniser Size	Canister ID	Flow Controller ID	Sample Start Time	Canister Start Pressure ("Hg)	Sample End Time	Canister End Pressure ("Hg)	Sample Start Date	Sample Type	Analyses Method

Notes:
Summas and flow regulators provided by

Analyses for VOCs by Method TO-15/TO-15SIM (circle one)

APPENDIX G
NYSDOH CAMP Guidance Document

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.

<u>VOC Monitoring, Response Levels, and Actions</u>

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.

<u>Particulate Monitoring, Response Levels, and Actions</u>

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

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

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

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

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50^{o} C (14 to 122^{o} F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

APPENDIX B
Ground-Penetrating Radar Survey Report

JOB SUMMARY REPORT

Order Number:	Work Order #747053	**Job Date:**	Feb 5, 2025 12:21:00 PM
Customer:	147840 HALEY & ALDRICH OF NEW YORK	**Billing Address:**	HALEY & ALDRICH OF NEW YORK 213 West 35th St. 7th Floor New York NY 10001 United States

JOB DETAILS

Jobsite Location	180 East 125th Street, New York, NY
Work Order Number	Work Order #747053
Job Number	
PO Number	

GPRS Project Manager: Alexander Seodat

Thank you for using GPRS on your project. We appreciate the opportunity to work with you. If you have questions regarding the results of this scanning, please contact the lead GPRS project manager on this project.

EQUIPMENT USED

The following equipment was used on this project:

- **Underground GPR Antenna:** This GPR Antenna uses frequencies ranging from 250 MHz to 450 MHz and is mounted in a stroller frame that rolls over the surface. Data is displayed on a screen and marked in the field in real time. The surface needs to be reasonably smooth and unobstructed to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the efficacy of GPR. The total effective scan depth can be as much as 8’ or more with this antenna but can vary widely depending on the soil conditions and composition. Some soil types, such as clay, may limit maximum depths to 3’ or less. As depth increases, targets must be larger to be detected, and non-metallic targets can be challenging to locate. The depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **EM Pipe Locator:** Electromagnetic Pipe and Cable Locator. Detects electromagnetic fields. Used to actively trace conductive pipes and tracer wires, or passively detect power and radio signals traveling along conductive pipes and utilities. For more information, please visit: Link

JOB SUMMARY REPORT

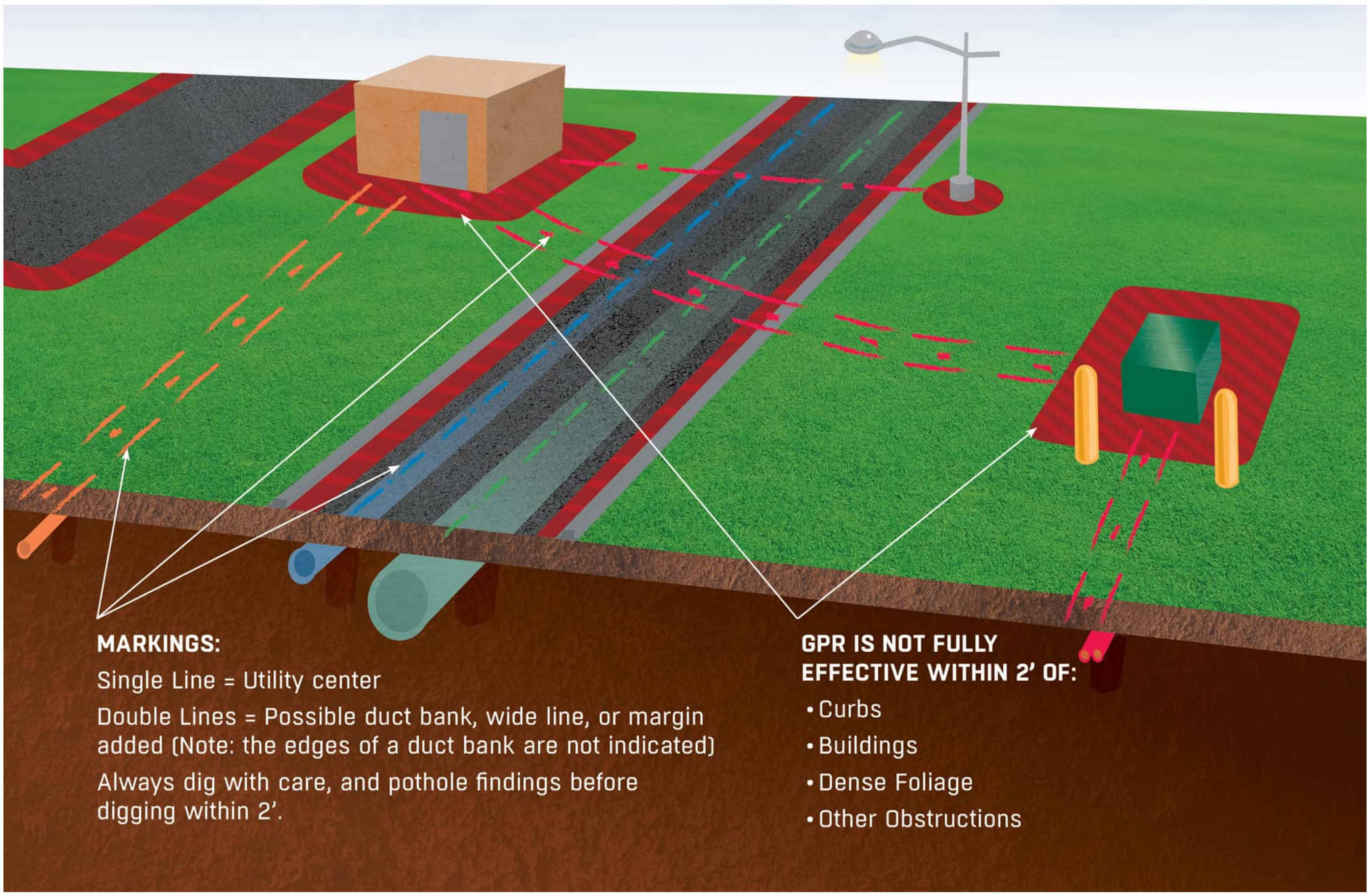
WORK PERFORMED

UNDERGROUND UTILITY	
Client Provided Drawings	Yes
Client completed 811 locate request	No
Scope of Work	GPRS was tasked to scan an exterior utility locate of 1.67 ac.
Limitations Encountered	- Surface obstructions - Surface too rough - Overgrown vegetation - Other
Marking Medium	- Spray Paint
Results Notes	GPRS was tasked to scan an exterior utility locate of 1.67 ac. GPRS located utilities within the scope of work by using an EM Pipe Locator and GPR. The EM Pipe Locator was used in several different modes such as passive mode and dropping the transmitter box around the perimeter of the scan area, since there were no site features in the site. GPR max depth penetration was approximately 4'. GPRS also walked outside of the scope of work to observe if any utilities are presented and may go in the scope of work. GPRS direct connected to fire hydrants on the sidewalk, which did not go through the scope of work. On the corner of E 125st and 3rd ave, a sanitary pipe was observed going into the scope of work at 3'-4'. GPRS was unable to duct rod the sanitary pipe due to it being a clay pipe. GPRS observed manholes in the middle of the roads and could not have access to open manholes due to the high traffic volume. GPRS a faced limitations with the GPR because the scan area contained a lot of materials and surface obstructions on the ground and uneven grounds. GPRS did a 10x10 for each soil boring point and tried to GPR the areas as best as they can. One unknown line was found in the scope of work and marked in pink spray paint. Unknown line was found in passive mode. GPRS also observed a gas valve on the side walk but it was being covered by a car and valve was cemented into the ground. All findings and limitations were communicated with the client on site (Joe). GPRS can not GPR 2ft off of any wall or surface obstruction. GPRS advise clients staying 2ft off of all markings when excavating or digging.

SUPPLEMENTAL INFORMATION

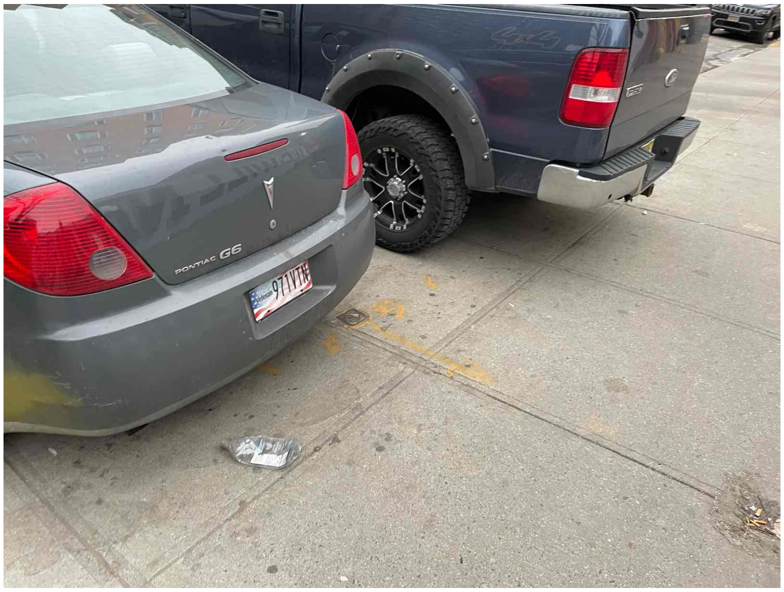
COMMON UTILITY LOCATING LIMITATIONS

There are many limitations to locating utilities, due to a variety of factors, with several more common examples illustrated here.



JOB SUMMARY REPORT

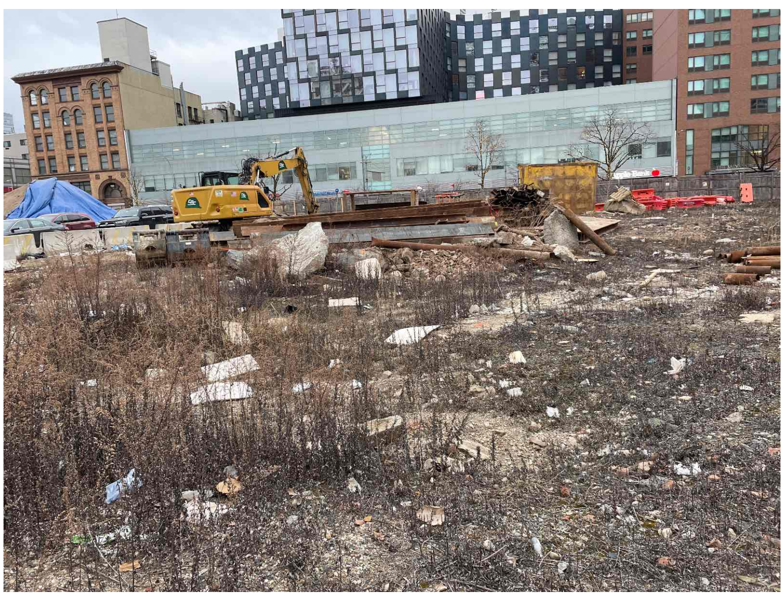
JOBSITE IMAGES



Jobsite Photo #1

Jobsite Photo #2

Jobsite Photo #3

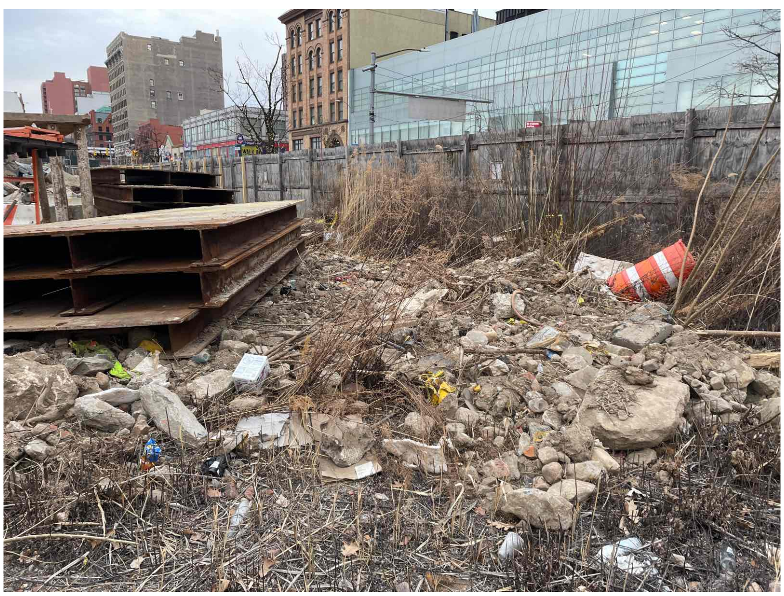


Jobsite Photo #4

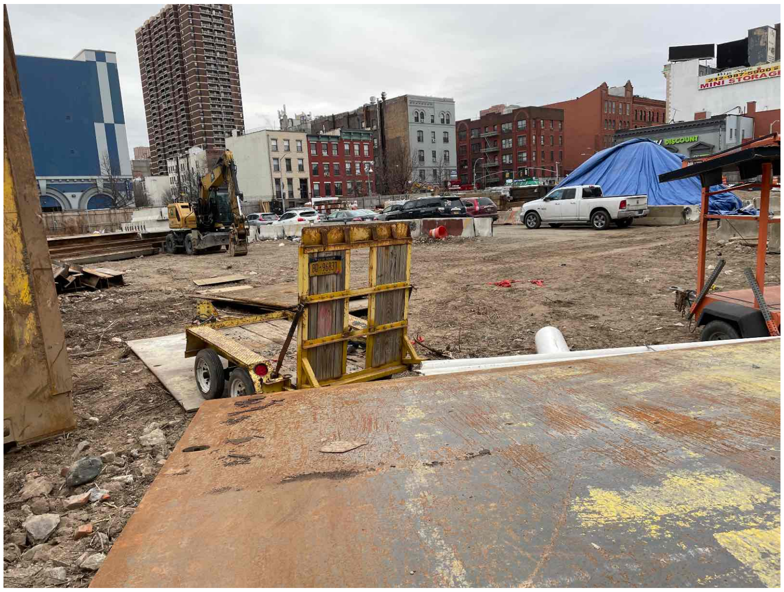
Jobsite Photo #5

Jobsite Photo #6

Jobsite Photo #7



Jobsite Photo #8



Jobsite Photo #9

Jobsite Photo #10

Jobsite Photo #11

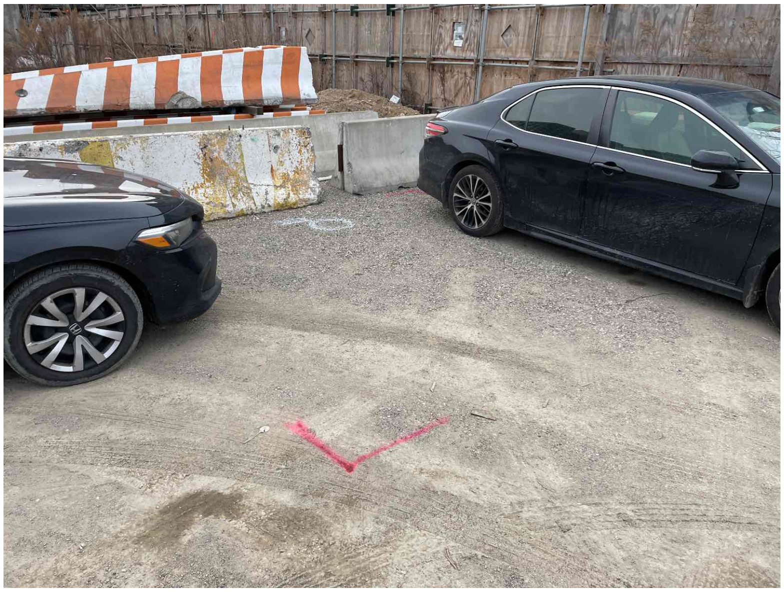
Jobsite Photo #12

Jobsite Photo #13

Jobsite Photo #14

Jobsite Photo #15

Jobsite Photo #16



Jobsite Photo #17

Jobsite Photo #18

Jobsite Photo #19

Jobsite Photo #20

Jobsite Photo #21

Jobsite Photo #22

JOB SUMMARY REPORT

CONTACT / SIGNATURE INFORMATION

Contact Information			
Contact Name	Joe Mastro	**Email**	jmastro@haleyaldrich.com

TERMS & CONDITIONS

http://www.gprsinc.com/termsandconditions.html

APPENDIX C
Soil Boring Logs

SOIL BORING LOG

BORING NO. **SB-01**

Page 1 of 1

PROJECT	180 East 125th Street Development Site	**PROJECT #**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	Sarah Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	**DATE STARTED**	2/6/2025
DRILLER	Mike Kolasinski	**DATE FINISHED**	2/6/2025

Elevation ft.	**Datum**	**Boring Location** SB-01			
Item	**Casing**	**Sampler**	**Rig Make & Model** Geoprobe 6610dt	**Surface Conditions**	**Drilling Notes**
Type			**Completion Depth (ft.)** 20	**Drilling Method**: direct push	Surface soil
Inside Diameter (in.)					
Hammer Weight (lb.)			**Number of Samples** 3		
Hammer Fall (in.)					

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	**Visual-Manual Identification & Description** (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	**Remarks** (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	55/60	0	None	Dry	0-5	dark brown fine sand, some brick, some fine gravel, trace angular stone [FILL]	SB-01_0-0.16 @ 9:00
1							
2							
3							
4							
5	48/60	0	None	Dry	5-10	brick, some fine brown sand, some angular fine gravel [FILL]	
6							
7							
8							
9							SB-01_9-11 @ 9:05
10	50/60	0	None	Dry	10-11	brick, trance angular fine gravel [FILL]	
11					11-15	brown coarse sand, trace fine gravel [SW]	
12							SB-01_12-14 @ 9:10
13							
14				Wet			
15	60/60	0	None	Wet	15-20	Same as above [SW]	
16							
17							
18							
19							End of boring 20ft
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water
6-Feb	8:15		14

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	20
Rock Cored (Linear ft.)	
Number of Samples	3
BORING NO.	SB-01

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

SOIL BORING LOG

HALEY ALDRICH

BORING NO.	SB-02
Page	1 of 1

PROJECT	180 East 125th Street Development Site	PROJECT #	209815
LOCATION	180 East 125th Street, New York, New York	PROJECT MGR.	Sarah Commisso
CLIENT	180 E125th Realty LLC	FIELD REP.	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	DATE STARTED	2/5/2025
DRILLER	Mike Kolasinski	DATE FINISHED	2/5/2025

Elevation	ft.	Datum		Boring Location	SB-02

Item	Casing	Sampler	Rig Make & Model	Geoprobe 6610dt		Surface Conditions	Drilling Notes
Type			Completion Depth (ft.)	19	Drilling Method: direct push	Surface soil, vegetation	refusal at 19ft, bedrock refusal
Inside Diameter (in.)							
Hammer Weight (lb.)			Number of Samples	3			
Hammer Fall (in.)							

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	60/60	0	None	Dry	0-2	fine gravel [FILL]	SB-02_0-0.16 @16:00
1							
2					2-5	light brown fine sand, some fine gravel, trace brick [FILL]	
3							
4							SB-02_4-6 @ 16:05
5	56/60	0	None	Dry	5-6	light brown fine sand, some fine gravel [FILL]	
6					6-10	light brown medium sand, trace fine gravel [SW]	
7							
8							
9							
10	56/60	0	None	Dry	10-15	light brown fine sand [SW]	
11							SB-02_11-13 @ 16:10
12							
13				Wet			Groundwater at 13ft
14							
15	48/48	0	None	Wet	15-19	light brown medium sand, trace fine gravel [SW]	
16							
17							
18							
19							End of boring - 19ft, refusal
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water
6-Feb	8:15		13.5

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	19 ft
Rock Cored (Linear ft.)	
Number of Samples	3
BORING NO.	SB-02

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

SOIL BORING LOG

BORING NO.	SB-03
Page 1 of 1	

PROJECT	180 East 125th Street Development Site	PROJECT #	209815
LOCATION	180 East 125th Street, New York, New York	PROJECT MGR.	Sarah Commisso
CLIENT	180 E125th Realty LLC	FIELD REP.	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	DATE STARTED	2/5/2025
DRILLER	Mike Kolasinski/Adam Hutchinson	DATE FINISHED	2/21/2025

Elevation	ft.	Datum	Boring Location	SB-03		
Item	Casing	Sampler	Rig Make & Model		Surface Conditions	Drilling Notes
Type			Completion Depth (ft.)	17	Surface soil, vegetation	
Inside Diameter (in.)				Drilling Method		
Hammer Weight (lb.)			Number of Samples	3		
Hammer Fall (in.)				direct push		

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	50/60	0	None	Dry	0-5	dark brown fine sand, some brick, trace fine gravel [FILL]	SB-03_0-0.16 @ 14:25 2/5/25
1							
2							
3							
4							
5	48/60	0	None	Dry	5-10	Same as above [FILL]	
6							
7							
8							
9							
10	46/60	0	None	Dry	10-15	Same as above [FILL]	
11							
12							
13							SB-03_13-15 @ 14:30 on 2/5/25
14							
15	40/60	0	None	Wet	15-18	brown medium sand, some fine gravel [SW]	Groundwater at 15ft / SB-03_15_17 @ 14:35 on 2/5/25
16							
17							End of boring - 17 ft
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water
2/6/2025	12:30		14.5

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	23
Rock Cored (Linear ft.)	
Number of Samples	6
BORING NO.	SB-03

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

SOIL BORING LOG

BORING NO.	SB-04
Page 1 of 1	

PROJECT	180 East 125th Street Development Site	**PROJECT #**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	Sarah Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	**DATE STARTED**	2/5/2025
DRILLER	Mike Kolasinski	**DATE FINISHED**	2/5/2025

Elevation ft.	**Datum**		**Boring Location**	SB-04			
Item	**Casing**	**Sampler**	**Rig Make & Model**	Geoprobe 6610dt		**Surface Conditions**	**Drilling Notes**
Type			**Completion Depth (ft.)**	20	**Drilling Method**	Surface soil, vegetation	
Inside Diameter (in.)					direct push		
Hammer Weight (lb.)			**Number of Samples**	3			
Hammer Fall (in.)							

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	**Visual-Manual Identification & Description** (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	**Remarks** (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	40/60	0	None	Dry	0-5	brown to light brown fine sand, trace fine sub-rounded gravel, trace roots, trace brick [FILL]	SB-04_0-0.16 @ 9:55
1							
2							
3							
4							
5	38-60	0	None	Dry	5-10	brown to light brown fine sand, little brick, trace fine sub-rounded gravel [FILL]	
6							
7							
8							
9							
10	50/60	0	None	Dry	10-14	brown to light brown fine sand, trace angular gravel [FILL]	
11							
12							SB-04_12-14 @ 10:00
13							
14				Moist	14-15	brown fine sand, trace sub-rounded gravel [SW]	Groundwater at 14ft / SB-04_14-16 @ 10:05
15	48/60	0	None	Wet	15-20	Same as above [SW]	
16							
17							
18							
19							End of boring - 20ft
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water
2/6/2025	11:25		14

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	20
Rock Cored (Linear ft.)	
Number of Samples	3
BORING NO.	SB-04

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

SOIL BORING LOG

BORING NO. **SB-05**

Page 1 of 1

PROJECT	180 East 125th Street Development Site	**PROJECT #**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	Sarah Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	**DATE STARTED**	2/5/2025
DRILLER	Mike Kolasinski	**DATE FINISHED**	2/5/2025

Elevation ft.	**Datum**		**Boring Location**	SB-05		
Item	**Casing**	**Sampler**	**Rig Make & Model**	Geoprobe 6610dt	**Surface Conditions**	**Drilling Notes**
Type			**Completion Depth (ft.)**	20	**Drilling Method**	
Inside Diameter (in.)					direct push	
Hammer Weight (lb.)			**Number of Samples**	3	Surface soil, vegetation	
Hammer Fall (in.)						

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	**Visual-Manual Identification & Description** (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	**Remarks** (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	32/60	0	None	Dry	0-5	dark brown fine sand, trace fine gravel, trace brick, track concrete [FILL]	SB-05_0-0.16 (MS/MSD) @ 12:00
1							
2							
3							
4							
5	32/60	0	None	Dry	5-9	dark brown fine sand, trace fine gravel, trace concrete [FILL]	
6							
7							
8							SB-05_8-10 @ 12:05
9					9-10	reddish brown fine sand, trace fine gravel [SW]	
10	30/60	0	None	Dry	10-11	light brown fine sand, trace angular fine gravel [SW]	
11					11-12	reddish brown medium sand, trace fine gravel [SW]	SB-05_11-13 @ 12:10
12							
13					13-15	dark brown fine sand, trace silt [SM]	
14				Wet			Groundwater at 13.5 ft
15	20/60	0	None	Wet	15-20	dark brown medium to fine sand, trace fine gravel [SW]	
16							
17							
18							
19							End of boring 20 ft
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water
2/6/2025	10:55		14

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	20
Rock Cored (Linear ft.)	
Number of Samples	3
BORING NO.	**SB-05**

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

SOIL BORING LOG

BORING NO.	SB-06
Page	1 of 1

PROJECT	180 East 125th Street Development Site	PROJECT #	209815
LOCATION	180 East 125th Street, New York, New York	PROJECT MGR.	Sarah Commisso
CLIENT	180 E125th Realty LLC	FIELD REP.	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	DATE STARTED	2/7/2025
DRILLER	Mike Kolasinski	DATE FINISHED	2/7/2025

Elevation ft.	Datum	Boring Location	SB-06		
Item	**Casing**	**Sampler**	**Rig Make & Model**	Geoprobe 6610dt	**Surface Conditions**	**Drilling Notes**
Type			Completion Depth (ft.)	20	Drilling Method: direct push	Surface soil	
Inside Diameter (in.)							
Hammer Weight (lb.)			Number of Samples	4			
Hammer Fall (in.)							

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	48/60	0	None	Dry	0-2	dark brown fine sand, some fine gravel [FILL]	SB-06_0-0.16 @ 9:45 / DUP-02_20250207 @ 9:50
1							
2					2-5	brick, some light brown fine sand [FILL]	
3							
4							
5	48/60	0	None	Dry	5-10	brick, some light brown fine sand, trace fine gravel [FILL]	
6							
7							
8							
9							SB-06_9-11 @ 9:55
10	60/60	0	None	Dry	10-11	Same as above [FILL]	
11					11-14	Light brown medium sand, some fine gravel [SW]	SB-06_11-13 @ 10:00
12							
13				Wet			Groundwater at 13 ft
14					14-15	brown fine sand [SP]	
15	60/60	0	None	Wet	15-20	Same as above [SP]	
16							
17							
18							
19							End of boring 20 ft
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data				Well Construction Information			Summary
Date	Time	Elapsed Time (hr.)	Depth in feet to: Water	Type	Depth	Notes	Overburden (Linear ft.) 20
							Rock Cored (Linear ft.)
							Number of Samples 4
							BORING NO. SB-06

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

SOIL BORING LOG

HALEY ALDRICH

BORING NO. SB-07
Page 1 of 1

PROJECT	180 East 125th Street Development Site	**PROJECT #**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	Sarah Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	**DATE STARTED**	2/7/2025
DRILLER	Mike Kolasinski	**DATE FINISHED**	2/7/2025

Elevation ft.	**Datum**	**Boring Location**	SB-07			
Item	**Casing**	**Sampler**	**Rig Make & Model**	Geoprobe 6610dt	**Surface Conditions**	**Drilling Notes**
Type			**Completion Depth (ft.)**	20	**Drilling Method**	
Inside Diameter (in.)					direct push	Surface soil
Hammer Weight (lb.)			**Number of Samples**	3		
Hammer Fall (in.)						

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	56/60	0	None	Dry	0-5	dark brown fine sand, some fine gravel, some brick [FILL]	SB-07_0-0.16 (MS/MSD) @ 9:00
1							
2							
3							
4							
5	56/60	0	None	Dry	5-7	Same as above [FILL]	SB-07_5-7 @ 9:05
6							
7					7-10	brown medium sand, trace fine gravel [SW]	
8							
9							
10	48/60	0	None	Dry	10-15	Same as above [SW]	
11							SB-07_11-13 @ 9:10
12							
13				Wet			Groundwater at 13 ft
14							
15	48/60	0	None	Wet	15-16	Same as above [SW]	
16					16-20	brown fine sand [SP]	
17							
18							
19							End of boring 20ft
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	20
Rock Cored (Linear ft.)	
Number of Samples	3
BORING NO.	SB-07

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

SOIL BORING LOG

HALEY ALDRICH

BORING NO.	SB-08
Page	1 of 1

PROJECT	180 East 125th Street Development Site	PROJECT #	209815
LOCATION	180 East 125th Street, New York, New York	PROJECT MGR.	Sarah Commisso
CLIENT	180 E125th Realty LLC	FIELD REP.	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	DATE STARTED	2/5/2025
DRILLER	Mike Kolasinski	DATE FINISHED	2/5/2025

Elevation ft.	Datum	Boring Location	SB-08		
Item	Casing	Sampler	Rig Make & Model: Geoprobe 6610dt	Surface Conditions	Drilling Notes
Type			Completion Depth (ft.): 15	Surface soil, vegetation	refusal at 15 ft, offset 5 ft and refusal at 15 ft
Inside Diameter (in.)			Drilling Method: direct push		
Hammer Weight (lb.)			Number of Samples: 3		
Hammer Fall (in.)					

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	30/60	0	None	Dry	0-5	dark brown fine sand, some fine gravel, some brick [FILL]	SB-08_0-0.16 @ 15:10
1							
2							
3							
4							
5	45/60	0	None	Dry	5-10	Same as above [FILL]	
6							
7							
8							
9							
10	30/60	0	None	Dry	10-11	Same as above [FILL]	
11					11-15	Tan medium sand [SW]	SB-08_11-13 @ 15:15
12							
13				Wet			Groundwater at 13ft / SB-08_13-15 @ 15:20
14							End of boring, 15ft, refusal
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	15
Rock Cored (Linear ft.)	
Number of Samples	3
BORING NO.	SB-08

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

HALEY ALDRICH

SOIL BORING LOG

BORING NO. **SB-09**

Page 1 of 1

PROJECT	180 East 125th Street Development Site	**PROJECT #**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	Sarah Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	**DATE STARTED**	2/5/2025
DRILLER	Mike Kolasinski	**DATE FINISHED**	2/5/2025

Elevation ft.	**Datum**	**Boring Location** SB-09		
Item	**Casing**	**Sampler**	**Rig Make & Model** Geoprobe 6610dt	**Surface Conditions**	**Drilling Notes**
Type			**Completion Depth (ft.)** 20	**Drilling Method** direct push	Surface soil, vegetation	
Inside Diameter (in.)					
Hammer Weight (lb.)			**Number of Samples** 4		
Hammer Fall (in.)					

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	40/60	0	None	Dry	0-5	dark brown fine sand, some fine angular gravel, trace brick [FILL]	SB-09_0-0.16 @ 13:45
1							
2							
3							
4							
5	30/60	0	None	Dry	5-10	Same as above [FILL]	
6							
7							
8							
9							SB-09_9-11 @ 13:50
10	50/60	0	None	Dry	10-13	Same as above [FILL]	
11							SB-09_11-13 @ 13:55 / DUP-01_20250205 @ 14:00
12							
13				Wet	13-14	light brown fine sand, trace silt [SM]	Groundwater at 13 ft
14					14-15	light brown medium sand, some fine sand [SW]	
15	30/60	0	None	Wet	15-20	Same as above [SW]	
16							
17							
18							
19							End of boring 20 ft
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data				Well Construction Information			Summary
Date	Time	Elapsed Time (hr.)	Depth in feet to: Water	Type	Depth	Notes	Overburden (Linear ft.) 20
							Rock Cored (Linear ft.)
							Number of Samples 4
							BORING NO. SB-09

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

SOIL BORING LOG

BORING NO. **SB-10**

PROJECT	180 East 125th Street Development Site	**PROJECT #**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	Sarah Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	**DATE STARTED**	2/5/2025
DRILLER	Mike Kolasinski	**DATE FINISHED**	2/5/2025

Elevation ft.	**Datum**	**Boring Location**	SB-10		
Item	**Casing**	**Sampler**	**Rig Make & Model** Geoprobe 6610dt	**Surface Conditions**	**Drilling Notes**
Type			**Completion Depth (ft.)** 20	**Drilling Method**: direct push	Surface soil, vegetation
Inside Diameter (in.)					
Hammer Weight (lb.)			**Number of Samples** 3		
Hammer Fall (in.)					

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	46/60	0	None	Dry	0-5	dark brown fine sand, trace fine angular gravel, trace brick, trace concrete [FILL]	SB-10_0-0.16 @ 10:40
1							
2							
3							
4							
5	40/60	0	None	Dry	5-10	dark brown fine sand, trace fine gravel [FILL]	
6							
7							
8							SB-10_8-10 @ 10:45
9							
10	50/60	0	None	Dry	10-14	brown medium sand, trace fine gravel [SW]	
11							
12							SB-10_12-14 @ 10:50
13							
14				Wet	14-15	angular coarse gravel [GP]	Groundwater @ 14ft
15	50/60	0	None	Wet	15-16	light brown medium sand, trace fine gravel [SW]	
16					16-20	light brown fine sand, trace silt [SM]	
17							
18							
19							End of boring - 20ft
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data

Date	Time	Elapsed Time (hr.)	Depth in feet to: Water

Well Construction Information

Type	Depth	Notes

Summary

Overburden (Linear ft.)	20
Rock Cored (Linear ft.)	
Number of Samples	3
BORING NO.	SB-10

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

BORING NO. SB-11

Page 1 of 1

SOIL BORING LOG

PROJECT	180 East 125th Street Development Site	**PROJECT #**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	Sarah Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp	**DATE STARTED**	2/6/2025
DRILLER	Mike Kolasinski	**DATE FINISHED**	2/6/2025

Elevation ft.	**Datum**		**Boring Location**	SB-11		
Item	**Casing**	**Sampler**	**Rig Make & Model**	Geoprobe 6610dt	**Surface Conditions**	**Drilling Notes**
Type			**Completion Depth (ft.)** 15	**Drilling Method** direct push	Surface soil	**refusal at 15ft**
Inside Diameter (in.)						
Hammer Weight (lb.)			**Number of Samples** 3			
Hammer Fall (in.)						

Depth (ft.)	Recovery (in/tot)	PID (ppm)	Odor	Moisture	Description Depth (ft)	Visual-Manual Identification & Description (Color, primary component NAME, secondary component, optional descriptions [SYMBOL])	Remarks (Sample Information, Depth of Casing, Other Tests, Fill Interval, etc.)
0	48/60	0	None	Dry	0-4	dark brown fine sand, some fine gravel [FILL]	SB-11_0-0.16 @ 13:15
1							
2							
3							
4					4-5	light brown fine sand, trace fine gravel [FILL]	SB-11_4-6 @ 13:20
5	55/60	0	None	Dry	5-6	Same as above [FILL]	
6					6-10	brown medium sand, some fine gravel [SW]	
7							
8							
9							
10	60/60	0	None	Dry	10-15	Same as above [SW]	
11							SB-11_11-13 @ 13:25
12							
13				Wet			
14							End of boring, 15ft, refusal
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Water Level Data				**Well Construction Information**			**Summary**	
Date	**Time**	**Elapsed Time (hr.)**	**Depth in feet to: Water**	**Type**	**Depth**	**Notes**	Overburden (Linear ft.)	15
							Rock Cored (Linear ft.)	
							Number of Samples	3
							BORING NO.	SB-11

***NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.**

NOTE: Soil descriptions based on a modified Burmister method of visual-manual identification as practiced by Haley & Aldrich, Inc.

APPENDIX D
Well Construction Diagrams

PERMANENT WELL INSTALLATION REPORT

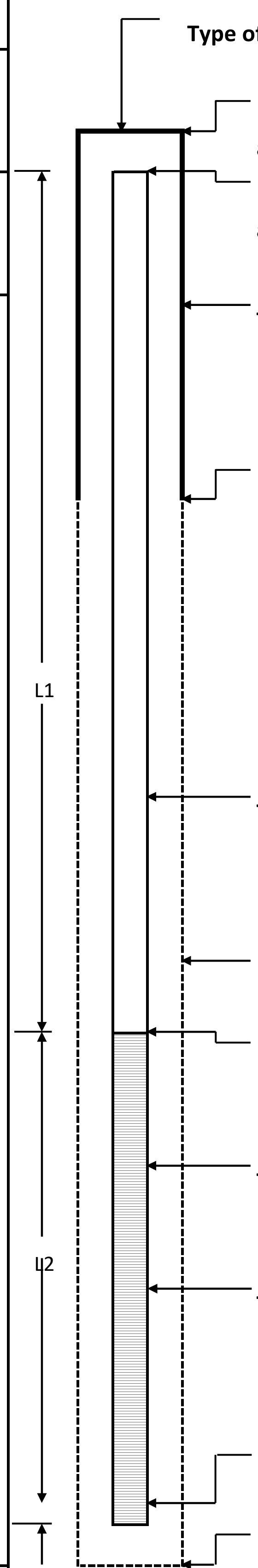
Well No.	MW-01
Boring No.	SB-01

PROJECT	180 East 125th Street Development Site	H&A FILE NO.	209815
LOCATION	180 East 125th Street, New York, New York	PROJECT MGR.	S. Commisso
CLIENT	180 E125th Realty LLC	FIELD REP.	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp.	DATE INSTALLED	2/6/2025
DRILLER	M. Kolasinski	WATER LEVEL	15.6 ft bgs

Ground El.	16.87 ft	Location	See Plan
El. Datum	NAVD 88	Drilling Equipment	Geoprobe 6610dt
Guard Pipe	☐	Roadway Box	☐

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
0-11 ft - Urban Fill	0 – Bentonite Seal – 1.5
11-22 ft - Native Soil	Filter Sand
22	22

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



Type of protective cover/lock (circle one): Pent.bolt 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no.__________

Height/Depth of top of guard pipe/roadway box above/below ground surface: 1.6 ft

Height/Depth of top of riser pipe above/below ground surface: - ft

Type of protective casing: N/A - PVC Stickup
Length: - ft
Inside Diameter: - in

Depth of bottom of guard pipe/roadway box: - ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite Seal	0 ft bgs	1.5
Filter Sand	1.5 ft bgs	20.5

Type of riser pipe: 2-inch PVC
Inside diameter of riser pipe: 2.0 in
Type of backfill around riser: Filter Sand

Diameter of borehole: 6.0 in

Depth to top of well screen: 11.5 ft

Type of screen: Machine Slotted PVC
Screen gauge or size of openings: 0.010 in
Diameter of screen: 2.0 in
Type of backfill around screen: Filter Sand

Depth of bottom of well screen: 21.5 ft

Depth of bottom of borehole: 22.0 ft

(Not to Scale)

Riser Pay Length (L1)		Length of Screen (L2)		Pay length
11.5 ft	+	10 ft	=	21.5 ft

COMMENTS:

PERMANENT WELL INSTALLATION REPORT

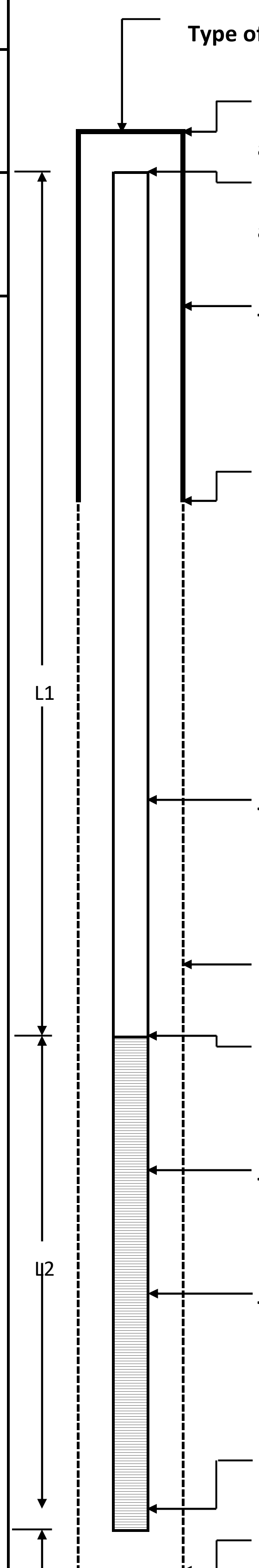
Well No.	MW-02
Boring No.	SB-02

PROJECT	180 East 125th Street Development Site	**H&A FILE NO.**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	S. Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp.	**DATE INSTALLED**	2/6/2025
DRILLER	M. Kolsinski	**WATER LEVEL**	13.5 ft bgs

Ground El.	16.03 ft	**Location**	See Plan	**Drilling Equipment**		**Guard Pipe**	☐
El. Datum	NAVD 88				Geoprobe 6610dt	**Roadway Box**	☐

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
	0
	Bentonite Seal
0-6 ft - Urban Fill	1.5
	Filter Sand
6-19 ft - Native Soil	
19	19

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



Type of protective cover/lock (circle one): Pent.bolt 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no.__________

Height/Depth of top of guard pipe/roadway box above/below ground surface	1.2	ft
Height/Depth of top of riser pipe above/below ground surface	-	ft
Type of protective casing:	N/A - PVC Stickup	
Length	-	ft
Inside Diameter	-	in
Depth of bottom of guard pipe/roadway box	-	ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite Seal	0 ft bgs	1.5 ft
Filter Sand	1.5 ft bgs	17.5 ft

Type of riser pipe:	2-inch PVC	
Inside diameter of riser pipe	2.0	in
Type of backfill around riser	Filter Sand	
Diameter of borehole	6.0	in
Depth to top of well screen	8.3	ft
Type of screen	Machine Slotted PVC	
Screen gauge or size of openings	0.010	in
Diameter of screen	2.0	in
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	18.3	ft
Depth of bottom of borehole	19.0	ft

(Not to Scale)

Riser Pay Length (L1)		Length of Screen (L2)		Pay length
8.3 ft	+	10 ft	=	18.3 ft

COMMENTS:

PERMANENT WELL INSTALLATION REPORT

HALEY ALDRICH

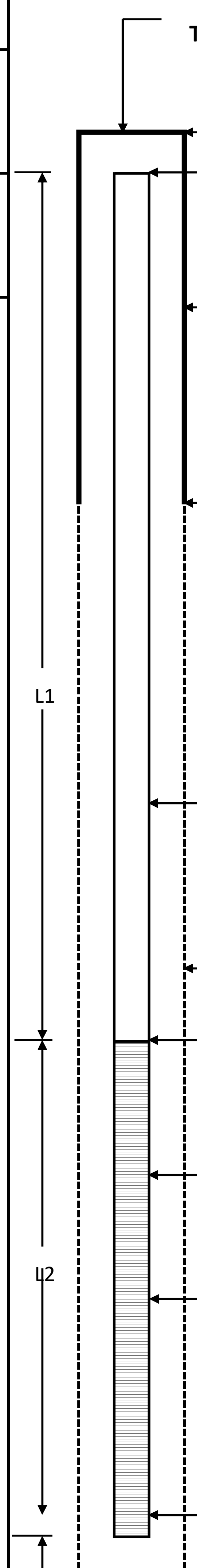
Well No.	MW-03
Boring No.	SB-03

PROJECT	180 East 125th Street Development Site	**H&A FILE NO.**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	S. Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp.	**DATE INSTALLED**	2/6/2025
DRILLER	M. Kolasinski	**WATER LEVEL**	14.5 ft bgs

Ground El. 16.14 ft	**Location** See Plan	**Drilling Equipment**	**Guard Pipe** ☐
El. Datum NAVD 88		Geoprobe 6610dt	**Roadway Box** ☐

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
0-15 ft - Urban Fill	0
	Bentonite Seal
	1.5
	Filter Sand
15-22 ft - Native Soil	
22	22

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



Type of protective cover/lock (circle one): Pent.bolt 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no.__________

Height/Depth of top of guard pipe/roadway box above/below ground surface	0.8	ft
Height/Depth of top of riser pipe above/below ground surface	-	ft
Type of protective casing:	N/A - PVC Stickup	
Length	-	ft
Inside Diameter	-	in
Depth of bottom of guard pipe/roadway box	-	ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite Seal	0 ft bgs	1.5 ft
Filter Sand	1.5 ft bgs	20.5

Type of riser pipe:	2-inch PVC	
Inside diameter of riser pipe	2.0	in
Type of backfill around riser	Filter Sand	
Diameter of borehole	6.0	in
Depth to top of well screen	10.5	ft
Type of screen	Machine Slotted PVC	
Screen gauge or size of openings	0.010	in
Diameter of screen	2.0	in
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	20.5	ft
Depth of bottom of borehole	22.0	ft

(Not to Scale)

10.5 ft (Riser Pay Length (L1)) + 10 ft (Length of Screen (L2)) = 20.5 ft (Pay length)

COMMENTS:

PERMANENT WELL INSTALLATION REPORT

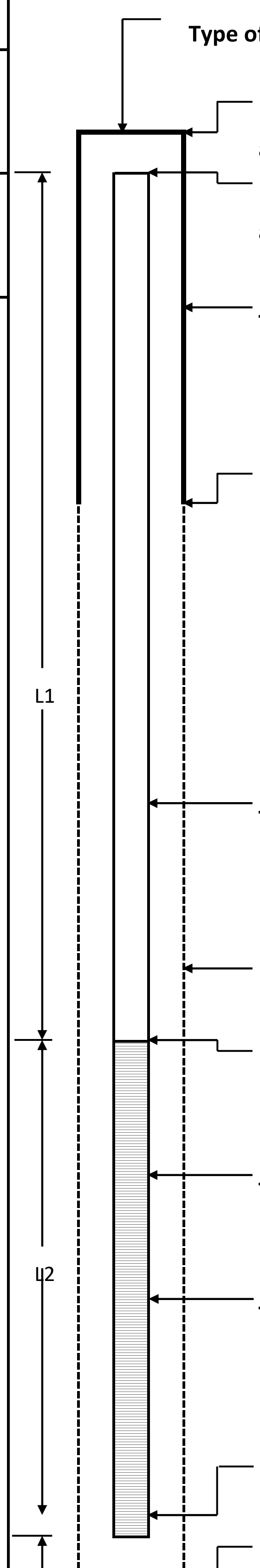
Well No. **MW-04**
Boring No. **SB-04**

PROJECT	180 East 125th Street Development Site	**H&A FILE NO.**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	S. Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp.	**DATE INSTALLED**	2/6/2025
DRILLER	M. Kolasinski	**WATER LEVEL**	14 ft bgs

Ground El. 15.87 ft	**Location** See Plan	**Drilling Equipment** Geoprobe 6610dt	**Guard Pipe** ☐
El. Datum NAVD 88			**Roadway Box** ☐

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
0-14 ft - Urban Fill	0 – Bentonite Seal – 1.5
14-22.5 ft - Native Soil	1.5 – Filter Sand – 22.5
22.5	22.5

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



Type of protective cover/lock (circle one): Pent.bolt $\boxed{\text{9/16" hex.}}$ 1/2" hex. 7/10" hex.
Padlock key no.__________

Height/Depth of top of guard pipe/roadway box above/below ground surface	1.5	**ft**
Height/Depth of top of riser pipe above/below ground surface	-	**ft**
Type of protective casing:	N/A - PVC Stickup	
Length	-	**ft**
Inside Diameter	-	**in**
Depth of bottom of guard pipe/roadway box	-	**ft**

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite Seal	0 ft bgs	1.5 ft
Filter Sand	1.5 ft bgs	21 ft

Type of riser pipe:	2-inch PVC	
Inside diameter of riser pipe	2.0	**in**
Type of backfill around riser	Filter Sand	
Diameter of borehole	6.0	**in**
Depth to top of well screen	11.9	**ft**
Type of screen	Machine Slotted PVC	
Screen gauge or size of openings	0.010	**in**
Diameter of screen	2.0	**in**
Type of backfill around screen	Filter Sand	
Depth of bottom of well screen	21.9	**ft**
Depth of bottom of borehole	22.5	**ft**

(Not to Scale)

11.9 ft (Riser Pay Length (L1)) + 10 ft (Length of Screen (L2)) = 21.9 ft (Pay length)

COMMENTS:

PERMANENT WELL INSTALLATION REPORT

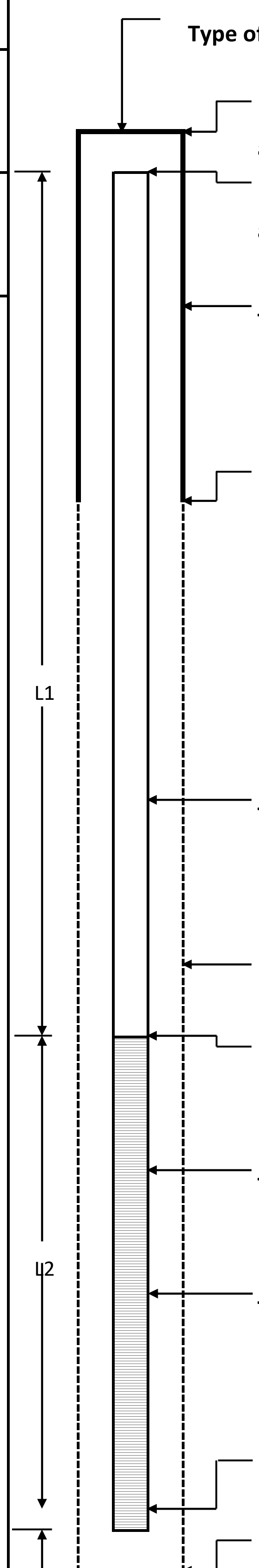
Well No. **MW-05**
Boring No. **SB-05**

PROJECT	180 East 125th Street Development Site	**H&A FILE NO.**	209815
LOCATION	180 East 125th Street, New York, New York	**PROJECT MGR.**	S. Commisso
CLIENT	180 E125th Realty LLC	**FIELD REP.**	J. Mastro, C. Jackson
CONTRACTOR	Lakewood Environmental Services Corp.	**DATE INSTALLED**	2/6/2025
DRILLER	M. Kolasinski	**WATER LEVEL**	14 ft bgs

Ground El. 15.26 ft	**Location** See Plan	**Drilling Equipment**	**Guard Pipe** ☐	
El. Datum NAVD 88		Geoprobe 6610dt	**Roadway Box** ☐	

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL
	0
	Bentonite Seal
	1.5
0-10 ft - Urban Fill	Filter Sand
10-23 ft - Native Soil	
23	23

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)



Type of protective cover/lock (circle one): Pent.bolt 9/16" hex. 1/2" hex. 7/10" hex.
Padlock key no.__________

Height/Depth of top of guard pipe/roadway box above/below ground surface: 1.5 ft

Height/Depth of top of riser pipe above/below ground surface: - ft

Type of protective casing: N/A - PVC Stickup
Length: - ft
Inside Diameter: - in

Depth of bottom of guard pipe/roadway box: - ft

Type of Seals	Top of Seal (ft)	Thickness (ft)
Bentonite Seal	0 ft bgs	1.5 ft
Filter Sand	1.5 ft bgs	21.5 ft

Type of riser pipe: 2-inch PVC
Inside diameter of riser pipe: 2.0 in
Type of backfill around riser: Filter Sand

Diameter of borehole: 6.0 in

Depth to top of well screen: 12.0 ft

Type of screen: Machine Slotted PVC
Screen gauge or size of openings: 0.010 in
Diameter of screen: 2.0 in
Type of backfill around screen: Filter Sand

Depth of bottom of well screen: 22.0 ft

Depth of bottom of borehole: 23.0 ft

(Not to Scale)

Riser Pay Length (L1)		Length of Screen (L2)		Pay length
12 ft	+	10 ft	=	22 ft

COMMENTS:

APPENDIX E
Groundwater Sampling Logs

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT	180 East 125th Street Development Site	H&A FILE NO.	209815
LOCATION	180 East 125th Street, New York, New York	PROJECT MGR.	Sarah Commisso
CLIENT	180 E125th Realty LLC	FIELD REP	J. Mastro, C. Jackson
CONTRACTOR		DATE	2/13/2025

GROUNDWATER SAMPLING INFORMATION

Well ID:	MW-01	Well Volume:	0.84 gallons	Start Time:	805
Well Depth:	22.19	Equipment:	Peristaltic Pump & YSI	Sample Time:	845
Depth to Water:	17.06				

GROUNDWATER QUALITY PARAMETERS

Time	Volume purged, gallons	Temp, C (+/-3%)	Conductivity, ms/cm (+/- 3%)	Dissolved Oxygen, mg/L (+/- 10%)	pH (+/-0.1)	ORP/eH, mv (+/-10mv)	Turbidity, NTU (<5 NTU)	Depth to Water (ft)
805	0.5	12.12	1.231	5.57	7.09	-68.5	6.4	17.09
810	1	13.9	1.257	2.12	7.09	-152.7	5.9	17.14
815	1.5	14.22	1.277	1.43	7.09	-60.6	4.1	17.12
820	2	14.6	1.268	1.73	7.2	-80.5	2.4	17.12
825	2.5	14.89	1.252	1.87	7.12	-64.8	1.2	17.13
830	3	14.97	1.242	1.95	7.2	-25.1	0	17.13
835	3.5	15.01	1.239	2.0	7.21	-16.8	0	17.12
840	4.5	15.13	1.233	2.2	7.17	-24.8	0	17.12

Notes:

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT	**180 East 125th Street Development Site**	**H&A FILE NO.**	**209815**
LOCATION	**180 East 125th Street, New York, New York**	**PROJECT MGR.**	**Sarah Commisso**
CLIENT	**180 E125th Realty LLC**	**FIELD REP**	**J. Mastro, C. Jackson**
CONTRACTOR		**DATE**	**2/13/2025**

GROUNDWATER SAMPLING INFORMATION

Well ID:	MW-02	**Well Volume:**	0.51	**Start Time:**	935
Well Depth:	19.8	**Equipment:**	Peristaltic Pump & YSI	**Sample Time:**	1010
Depth to Water:	16.66				

GROUNDWATER QUALITY PARAMETERS

Time	Volume purged, gallons	Temp, C (+/-3%)	Conductivity, ms/cm (+/- 3%)	Dissolved Oxygen, mg/L (+/- 10%)	pH (+/-0.1)	ORP/eH, mv (+/-10mv)	Turbidity, NTU (<5 NTU)	Depth to Water (ft)
935	0.75	11.05	0.883	7.06	7.45	190.6	0	16.66
940	1.5	12.43	0.906	3.29	7.4	44.3	0	16.67
945	2.25	12.76	0.898	3.56	7.39	23.9	0	16.66
950	3	12.87	0.886	3.98	7.34	13.9	0	16.66
955	3.75	12.89	0.884	4.04	7.42	11	0	16.68
1000	4.25	12.87	0.884	4.07	7.39	11.2	0	16.66
1005	4.75	12.85	0.883	4.17	7.32	11	0	16.67

Notes: DUP-01_20250213 @ 10:15

HALEY ALDRICH

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT	180 East 125th Street Development Site	H&A FILE NO.	209815
LOCATION	180 East 125th Street, New York, New York	PROJECT MGR.	Sarah Commisso
CLIENT	180 E125th Realty LLC	FIELD REP	J. Mastro, C. Jackson
CONTRACTOR		DATE	2/13/2025

GROUNDWATER SAMPLING INFORMATION

Well ID:	MW-03	Well Volume:	1	Start Time:	1130
Well Depth:	21.4	Equipment:	Peristaltic Pump & YSI	Sample Time:	1205
Depth to Water:	15.28				

GROUNDWATER QUALITY PARAMETERS

Time	Volume purged, gallons	Temp, C (+/-3%)	Conductivity, ms/cm (+/- 3%)	Dissolved Oxygen, mg/L (+/- 10%)	pH (+/-0.1)	ORP/eH, mv (+/-10mv)	Turbidity, NTU (<5 NTU)	Depth to Water (ft)
1130	0.75	12.85	1.28	1.48	7.75	209	0	15.28
1135	1.5	13.98	1.323	5.3	7.73	138	0	15.24
1140	2.25	14.26	1.335	6.4	7.76	96.4	0	15.26
1145	3	14.5	1.342	7.1	7.73	76.7	0	15.26
1150	3.75	14.65	1.345	7	7.74	63.7	0	15.26
1155	4.25	14.74	1.346	7.2	7.67	56.6	0	15.26
1200	5	14.77	1.35	7.1	7.66	55.5	0	15.26

Notes: MW-03_20250213(MS/MSD) @ 1205

HALEY ALDRICH

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT	**180 East 125th Street Development Site**	**H&A FILE NO.**	**209815**
LOCATION	**180 East 125th Street, New York, New York**	**PROJECT MGR.**	**Sarah Commisso**
CLIENT	**180 E125th Realty LLC**	**FIELD REP**	**J. Mastro, C. Jackson**
CONTRACTOR		**DATE**	**2/13/2025**

GROUNDWATER SAMPLING INFORMATION

Well ID:	MW-04	**Well Volume:**	1.22	**Start Time:**	1430
Well Depth:	23.95	**Equipment:**	Peri Pump & YSI	**Sample Time:**	1510
Depth to Water:	16.47				

GROUNDWATER QUALITY PARAMETERS

Time	Volume purged, gallons	Temp, C (+/-3%)	Conductivity, ms/cm (+/- 3%)	Dissolved Oxygen, mg/L (+/- 10%)	pH (+/-0.1)	ORP/eH, mv (+/-10mv)	Turbidity, NTU (<5 NTU)	Depth to Water (ft)
1430	0.6	13.92	1.081	8.59	7.33	306	15.3	16.47
1435	1.2	14.34	1.103	1.86	7.23	261.7	12.6	16.49
1440	1.8	14.75	1.119	1.43	7.21	187.1	5.9	16.5
1445	2.4	14.93	1.126	1.28	7.18	112.7	3.4	16.48
1450	3	14.98	1.127	1.23	7.16	78.7	3.3	16.48
1455	3.6	15.13	1.13	1.21	7.15	42.2	3.3	16.47
1500	4.4	15.12	1.13	1.23	7.15	41.4	3.3	16.48
1505	5	15.1	1.13	1.24	7.16	40.8	3.1	16.48

Notes:

LOW-FLOW GROUNDWATER SAMPLING RECORD

PROJECT	**180 East 125th Street Development Site**	**H&A FILE NO.**	**209815**
LOCATION	**180 East 125th Street, New York, New York**	**PROJECT MGR.**	**Sarah Commisso**
CLIENT	**180 E125th Realty LLC**	**FIELD REP**	**J. Mastro, C. Jackson**
CONTRACTOR		**DATE**	**2/13/2025**

GROUNDWATER SAMPLING INFORMATION

Well ID:	MW-05	**Well Volume:**	1.32	**Start Time:**	1320
Well Depth:	23.5	**Equipment:**	Peristaltic Pump & YSI	**Sample Time:**	1410
Depth to Water:	15.42				

GROUNDWATER QUALITY PARAMETERS

Time	Volume purged, gallons or liters (circle one)	Temp, C (+/-3%)	Conductivity, us/cm (+/- 3%)	Dissolved Oxygen, mg/L (+/- 10%)	pH (+/-0.1)	ORP/eH, mv (+/-10mv)	Turbidity, NTU (<5 NTU)	Depth to Water (ft)
1320	0.6	13.67	0.989	5.12	7.27	205.5	12	15.45
1325	1.2	14.57	0.997	2.51	7.32	166.6	10.2	15.45
1330	1.8	15.33	1.011	1.55	7.35	140.4	7.3	15.45
1335	2.4	15.62	1.019	1.41	7.34	100.1	4.2	15.45
1340	3	15.86	1.024	1.32	7.35	94	2.5	15.45
1345	3.6	15.91	1.027	1.25	7.34	96	1.1	15.45
1350	4.4	15.99	1.028	1.25	7.33	99.2	0.5	15.45
1355	5	16	1.029	1.25	7.31	95.6	0.3	15.45

Notes:

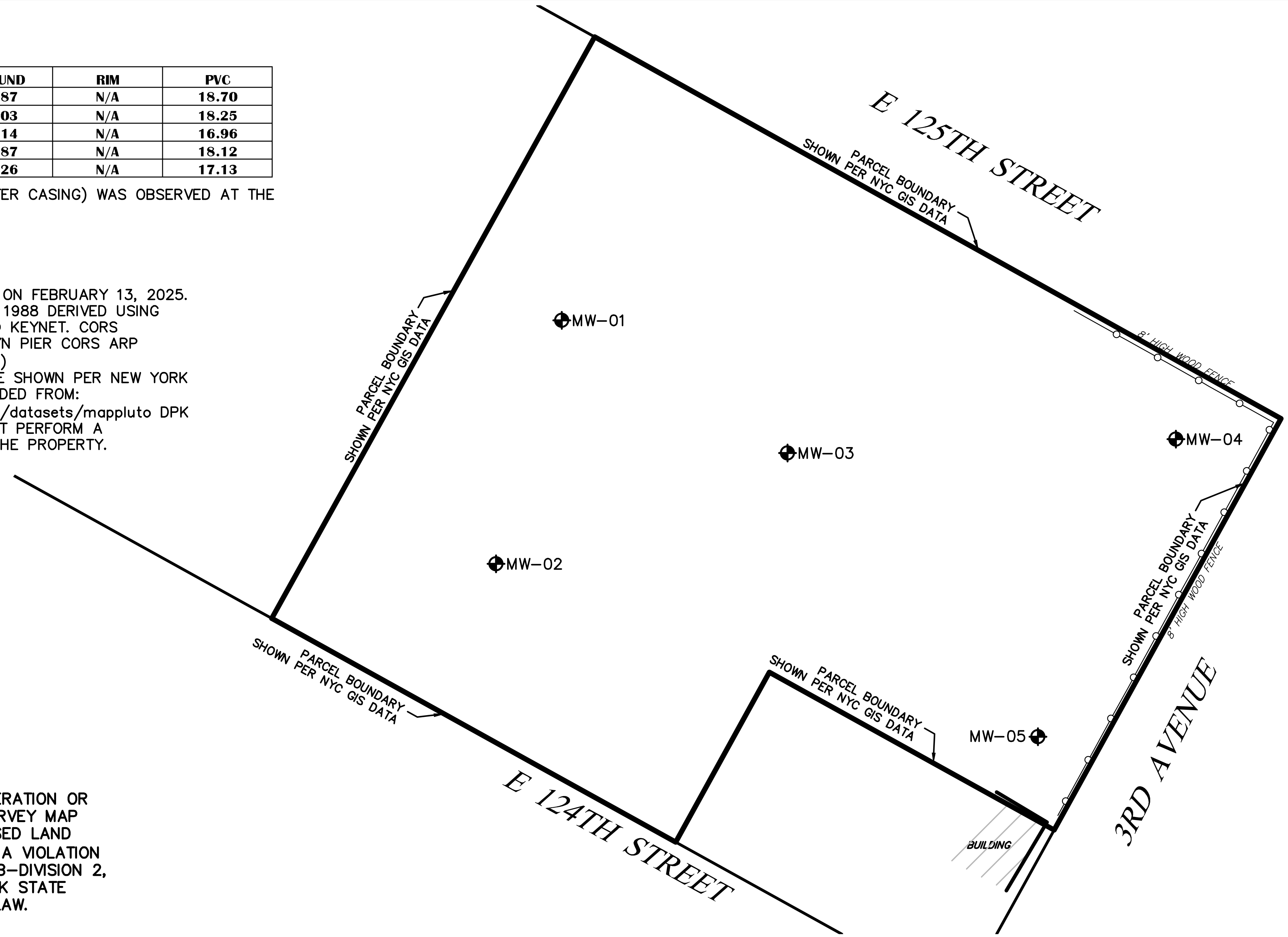
APPENDIX F
Survey Map

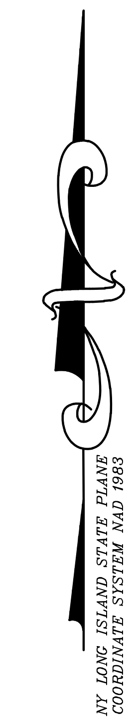
MONITORING WELLS	GROUND	RIM	PVC
MW-01	16.87	N/A	18.70
MW-02	16.03	N/A	18.25
MW-03	16.14	N/A	16.96
MW-04	15.87	N/A	18.12
MW-05	15.26	N/A	17.13

NOTE: N/A = NO RIM (OUTER CASING) WAS OBSERVED AT THE TIME OF THE FIELD SURVEY.

NOTES:

1. FIELD WORK PERFORMED ON FEBRUARY 13, 2025.
2. ELEVATION DATUM NAVD 1988 DERIVED USING RTK GPS RECEIVERS AND KEYNET. CORS STATION: NYBR BROOKLYN PIER CORS ARP ELEV=42.13' (NAVD 1988)
3. PARCEL BOUNDARIES ARE SHOWN PER NEW YORK CITY GIS DATA DOWNLOADED FROM: https://nycmaps.nyc.gov/datasets/mappluto DPK LAND SURVEYING DID NOT PERFORM A BOUNDARY SURVEY OF THE PROPERTY.





UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

GRAPHIC SCALE

40 0 20 40

(IN FEET)
1 inch = 40 ft.

REV	DATE	DESCRIPTION	BY	CHKD
1	2/25/2025	REVISED TO ADD SITE BOUNDARY	D.J.N.	J.J.H.

DATE 02/25/2025

James J. Heiser
Professional Land Surveyor
JHEISER@DPKCONSULTING.NET

N.J. Lic: 24GS04331100
PA. Lic: SU075616
N.Y. Lic: 050932-1
CT. Lic: 70476
DE. LIC: S6-0010858

Date: 2/20/25	Dr.: P.C.	Chk.: C.S.	SCALE: 1" = 40'	JOB No. 25-10569	Dwg: 25-10569MW00

DPK LAND SURVEYING

DPK LAND SURVEYING, LLC
200 METROPLEX DRIVE - STE. 285, EDISON, NJ 08817
P:732-764-0100 F: 732-764-0990
NEW YORK CERTIFICATE OF AUTHORIZATION NO. 0012585

MONITORING WELL LOCATION MAP

FOR:
HALEY & ALDRICH OF NEW YORK
SITE:
180 EAST 125TH STREET
NEW YORK, NEW YORK

S:_Projects\2025\25-10569\CAD\25-10569MW00.dwg Feb 25, 2025-4:38pm BY:(DouglasJNoelCSTII)

APPENDIX G
Soil Vapor Sampling Logs

SOIL VAPOR SAMPLING LOG

Project Name/Location: 180 East 125th Street Development Site Project Number: 0209815

Site: 180 East 125th Street, New York, New York
Date Collected: 2/7/2025 and 2/12/2025
Personnel: J. Mastro, C. Jackson
Weather: 31-38 °F, partly cloudy / 31-33°F, cloudy
Humidity: 51% / 86%

Sample ID	Canister Size	Canister ID	Flow Controller ID	Sample Start Time	Canister Start Pressure ("Hg)	Sample End Time	Canister End Pressure ("Hg)	Sample Start Date	Sample Type	Analyses Method
SV-01	6L	5614	3740	9:15	-29.70	11:20	-4	2/7/2025	Soil Vapor	TO-15
SV-02	6L	5455	4734	9:20	-29.70	11:05	-4	2/7/2025	Soil Vapor	TO-15
SV-03	6L	3323	3738	8:05	-30.00	10:05	-7	2/12/2025	Soil Vapor	TO-15
SV-04	6L	2863	3930	10:09	-30.00	11:07	-4	2/7/2025	Soil Vapor	TO-15
SV-05	6L	2706	5188	10:06	-30.00	12:15	-6	2/7/2025	Soil Vapor	TO-15
SV-06	6L	34001655	3986	9:13	-29.70	11:18	-7	2/7/2025	Soil Vapor	TO-15
SV-07	6L	5047	4505	10:03	-29.70	11:53	-5	2/7/2025	Soil Vapor	TO-15

Notes:
Summas and flow regulators provided by Eurofins
Analyses for VOCs by Method TO-15

APPENDIX H
Analytical Laboratory Reports
See Volumes II and III

APPENDIX I
Data Usability Summary Reports

Data Usability Summary Report

Project Name: 180 East 125th Street

Project Description: Soil, Soil Vapor, and Groundwater Samples

Sample Dates: 5 through 13 February 2025

Analytical Laboratory: Eurofins Burlington – Burlington, VT

Pace Analytical – Westborough, MA

Validation Performed by: Eric Hitchens

Validation Reviewed by: Katherine Miller

Validation Date: 14 March 2025

H & A of New York Engineering and Geology, LLP prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the analytical results for the Sample Delivery Groups (SDGs) listed. This DUSR is organized into the following sections:

1. **Sample Delivery Group Numbers**
2. **Explanations**
3. **Glossary**
4. **Abbreviations**
5. **Qualifiers**

References

This data validation and usability assessment was performed per the guidance and requirements established by the United States Environmental Protection Agency (USEPA) using the following reference materials:

- National Functional Guidelines (NFG) for Inorganic Data Review.
- NFG for Organic Data Review.
- Analysis of Volatile Organic Compounds (VOCs) in Air Contained in Canisters by Method TO-15.
- Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) Under New York State Department of Environmental Conservation's (NYSDEC's) Part 375 Remedial Programs.

Data reported in this sampling event were reported to the laboratory reporting method detection limit (MDL). Results found between the MDL and reporting limit (RL) are flagged J as estimated.

Sample data were qualified in accordance with the laboratory's standard operating procedures (SOPs). The results presented in each laboratory report were found to be compliant with the data quality objectives (DQOs) for the project and are therefore usable; any exceptions are noted in the following pages and listed below.

1. Sample Delivery Group Numbers

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG numbers listed in Table 1A. Samples were collected, preserved, and shipped following standard chain of custody (COC) protocols. Samples were also received appropriately, identified correctly, and analyzed according to the COC. Issues noted with sample management are listed below:

- Custody seals were not used when samples were dropped off at the laboratory or service center by the field staff, submitted to a laboratory-provided courier, or when transported between subcontracted laboratories.

Analyses were performed on the samples listed in Table 1B. Method holding times are listed in Table 1C.

1.2 CASE NARRATIVE

The laboratory report case narrative listed the issues noted in Table 2.

1.3 HOLDING TIMES/PRESERVATION

The samples arrived at the laboratory at the proper temperature and were prepared and analyzed within the holding time and preservation criteria specified per method protocol.

1.4 REPORTING LIMITS AND SAMPLE DILUTIONS

All sample dilutions were reviewed and found to be justified.

1.5 REPORTING BASIS (WET/DRY)

Refer to Section E 1.1. Soil data in these SDGs were reported on a dry-weight basis. Percent solid results were reviewed and found to be within limits.

1.6 SURROGATE RECOVERY COMPLIANCE

Refer to Section E 1.2. The percent recovery (%R) for each surrogate compound added to each project sample were determined to be within the laboratory-specified quality control (QC) limits. Any exceptions are noted in Table 3 and qualified. Lists of referenced surrogate target compounds are presented in Attachments A and B.

1.7 EXTRACTION INTERNAL STANDARDS

Refer to Section E 1.16. Recoveries were reviewed and found to be within the limits. Any exceptions are noted in Table 4 and qualified.

1.8 LABORATORY CONTROL SAMPLES

Refer to Section E 1.3. Compounds associated with the laboratory control samples/laboratory control sample duplicate (LCS/LCSD) analyses associated with client samples exhibited recoveries and relative percent differences (RPDs). Any exceptions are noted in Table 5.

1.9 MATRIX SPIKE SAMPLES

Refer to Section E 1.4. The samples listed in Table 6A were used for matrix spike/matrix spike duplicate (MS/MSD) analysis. The MS/MSD recoveries and the relative percent difference (RPD) between the MS and MSD results were within the specified limits. Any exceptions are noted in Table 6B.

1.10 BLANK SAMPLE ANALYSIS

Refer to Section E 1.5. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred, with any exceptions noted in Table 7A. The analysis of the blank samples for field quality control had no detections, indicating that no contamination from field activities occurred, with any exceptions noted in Table 7B.

1.11 DUPLICATE SAMPLE ANALYSIS

Refer to Section E 1.6. The samples listed in Table 8A were used for laboratory duplicate analysis, and the RPDs were all below 20 percent.

The samples listed in Table 8B were used for field duplicate analysis. RPDs were all below 35 percent for water and 50 percent for soil (or the absolute difference rule was satisfied if detects were less than 5 times the RL). For PFAS, RPDs were below 30% for any detects greater than 2x the RL. Any exceptions are noted in Table 8C.

1.12 PRECISION AND ACCURACY

Refer to Section E 1.7. Where required by the method, some measurement of analytical accuracy and precision was reported for each method with the site samples.

1.13 CONFIRMATION COLUMN REVIEW

Refer to Section E 1.8. All RPDs were within control limits. Any exceptions were flagged by the laboratory and qualified J/UJ by the validator.

1.14 ESTIMATED MAXIMUM POSSIBLE CONCENTRATION (EMPC)

Refer to Section E 1.9. The laboratory did not report any EMPC flags; therefore, no action is required.

1.15 CLEAN CANISTER CERTIFICATION

The canisters used for the TO-15 sample collection were certified clean by individual can analysis prior to sampling to ensure that no target analytes were present. These analysis sheets were reviewed, and no target analytes were detected in the laboratory-provided canisters.

1.16 PFAS SAMPLE PREPARATION

Refer to Section E 1.14. The laboratory case narratives noted no abnormalities during sample preparation.

1.17 PFAS IDENTIFICATION

Refer to Section E 1.15. Ion ratios could not be reviewed because the laboratory did not provide an ion ratio summary.

1.18 SERIAL DILUTIONS

Refer to Section E 1.23. The %Ds for the serial dilution performed were within the limits required by the USEPA.

1.19 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the DQOs for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are useable and acceptable, as no data was rejected, except for rejected data noted in Table 10. A summary of qualifiers applied to this dataset is shown in Table 9.

2. Explanations

The following explanations include more detailed information regarding each of the sections in the DUSR above. Not all sections in the Explanations are represented:

- E 1.1 Reporting Basis (Wet/Dry)
  - Soil samples can be reported on either a wet (as received) or dry weight basis. Dry weight data indicate calculations were made to compensate for the moisture content of the soil sample.
  - Percent (%) solids should be appropriately considered when evaluating analytical results for non-aqueous samples. Sediments with high moisture content may or may not be successfully analyzed by routine analytical methods. Samples should have greater than or equal to 30 percent solids to be appropriately quantified.
- E 1.2 Surrogate Recovery Compliance
  - Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to sample preparation to determining the efficiency of the extraction procedure by evaluating the %R of the compounds.
- E 1.3 Laboratory Control Samples
  - The LCS/LCSD analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences.
- E 1.4 Matrix Spike Samples
  - MS/MSD data are used to assess the precision and accuracy of the analytical method and evaluate the effects of the sample matrix on the sample preparation procedures and measurement methodologies.
  - For inorganic methods, when a matrix spike recovery falls outside of the control limits and the sample result is less than four times the spike added, a post-digestion spike (PDS) is performed.
- E 1.5 Blank Sample Analysis
  - Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination.
  - Field blanks are prepared to identify contamination that may have been introduced during field activity. Equipment blanks are prepared to identify contamination that may have been introduced while decontaminating sampling equipment. Trip blanks are prepared when volatile analysis is requested to identify contamination that may have been introduced during transport.
- E 1.6 Laboratory and Field Duplicate Sample Analysis
  - The laboratory duplicate sample analysis is used by the laboratory at the time of the analysis to demonstrate acceptable method precision. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.

- The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. The RPD or absolute difference was evaluated for each duplicate sample pair to monitor the reproducibility of the data.

- E 1.7 Precision and Accuracy
  - Precision measures the reproducibility of repetitive measurements. In a laboratory environment, this will be measured by determining the RPD found between a primary and a duplicate sample. This can be an LCS/LCSD pair, a MS/MSD pair, a laboratory duplicate performed on a site sample, or a field duplicate collected and analyzed concurrently with a site sample.
  - Accuracy is a statistical measurement of the correctness of a measured value and includes components of random error (variability caused by imprecision) and systematic error. In a laboratory environment, this will be measured by determining the %R of certain spiked compounds. This can be assessed using LCS, blank spike (BS), MS, and/or surrogate recoveries.
- E 1.8 Confirmation Column Review
  - When analyzing for pesticides and polychlorinated biphenyls (PCBs), compound identification based on single-column analysis should be confirmed on a second column or supported by at least one other qualitative technique. When confirmed on a second column, the RPD should not exceed 40 percent.
- E 1.9 Estimated Maximum Possible Concentration
  - An Estimated Maximum Possible Concentration (EMPC) is a worst-case estimate of the concentration for a dioxin/furan or PCB based on all identification criteria being met except the ion abundance ratio criteria, or if a peak representing a chlorinated diphenyl ether was detected.
- E 1.14 PFAS Sample Preparation
  - Analysis of PFAS requires specific sample preparation. Aqueous samples must be prepared using SPE, unless samples are known to contain high PFAS concentrations or the samples are injected directly into the LC/MS/MS instrument. Samples with greater than 1 percent solids may require centrifugation prior to SPE. The entire sample plus bottle rinsate must be extracted using SPE. If high PFAS concentrations are known, the samples may alternately be prepared using serial dilution performed in duplicate. If prepared by serial dilution, there must be documented project approval for this deviation.
- E 1.15 PFAS Identification
  - Identification of PFAS requires dual confirmation. The chemical derivation of the ion transitions must be documented. A minimum of two ion transitions per analyte are required (except for PFBA and PFPeA). Ratios of the quantitation ion to the confirmation ion should be calculated for samples and be within 50 to 150 percent of the ratios of the quantitation ion to the confirmation ion for standards.
  - Identification of PFAS also requires the proper assessment of branched and linear peaks. Standards for both isomers are not currently available for every PFAS compound, resulting in the common error of quantifying the area of only the branched or the linear isomers, which results in erroneous concentrations.

- E 1.16 Extraction Internal Standards
  - Analysis of PFAS by isotope dilution includes the use of extracted internal standards, which are stable isotope analogs of the PFAS compounds of interest added to each sample prior to extraction of the sample matrix. Matrix interferences that affect the quantification of the internal standard will affect the calculated target compound concentrations.
- E 1.23 Serial Dilutions
  - Inorganic analysis requires a serial dilution analysis, which determines whether significant physical or chemical interferences exists because of the sample matrix. If the analyte concentration is sufficiently high (concentration in the original sample is > 50x the MDL that is calculated for the sample) the Percent Difference (%D) between the original determination and the serial dilution analysis (a five-fold dilution) after correction for dilution should be low.

3. Glossary

*Analyte names may be abbreviated for simplicity. Please reference the laboratory report for the full analyte name.
Not all of the following symbols, acronyms, or qualifiers occur in this document.

- Sample Types:
  - EB — Equipment Blank Sample
  - FB — Field Blank Sample
  - FD — Field Duplicate Sample
  - N — Primary Sample
  - TB — Trip Blank Sample
- Units:
  - ng/kg — nanograms per kilogram
  - µg/kg — micrograms per kilogram
  - µg/L — micrograms per liter
  - $\mu g/m^3$ — micrograms per cubic meter
  - mg/kg — milligrams per kilogram
  - mg/L — milligrams per liter
  - ppb v/v — parts per billion volume/volume
  - pCi/L — picocuries per liter
  - pg/g — picograms per gram
  - pg/L — picograms per liter
- Matrices:
  - AA — Ambient Air
  - GS — Soil Gas
  - GW/WG — Groundwater
  - IA — Indoor Air
  - SE — Sediment
  - SO — Soil
  - SSV — Sub-slab Vapor
  - ST — Solid Waste
  - WQ — Water Quality control matrix
  - WS — Surface Water
  - WW — Waste Water
- Table Footnotes:
  - NA — Not applicable
  - ND — Non-detect
  - NR — Not reported
- Common Symbols:
  - % — percent
  - < — less than
  - ≤ — less than or equal to
  - > — greater than
  - ≥ — greater than or equal to
  - = — equal

- °C degrees Celsius
- ± plus or minus
- ~ approximately
- x times (multiplier)

- Fractions:
  - N Normal (method cannot be filtered)
  - D Dissolved (filtered)
  - T Total (unfiltered)

4. Abbreviations

%D	Percent Difference
%R	Percent Recovery
%RSD	Percent Relative Standard Deviation
%v/v	Percent volume by volume
2s	2 sigma
4,4-DDT	4 4-dichlorodiphenyltrichloroethane
Abs Diff	Absolute Difference
amu	atomic mass unit
BPJ	Best Professional Judgement
BS	Blank Spike
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CCVL	Continuing Calibration Verification Low
COC	Chain of Custody
COM	Combined Isotope Calculation
Cr (VI)	Hexavalent Chromium
CRI	Collision Reaction Interface
DoD	Department of Defense
DQO	data quality objective
DUSR	Data Usability Summary Report
EIS	Extraction Internal Standard
EMPC	Estimated Maximum Possible Concentration
FBK	Field Blank Contamination
FDP	Field Duplicate
GC	Gas Chromatograph
GC/MS	Gas Chromatography/Mass Spectrometry
GPC	Gel Permeation Chromatography
H_2	Hydrogen gas
HCl	Hydrochloric Acid
ICAL	Initial Calibration
ICB	Initial Calibration Blank
ICP/MS	Inductively Coupled Plasma/Mass Spectrometry
ICV	Initial Calibration Verification
ICVL	Initial Calibration Verification Low
IPA	Isopropyl Alcohol
LC	Laboratory Control
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MBK	Method Blank Contamination
MDC	Minimum Detectable Concentration
MDL	Laboratory Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NA	not applicable
ND	Non-Detect
NFG	National Functional Guidelines
NH_3	Ammonia
NYSDEC	New York State Department of Environmental Conservation
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PDS	Post-Digestion Spike
PEM	Performance Evaluation Mixture
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorbutanoic Acid
PFD	Perfluorodecalin
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane sulfonate
PFPeA	Perfluoropentanoic Acid
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
R^2	R-squared value
Ra-226	Radium-226
Ra-228	Radium-228
RESC	Resolution Check Measure
RL	Laboratory Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SAP	Sampling Analysis Plan
SDG	Sample Delivery Group
SIM	Selected ion monitoring
SOP	Standard Operating Procedure
SPE	Solid-Phase Extraction
SVOC	Semi-Volatile Organic Compound
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TPH	Total Petroleum Hydrocarbon
TPU	Total Propagated Uncertainty
USEPA	U.S. Environmental Protection Agency
VOC	Volatile Organic Compound
WP	Work Plan

5. Qualifiers

The qualifiers below are from the USEPA NFG and the data in the DUSR may contain these qualifiers:

- Concentration (C) Qualifiers:

  U The compound was analyzed for but not detected. The associated value is either the compound quantitation limit if not detected by the analytical instrument or could be the reported or blank concentration if qualified by blank contamination. This can also be displayed as less than the associated compound quantitation limit (<RL or <MDL), or "ND".

  B The compound was found in the sample and its associated blank. Its presence in the sample may be suspect.

- Quantitation (Q) Qualifiers:

  E The compound was quantitated above the calibration range.

  D The concentration is based on a diluted sample analysis.

- Validation Qualifiers:

  J The compound was positively identified; however, the associated numerical value is an estimated concentration only.

  J+ The result is an estimated quantity, but the result may be biased high.

  J- The result is an estimated quantity, but the result may be biased low.

  J/UJ as listed in exception tables J applies to detected data and UJ applies to non-detected data as reported by the laboratory.

  UJ The compound was not detected. The reported sample quantitation limit is approximate.

  NJ The analysis indicated the presence of a compound for which there is presumptive evidence to make a tentative identification; the associated numerical value is an estimated concentration only.

  R The sample results were rejected as unusable; the compound may or may not be present in the sample.

  S Result is suspect. See DUSR for details.

References

1. New York State Department of Environmental Conservation (NYSDEC), 2023. Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Under NYSDEC's Part 375 Remedial Programs. April.

2. United States Environmental Protection Agency, 2014. Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15, SOP NO. HW-31, Revision 6. June.

3. United States Environmental Protection Agency, 2020a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-542-R-20-006. November.

4. United States Environmental Protection Agency, 2020b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-20-005. November.

Attachments:

Table 1A – Sample Delivery Groups
Table 1B – Sample Information
Table 1C – Method Holding Times
Table 2 – Case Narratives
Table 3 – Surrogate Recovery Compliance
Table 4 – Extraction Internal Standards
Table 5 – Laboratory Control Samples
Table 6A – Matrix Spike Samples
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Table 7A – Method Blanks
Table 7B – Field Blanks
Table 8A – Laboratory Duplicate Samples
Table 8B – Field Duplicate Samples
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Table 9 – System Performance Summary

Attachment A – Pace Analytical 8260B Analyte List, Characteristic Mass and Associated Internal Standards
Attachment B – Pace Analytical 8270 Characteristic Ions and Internal Standards Associations

TABLES

TABLE 1A
SAMPLE DELIVERY GROUPS
180 EAST 125TH STREET
NEW YORK, NEW YORK

Sample Delivery Group
L2506469
L2508240
L2506987
L2506692
200769091
200769661

TABLE 1B
SAMPLE INFORMATION
180 EAST 125TH STREET
NEW YORK, NEW YORK

Sample ID	Sample Type	Lab ID	Sample Date	Matrix	Methods[1]
SV-01-20250207	N	200-76909-1	02/07/2025	GS	A
SV-02-20250207	N	200-76909-2	02/07/2025	GS	A
SV-04-20250207	N	200-76909-3	02/07/2025	GS	A
SV-05-20250207	N	200-76909-4	02/07/2025	GS	A
SV-06-20250207	N	200-76909-5	02/07/2025	GS	A
SV-07-20250207	N	200-76909-6	02/07/2025	GS	A
SV-03-20250212	N	200-76966-1	02/12/2025	GS	A
TB-01_20250205	N	L2506469-01	02/05/2025	W	B
FB-01_20250205	N	L2506469-02	02/05/2025	W	B, C, D, E, F, G, H, I
SB-02_0-0.16	N	L2506469-03	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-02_4-6	N	L2506469-04	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-02_11-13	N	L2506469-05	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-03_0-0.16	N	L2506469-06	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-03_13-15	N	L2506469-07	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-03_15-17	N	L2506469-08	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-04_0-0.16	N	L2506469-09	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-04_12-14	N	L2506469-10	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-04_14-16	N	L2506469-11	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-05_0-0.16	N	L2506469-12	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-05_8-10	N	L2506469-13	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-05_11-13	N	L2506469-14	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-08_0-0.16	N	L2506469-15	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-08_11-13	N	L2506469-16	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-08_13-15	N	L2506469-17	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-09_0-0.16	N	L2506469-18	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-09_11-13	N	L2506469-19	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-09_13-15	N	L2506469-20	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-10_0-0.16	N	L2506469-21	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-10_8-10	N	L2506469-22	02/05/2025	SO	B, C, D, F, G, H, J, K
SB-10_12-14	N	L2506469-23	02/05/2025	SO	B, C, D, F, G, H, J, K
DUP-01_20250205	N	L2506469-24	02/05/2025	SO	B, C, D, F, G, H, J, K
TB-02_20250206	TB	L2506692-01	02/06/2025	WQ	B
SB-01_0-0.16	N	L2506692-02	02/06/2025	SO	B, C, D, F, G, H, J, K
SB-01_9-11	N	L2506692-03	02/06/2025	SO	B, C, D, F, G, H, J, K
SB-01_12-14	N	L2506692-04	02/06/2025	SO	B, C, D, F, G, H, J, K
SB-11_0-0.16	N	L2506692-05	02/06/2025	SO	B, C, D, F, G, H, J, K
SB-11_4-6	N	L2506692-06	02/06/2025	SO	B, C, D, F, G, H, J, K
SB-11_11-13	N	L2506692-07	02/06/2025	SO	B, C, D, F, G, H, J, K
FB-02_20250207	FB	L2506987-01	02/07/2025	WQ	B, C, D, E, F, G, H, I
TB-03_20250207	TB	L2506987-02	02/07/2025	WQ	B
SB-07_0-0.16	N	L2506987-03	02/07/2025	SO	B, C, D, F, G, H, J, K
SB-07_5-7	N	L2506987-04	02/07/2025	SO	B, C, D, F, G, H, J, K
SB-07_11-13	N	L2506987-05	02/07/2025	SO	B, C, D, F, G, H, J, K
SB-06_0-0.16	N	L2506987-06	02/07/2025	SO	B, C, D, F, G, H, J, K
DUP-02_20250207	FD	L2506987-07	02/07/2025	SO	B, C, D, F, G, H, J, K
SB-06_9-11	N	L2506987-08	02/07/2025	SO	B, C, D, F, G, H, J, K
SB-06_11-13	N	L2506987-09	02/07/2025	SO	B, C, D, F, G, H, J, K
MW-01_20250213	N	L2508240-01	02/13/2025	WG	B, C, E, F, G, H, I, L
MW-02_20250213	N	L2508240-02	02/13/2025	WG	B, C, E, F, G, H, I, L
DUP-01_20250213	FD	L2508240-03	02/13/2025	WG	B, C, E, F, G, H, I, L
MW-03_20250213	N	L2508240-04	02/13/2025	WG	B, C, E, F, G, H, I, L
MW-05_20250213	N	L2508240-05	02/13/2025	WG	B, C, E, F, G, H, I, L
MW-04_20250213	N	L2508240-06	02/13/2025	WG	B, C, E, F, G, H, I, L
FB-01_20250213	FB	L2508240-07	02/13/2025	WG	B, C, E, F, G, H, I, L
TB-01_20250213	TB	L2508240-08	02/13/2025	WG	B

Notes:
1. See Table 1C

TABLE 1C
METHOD HOLDING TIMES
180 EAST 125TH STREET
NEW YORK, NEW YORK

Letter Code	Method	Description	Holding Time(s)
A	TO15	Volatile Organic Compounds (VOCs) in Air	30 days for air unpreserved
B	SW8260D	Volatile Organic Compounds (VOCs)	14 days for liquid, preserved 7 days for liquid unpreserved, 14 days for solid, preserved 14 days for solid unpreserved
C	E1633	Per- and Polyfluoroalkyl Substances (PFAS)	28 days extraction / 28 days analysis for liquid, 28 days extraction / 40 days for solid
D	SW6010D	Metals (by Optical Emission Spectrometry)	180 days for liquid, preserved , 180 days for solid unpreserved
E	SW7470A	Mercury (in Liquids)	28 days for liquid, preserved
F	SW8081B	Organochlorine Pesticides	7 days extraction / 40 days analysis for liquid, unpreserved, 14 days extraction / 40 days analysis for solid, unpreserved
G	SW8082A	Polychlorinated Biphenyls (PCBs)	1 year extraction / 40 days analysis for liquid, unpreserved, 1 year extraction / 40 days analysis for solid, unpreserved
H	SW8270E	Semivolatile Organic Compounds (SVOCs)	7 days extraction / 40 days analysis for liquid, unpreserved, 14 days extraction / 40 days analysis for solid, unpreserved
I	SW8270ESIM	Semivolatile Organic Compounds (SVOCs)	7 days extraction / 40 days analysis for liquid, unpreserved
J	SM2540G	Total Solids	7 days for solid unpreserved
K	SW7471B	Mercury (in Solids)	28 days for solid unpreserved
L	SW6020B	Metals	180 days for liquid, preserved

TABLE 2
CASE NARRATIVES
180 EAST 125TH STREET
NEW YORK, NEW YORK

Case Narratives
L2508240: L2508240-05: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range. The validator marked the initial analysis exceeding the calibration range as resportable n and accepted the reanalysis results as reportable yes.
L2508240: The Field Blank has results for barium and zinc present above the reporting limits. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over. Applicable data were qualified as noted in the Table 7B of this report.
L2506469-03, -06, -09, -12, -15, -18, -21: The Client IDs were changed at the client's request. No qualification is recommended.
L2506469-24: The sample collection time was changed at the client's request. No qualification is recommended.
L2506692: SB-11_0-0.16 was reanalyzed for 8270 due to surrogate failures in the initial run. The validator chose the reanalysis results and marked the initial results as reportable no.

TABLE 3
SURROGATE RECOVERY COMPLIANCE
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Analytic Method	Client Sample ID	Surrogate Compound	%R	Dilution	Qualification
L2506469	SW8270E	SB-03_15-17	2-Fluorophenol	19.0	1x	UJ target compounds
L2506469	SW8260D	SB-04_0-0.16	1,2-Dichloroethane-d4	135	1x	None, sample is ND for target compounds
L2506469	SW8270E	SB-10_12-14	p-Terphenyl-d14	121	1x	None, sample is ND for target compounds
L2506987	SW8270E	SB-07_5-7	2-Fluorophenol	23.0	1x	UJ target compounds
L2508240	SW8270ESIM	DUP-01_20250213	2,4,6-Tribromophenol	147	1x	None, sample is ND for target compounds
L2508240	SW8270ESIM	MW-02_20250213	2,4,6-Tribromophenol	123	1x	None, sample is ND for target compounds
L2508240	SW8270ESIM	MW-03_20250213	2,4,6-Tribromophenol	131	1x	J+/None target compounds
L2508240	SW8270ESIM	FB-01_20250213	2,4,6-Tribromophenol	125	1x	None, sample is ND for target compounds
L2508240	SW8270ESIM	MW-04_20250213	2,4,6-Tribromophenol	133	1x	None, sample is ND for target compounds
L2508240	SW8270ESIM	MW-05_20250213	2,4,6-Tribromophenol	126	1x	None, sample is ND for target compounds
L2506692	SW8260D	SB-11_0-0.16	Dibromofluoromethane	63.0	1x	UJ target compounds
L2506692	SW8270E	SB-11_0-0.16	2,4,6-Tribromophenol	2.00	1x	J-/R target compounds
L2506692	SW8270E	SB-11_0-0.16	2-Fluorophenol	3.00	1x	J-/R target compounds
L2506692	SW8270E	SB-01_12-14	2,4,6-Tribromophenol	147	1x	None, sample is ND for target compounds
L2506692	SW8270E	SB-01_12-14	p-Terphenyl-d14	132	1x	None, sample is ND for target compounds
L2506692	SW8270E	SB-11_0-0.16	2,4,6-Tribromophenol	4.00	1x	J-/R target compounds
L2506692	SW8270E	SB-11_0-0.16	2-Fluorophenol	7.00	1x	J-/R target compounds

TABLE 4
EXTRACTION INTERNAL STANDARDS
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Analytic Method	Client Sample ID	Analyte	Percent Recovery (%R)	Dilution	Qualification
L2506469	E1633	SB-02_0-0.16	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	147	1x	UJ
L2506469	E1633	SB-03_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	160	1x	J
L2506469	E1633	SB-03_15-17	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	138	1x	UJ
L2506469	E1633	SB-04_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	169	1x	J
L2506469	E1633	SB-04_0-0.16	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	138	1x	UJ
L2506469	E1633	SB-04_14-16	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	151	1x	UJ
L2506469	E1633	SB-05_8-10	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	164	10x	None, dilution >5x
L2506987	E1633	SB-06_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	202	1x	J
L2506469	E1633	SB-08_0-0.16	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	150	1x	UJ
L2506987	E1633	SB-07_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	151	1x	J
L2506469	E1633	SB-08_13-15	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	152	1x	UJ
L2506469	E1633	SB-08_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	178	1x	J
L2506469	E1633	SB-09_0-0.16	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	138	1x	UJ
L2506469	E1633	SB-09_13-15	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	165	1x	UJ
L2506469	E1633	SB-09_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	163	1x	J
L2506469	E1633	SB-10_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	181	1x	J
L2506987	E1633	DUP-02_20250207	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	144	1x	UJ
L2506987	E1633	DUP-02_20250207	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	171	1x	UJ
L2506987	E1633	SB-06_0-0.16	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	179	1x	UJ
L2506469	E1633	SB-08_13-15	N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	192	1x	UJ
L2506987	E1633	SB-07_0-0.16	N-Deuterioethylperfluoro-1-octanesulfonamidoethanol (D9-NEtFOSE)	139	1x	UJ
L2506987	E1633	SB-07_11-13	N-Deuterioethylperfluoro-1-octanesulfonamidoethanol (D9-NEtFOSE)	132	1x	UJ
L2506987	E1633	SB-07_11-13	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	136	1x	UJ
L2508240	E1633	MW-01_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (13C2-4:2 FTS)	248	1x	UJ
L2508240	E1633	MW-01_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (13C2-6:2 FTS)	244	1x	UJ
L2508240	E1633	MW-02_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (13C2-4:2 FTS)	249	1x	UJ
L2508240	E1633	MW-02_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (13C2-6:2 FTS)	273	1x	UJ
L2508240	E1633	MW-03_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (13C2-4:2 FTS)	248	1x	UJ
L2508240	E1633	MW-03_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (13C2-6:2 FTS)	336	1x	UJ
L2508240	E1633	MW-03_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (13C2-8:2 FTS)	317	1x	UJ
L2508240	E1633	MW-03_20250213	2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	146	1x	UJ
L2508240	E1633	MW-03_20250213	Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	134	10x	None, dilution >5x
L2508240	E1633	MW-04_20250213	Perfluoro[13C9]Nonanoic Acid (M9PFNA)	149	1x	J
L2508240	E1633	MW-05_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (13C2-4:2 FTS)	269	1x	UJ
L2508240	E1633	MW-05_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (13C2-6:2 FTS)	337	1x	UJ
L2508240	E1633	DUP-01_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (13C2-4:2 FTS)	240	1x	UJ
L2508240	E1633	DUP-01_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (13C2-6:2 FTS)	265	1x	UJ
L2508240	E1633	MW-04_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (13C2-4:2 FTS)	302	1x	UJ
L2508240	E1633	MW-04_20250213	1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (13C2-6:2 FTS)	364	1x	UJ
L2508240	E1633	MW-04_20250213	Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	133	10x	None, dilution >5x
L2508240	E1633	MW-04_20250213	Perfluoro[13C8]Octanoic Acid (M8PFOA)	140	1x	J
L2506692	E1633	SB-01_12-14	Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	131	1x	UJ
L2506692	E1633	SB-01_12-14	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	177	1x	UJ
L2506692	E1633	SB-11_0-0.16	N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	151	1x	UJ
L2506692	E1633	SB-11_11-13	1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (13C2-4:2 FTS)	35.0	1x	UJ
L2506692	E1633	SB-11_11-13	2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	27.0	1x	UJ
L2506692	E1633	SB-11_11-13	Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	39.0	1x	UJ
L2506692	E1633	SB-11_11-13	Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	34.0	1x	UJ
L2506692	E1633	SB-11_11-13	Perfluoro[13C5]Pentanoic Acid (M5PFPeA)	25.0	1x	UJ
L2506692	E1633	SB-11_11-13	Perfluoro[13C8]Octanesulfonamide (M8FOSA)	12.0	1x	UJ

TABLE 5
LABORATORY CONTROL SAMPLES
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Analytic Method	Batch ID	QC Sample Type	Analyte	%R	Qualifiers	Affected Sample(s)
L2506469	SW8260D	WG2029003	LCSD	Acetone	150	None	None, samples are ND
L2506469	SW8260D	WG2029003	LCS	Ethyl Ether	134	None	None, samples are ND
L2506469	SW8260D	WG2029003	LCSD	Ethyl Ether	131	None	None, samples are ND
L2506469	SW8260D	WG2029312	LCSD	Acetone	53	J/UJ	All samples in the batch
L2506469	SW8260D	WG2029429	LCS	2-Chlorotoluene	132	None	None, sample is ND
L2506469	SW8260D	WG2029429	LCS	Chloromethane (Methyl Chloride)	152	None	None, sample is ND
L2506469	SW8260D	WG2029429	LCSD	Chloromethane (Methyl Chloride)	155	None	None, sample is ND
L2506469	SW8260D	WG2029429	LCS	Dichlorodifluoromethane (CFC-12)	147	None	None, sample is ND
L2506469	SW8260D	WG2029429	LCSD	Dichlorodifluoromethane (CFC-12)	150	None	None, sample is ND
L2506469	SW8260D	WG2029429	LCS	Vinyl chloride	135	None	None, sample is ND
L2506469	SW8260D	WG2029429	LCSD	Vinyl chloride	135	None	None, sample is ND
L2506469	SW8260D	WG2029474	LCS	Chloroethane	180	None	None, samples are ND
L2506469	SW8260D	WG2029474	LCSD	Chloroethane	180	None	None, samples are ND
L2506469	SW8260D	WG2029474	LCS	trans-1,4-Dichloro-2-butene	69	UJ	All samples in the batch
L2506469	SW8260D	WG2029474	LCS	Vinyl acetate	150	None	None, samples are ND
L2506469	SW8260D	WG2029474	LCSD	Vinyl acetate	150	None	None, samples are ND
L2506469	SW8270E	WG2027763	LCS	Benzoic acid	0	R	FB-01_20250205
L2506469	SW8270E	WG2027763	LCSD	Benzoic acid	0	R	FB-01_20250205
L2506469	SW8270E	WG2028163	LCS	4-Chloroaniline	34	R	All samples in the batch
L2506469	SW8270E	WG2028163	LCSD	4-Chloroaniline	32	R	All samples in the batch
L2506987	E1633	WG2029689	LCS	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	157	None	None, sample is ND
L2506987	E1633	WG2029689	LCS	Perfluorododecane sulfonic acid (PFDoDS)	148	None	None, sample is ND
L2506987	SW8260D	WG2030194	LCS	Vinyl acetate	150	None	None, samples are ND
L2506987	SW8260D	WG2030194	LCSD	Vinyl acetate	150	None	None, samples are ND
L2506987	SW8270E	WG2028839	LCSD	3,3'-Dichlorobenzidine	37	R	All samples in the batch
L2506987	SW8270E	WG2029745	LCS	2,4-Dinitrophenol	131	None	None, sample is ND
L2506987	SW8270E	WG2029745	LCSD	2,4-Dinitrophenol	144	None	None, sample is ND
L2506987	SW8270E	WG2029745	LCS	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	107	None	None, sample is ND
L2506987	SW8270E	WG2029745	LCSD	4-Chloro-3-methylphenol (p-Chloro-m-cresol)	108	None	None, sample is ND
L2508240	SW8260D	WG2031734	LCS	Bromomethane (Methyl Bromide)	31	UJ	All samples in the batch
L2508240	SW8260D	WG2031734	LCSD	Bromomethane (Methyl Bromide)	33	UJ	All samples in the batch
L2508240	SW8260D	WG2031734	LCS	Vinyl acetate	150	None	None, samples are ND
L2508240	SW8260D	WG2031734	LCSD	Vinyl acetate	140	None	None, samples are ND
L2508240	E1633	WG2032496	LCS	3:3 Fluorotelomer carboxylic acid (3:3 FTCA)	132	None	None, samples are ND
L2506692	SW8260D	WG2029514	LCS	Acetone	53	J/UJ	All samples in the batch
L2506692	SW8260D	WG2029514	LCSD	Acetone	53	J/UJ	All samples in the batch
L2506692	SW8260D	WG2029714	LCS	1,4-Dioxane	174	None	None, sample is ND
L2506692	SW8260D	WG2029714	LCS	Bromomethane (Methyl Bromide)	200	None	None, sample is ND
L2506692	SW8260D	WG2029714	LCSD	Bromomethane (Methyl Bromide)	190	None	None, sample is ND
L2506692	SW8260D	WG2029714	LCS	Chloroethane	170	None	None, sample is ND
L2506692	SW8260D	WG2029714	LCSD	Chloroethane	150	None	None, sample is ND
L2506692	SW8260D	WG2029714	LCS	Ethyl Ether	140	None	None, sample is ND
L2506692	SW8260D	WG2029714	LCSD	Vinyl acetate	63	UJ	TB-02_20250206
L2506692	SW8270E	WG2028668	LCS	2,4-Dinitrophenol	134	None	None, samples are ND
L2506692	SW8270E	WG2028668	LCS	4,6-Dinitro-2-methylphenol	135	None	None, samples are ND
L2506692	SW8270E	WG2028668	LCS	Pentachlorophenol	117	None	None, samples are ND
L2506692	SW8270E	WG2028671	LCS	4-Chloroaniline	19	R	SB-11_0-0.16
L2506692	SW8270E	WG2028671	LCSD	4-Chloroaniline	26	R	SB-11_0-0.16
L2506692	SW8270E	WG2028671	LCS	Carbazole	53	J-	SB-11_0-0.16

TABLE 6A
MATRIX SPIKE SAMPLES
180 EAST 125TH STREET
NEW YORK, NEW YORK

Sample Type	Client Sample ID	Analytic Method
MS/MSD	SB-05_0-0.16	E1633
MS/MSD	SB-05_0-0.16	SW6010D
MS/MSD	SB-05_0-0.16	SW7471B
MS/MSD	SB-05_0-0.16	SW8081B
MS/MSD	SB-05_0-0.16	SW8082A
MS/MSD	SB-05_0-0.16	SW8260D
MS/MSD	SB-07_0-0.16	E1633
MS/MSD	SB-07_0-0.16	SW6010D
MS/MSD	SB-07_0-0.16	SW7471B
MS/MSD	SB-07_0-0.16	SW8081B
MS/MSD	SB-07_0-0.16	SW8082A
MS/MSD	SB-07_0-0.16	SW8260D
MS/MSD	SB-07_0-0.16	SW8270E
MS/MSD	MW-03_20250213	SW6020B
MS/MSD	MW-03_20250213	SW7470A
MS/MSD	MW-03_20250213	SW8270ESIM
MS/MSD	MW-03_20250213	SW8082A
MS/MSD	MW-03_20250213	SW8260D
MS/MSD	MW-03_20250213	E1633
MS/MSD	MW-03_20250213	SW8081B
MS/MSD	MW-03_20250213	SW8270E

TABLE 6B
MATRIX SPIKE EXCEEDANCES
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Analytic Method	Sample Type	Analyte	Fraction	Parent Sample ID	%R	Qualifiers	Affected Sample(s)
L2506469	SW6010D	MS	Aluminum	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MSD	Aluminum	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MS	Antimony	Total	SB-05_0-0.16	32	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MSD	Antimony	Total	SB-05_0-0.16	33	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Arsenic	Total	SB-05_0-0.16	74	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Barium	Total	SB-05_0-0.16	50	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Calcium	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MSD	Calcium	Total	SB-05_0-0.16	679	None	None, native sample >4x spike added
L2506469	SW6010D	MS	Chromium	Total	SB-05_0-0.16	54	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Cobalt	Total	SB-05_0-0.16	74	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Copper	Total	SB-05_0-0.16	59	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Iron	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MSD	Iron	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MS	Lead	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MS	Magnesium	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MSD	Magnesium	Total	SB-05_0-0.16	362	None	None, native sample >4x spike added
L2506469	SW6010D	MS	Manganese	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MSD	Manganese	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MS	Nickel	Total	SB-05_0-0.16	68	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Potassium	Total	SB-05_0-0.16	10	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Sodium	Total	SB-05_0-0.16	66	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Vanadium	Total	SB-05_0-0.16	65	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506469	SW6010D	MS	Zinc	Total	SB-05_0-0.16	0	None	None, native sample >4x spike added
L2506469	SW6010D	MSD	Zinc	Total	SB-05_0-0.16	169	None	None, native sample >4x spike added
L2506469	SW8260D	MS	1,1,2,2-Tetrachloroethane	Not Applicable	SB-05_0-0.16	37	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,1,2,2-Tetrachloroethane	Not Applicable	SB-05_0-0.16	55	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,1-Dichloropropene	Not Applicable	SB-05_0-0.16	61	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,2,3-Trichlorobenzene	Not Applicable	SB-05_0-0.16	19	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,2,3-Trichlorobenzene	Not Applicable	SB-05_0-0.16	25	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,2,4,5-Tetramethylbenzene	Not Applicable	SB-05_0-0.16	35	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,2,4,5-Tetramethylbenzene	Not Applicable	SB-05_0-0.16	43	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,2,4-Trichlorobenzene	Not Applicable	SB-05_0-0.16	21	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,2,4-Trichlorobenzene	Not Applicable	SB-05_0-0.16	26	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,2,4-Trimethylbenzene	Not Applicable	SB-05_0-0.16	51	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,2,4-Trimethylbenzene	Not Applicable	SB-05_0-0.16	54	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,2-Dibromo-3-chloropropane (DBCP)	Not Applicable	SB-05_0-0.16	54	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,2-Dibromo-3-chloropropane (DBCP)	Not Applicable	SB-05_0-0.16	55	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,2-Dibromoethane (Ethylene Dibromide)	Not Applicable	SB-05_0-0.16	64	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,2-Dichlorobenzene	Not Applicable	SB-05_0-0.16	42	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,2-Dichlorobenzene	Not Applicable	SB-05_0-0.16	45	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,3,5-Trimethylbenzene	Not Applicable	SB-05_0-0.16	53	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,3,5-Trimethylbenzene	Not Applicable	SB-05_0-0.16	55	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,3-Dichlorobenzene	Not Applicable	SB-05_0-0.16	42	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,3-Dichlorobenzene	Not Applicable	SB-05_0-0.16	44	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,4-Dichlorobenzene	Not Applicable	SB-05_0-0.16	40	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,4-Dichlorobenzene	Not Applicable	SB-05_0-0.16	42	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	1,4-Diethylbenzene	Not Applicable	SB-05_0-0.16	37	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	1,4-Diethylbenzene	Not Applicable	SB-05_0-0.16	42	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	2,2-Dichloropropane	Not Applicable	SB-05_0-0.16	68	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	2-Butanone (Methyl Ethyl Ketone)	Not Applicable	SB-05_0-0.16	68	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	2-Chlorotoluene	Not Applicable	SB-05_0-0.16	56	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	2-Chlorotoluene	Not Applicable	SB-05_0-0.16	56	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	2-Hexanone (Methyl Butyl Ketone)	Not Applicable	SB-05_0-0.16	60	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	2-Phenylbutane (sec-Butylbenzene)	Not Applicable	SB-05_0-0.16	44	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	2-Phenylbutane (sec-Butylbenzene)	Not Applicable	SB-05_0-0.16	48	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	4-Chlorotoluene	Not Applicable	SB-05_0-0.16	50	UJ	SB-05_0-0.16

SDG	Analytic Method	Sample Type	Analyte	Fraction	Parent Sample ID	%R	Qualifiers	Affected Sample(s)
L2506469	SW8260D	MSD	4-Chlorotoluene	Not Applicable	SB-05_0-0.16	50	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	Not Applicable	SB-05_0-0.16	51	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	Not Applicable	SB-05_0-0.16	52	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	Not Applicable	SB-05_0-0.16	67	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Acetone	Not Applicable	SB-05_0-0.16	53	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Acrylonitrile	Not Applicable	SB-05_0-0.16	64	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Bromobenzene	Not Applicable	SB-05_0-0.16	57	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Bromobenzene	Not Applicable	SB-05_0-0.16	52	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Carbon disulfide	Not Applicable	SB-05_0-0.16	51	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Carbon tetrachloride	Not Applicable	SB-05_0-0.16	65	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Chlorobenzene	Not Applicable	SB-05_0-0.16	58	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Chlorobenzene	Not Applicable	SB-05_0-0.16	53	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Chlorobromomethane	Not Applicable	SB-05_0-0.16	66	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	cis-1,2-Dichloroethene	Not Applicable	SB-05_0-0.16	58	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	cis-1,3-Dichloropropene	Not Applicable	SB-05_0-0.16	63	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Cymene (p-Isopropyltoluene)	Not Applicable	SB-05_0-0.16	34	J	SB-05_0-0.16
L2506469	SW8260D	MSD	Cymene (p-Isopropyltoluene)	Not Applicable	SB-05_0-0.16	38	J	SB-05_0-0.16
L2506469	SW8260D	MS	Dibromochloromethane	Not Applicable	SB-05_0-0.16	69	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Dibromochloromethane	Not Applicable	SB-05_0-0.16	64	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Dibromomethane	Not Applicable	SB-05_0-0.16	63	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Ethylbenzene	Not Applicable	SB-05_0-0.16	58	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Ethylbenzene	Not Applicable	SB-05_0-0.16	55	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Hexachlorobutadiene	Not Applicable	SB-05_0-0.16	16	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Hexachlorobutadiene	Not Applicable	SB-05_0-0.16	24	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Isopropylbenzene (Cumene)	Not Applicable	SB-05_0-0.16	60	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Isopropylbenzene (Cumene)	Not Applicable	SB-05_0-0.16	58	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	m,p-Xylenes	Not Applicable	SB-05_0-0.16	57	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	m,p-Xylenes	Not Applicable	SB-05_0-0.16	55	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Methylene chloride (Dichloromethane)	Not Applicable	SB-05_0-0.16	66	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Naphthalene	Not Applicable	SB-05_0-0.16	26	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Naphthalene	Not Applicable	SB-05_0-0.16	33	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	n-Butylbenzene	Not Applicable	SB-05_0-0.16	36	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	n-Butylbenzene	Not Applicable	SB-05_0-0.16	40	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	n-Propylbenzene	Not Applicable	SB-05_0-0.16	54	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	n-Propylbenzene	Not Applicable	SB-05_0-0.16	54	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	o-Xylene	Not Applicable	SB-05_0-0.16	59	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	o-Xylene	Not Applicable	SB-05_0-0.16	58	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Styrene	Not Applicable	SB-05_0-0.16	55	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Styrene	Not Applicable	SB-05_0-0.16	52	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	tert-Butylbenzene	Not Applicable	SB-05_0-0.16	50	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	tert-Butylbenzene	Not Applicable	SB-05_0-0.16	52	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Tetrachloroethene	Not Applicable	SB-05_0-0.16	56	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Tetrachloroethene	Not Applicable	SB-05_0-0.16	53	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Toluene	Not Applicable	SB-05_0-0.16	60	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	trans-1,2-Dichloroethene	Not Applicable	SB-05_0-0.16	50	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	trans-1,3-Dichloropropene	Not Applicable	SB-05_0-0.16	67	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	trans-1,3-Dichloropropene	Not Applicable	SB-05_0-0.16	55	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	trans-1,4-Dichloro-2-butene	Not Applicable	SB-05_0-0.16	63	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	trans-1,4-Dichloro-2-butene	Not Applicable	SB-05_0-0.16	51	UJ	SB-05_0-0.16
L2506469	SW8260D	MSD	Trichlorofluoromethane (CFC-11)	Not Applicable	SB-05_0-0.16	66	UJ	SB-05_0-0.16
L2506469	SW8260D	MS	Vinyl acetate	Not Applicable	SB-05_0-0.16	13	R	SB-05_0-0.16
L2506469	SW8260D	MSD	Vinyl acetate	Not Applicable	SB-05_0-0.16	11	R	SB-05_0-0.16
L2506469	SW8260D	MSD	Vinyl chloride	Not Applicable	SB-05_0-0.16	61	UJ	SB-05_0-0.16
L2506987	SW6010D	MS	Aluminum	Total	SB-07_0-0.16	152	None	None, native sample >4x spike added
L2506987	SW6010D	MSD	Aluminum	Total	SB-07_0-0.16	176	None	None, native sample >4x spike added
L2506987	SW6010D	MS	Antimony	Total	SB-07_0-0.16	40	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.

TABLE 6B
MATRIX SPIKE EXCEEDANCES
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Analytic Method	Sample Type	Analyte	Fraction	Parent Sample ID	%R	Qualifiers	Affected Sample(s)
L2506987	SW6010D	MSD	Antimony	Total	SB-07_0-0.16	41	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506987	SW6010D	MS	Calcium	Total	SB-07_0-0.16	701	None	None, native sample >4x spike added
L2506987	SW6010D	MSD	Calcium	Total	SB-07_0-0.16	1670	None	None, native sample >4x spike added
L2506987	SW6010D	MSD	Chromium	Total	SB-07_0-0.16	71	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506987	SW6010D	MS	Iron	Total	SB-07_0-0.16	1170	None	None, native sample >4x spike added
L2506987	SW6010D	MSD	Iron	Total	SB-07_0-0.16	0	None	None, native sample >4x spike added
L2506987	SW6010D	MS	Lead	Total	SB-07_0-0.16	132	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506987	SW6010D	MSD	Lead	Total	SB-07_0-0.16	58	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506987	SW6010D	MS	Magnesium	Total	SB-07_0-0.16	582	None	None, native sample >4x spike added
L2506987	SW6010D	MSD	Magnesium	Total	SB-07_0-0.16	473	None	None, native sample >4x spike added
L2506987	SW6010D	MS	Manganese	Total	SB-07_0-0.16	147	None	None, native sample >4x spike added
L2506987	SW6010D	MS	Vanadium	Total	SB-07_0-0.16	71	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506987	SW6010D	MSD	Vanadium	Total	SB-07_0-0.16	72	J/UJ	All samples of the matrix in the SDG. Post-digestion spike was within limits.
L2506987	SW6010D	MS	Zinc	Total	SB-07_0-0.16	0	None	None, native sample >4x spike added
L2506987	SW6010D	MSD	Zinc	Total	SB-07_0-0.16	0	None	None, native sample >4x spike added
L2506987	SW8260D	MS	1,1,2,2-Tetrachloroethane	Not Applicable	SB-07_0-0.16	0	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,1,2,2-Tetrachloroethane	Not Applicable	SB-07_0-0.16	0	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,1,2-Trichloroethane	Not Applicable	SB-07_0-0.16	49	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,1,2-Trichloroethane	Not Applicable	SB-07_0-0.16	68	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,2,3-Trichlorobenzene	Not Applicable	SB-07_0-0.16	19	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,2,3-Trichlorobenzene	Not Applicable	SB-07_0-0.16	18	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,2,3-Trichloropropane	Not Applicable	SB-07_0-0.16	66	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,2,3-Trichloropropane	Not Applicable	SB-07_0-0.16	65	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,2,4,5-Tetramethylbenzene	Not Applicable	SB-07_0-0.16	30	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,2,4,5-Tetramethylbenzene	Not Applicable	SB-07_0-0.16	35	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,2,4-Trichlorobenzene	Not Applicable	SB-07_0-0.16	20	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,2,4-Trichlorobenzene	Not Applicable	SB-07_0-0.16	20	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,2,4-Trimethylbenzene	Not Applicable	SB-07_0-0.16	45	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,2,4-Trimethylbenzene	Not Applicable	SB-07_0-0.16	50	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,2-Dibromo-3-chloropropane (DBCP)	Not Applicable	SB-07_0-0.16	40	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,2-Dibromo-3-chloropropane (DBCP)	Not Applicable	SB-07_0-0.16	54	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,2-Dichlorobenzene	Not Applicable	SB-07_0-0.16	42	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,2-Dichlorobenzene	Not Applicable	SB-07_0-0.16	41	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,3,5-Trimethylbenzene	Not Applicable	SB-07_0-0.16	46	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,3,5-Trimethylbenzene	Not Applicable	SB-07_0-0.16	53	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,3-Dichlorobenzene	Not Applicable	SB-07_0-0.16	42	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,3-Dichlorobenzene	Not Applicable	SB-07_0-0.16	44	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,4-Dichlorobenzene	Not Applicable	SB-07_0-0.16	40	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,4-Dichlorobenzene	Not Applicable	SB-07_0-0.16	42	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	1,4-Diethylbenzene	Not Applicable	SB-07_0-0.16	37	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	1,4-Diethylbenzene	Not Applicable	SB-07_0-0.16	48	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	2-Chlorotoluene	Not Applicable	SB-07_0-0.16	50	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	2-Chlorotoluene	Not Applicable	SB-07_0-0.16	55	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	2-Phenylbutane (sec-Butylbenzene)	Not Applicable	SB-07_0-0.16	41	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	2-Phenylbutane (sec-Butylbenzene)	Not Applicable	SB-07_0-0.16	54	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	4-Chlorotoluene	Not Applicable	SB-07_0-0.16	47	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	4-Chlorotoluene	Not Applicable	SB-07_0-0.16	50	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	Not Applicable	SB-07_0-0.16	50	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	Not Applicable	SB-07_0-0.16	58	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Acetone	Not Applicable	SB-07_0-0.16	237	J	SB-07_0-0.16
L2506987	SW8260D	MS	Bromobenzene	Not Applicable	SB-07_0-0.16	56	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Bromobenzene	Not Applicable	SB-07_0-0.16	56	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Chlorobenzene	Not Applicable	SB-07_0-0.16	66	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Chlorobenzene	Not Applicable	SB-07_0-0.16	67	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Cymene (p-Isopropyltoluene)	Not Applicable	SB-07_0-0.16	41	J	SB-07_0-0.16
L2506987	SW8260D	MSD	Cymene (p-Isopropyltoluene)	Not Applicable	SB-07_0-0.16	53	J	SB-07_0-0.16

TABLE 6B
MATRIX SPIKE EXCEEDANCES
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Analytic Method	Sample Type	Analyte	Fraction	Parent Sample ID	%R	Qualifiers	Affected Sample(s)
L2506987	SW8260D	MS	Ethylbenzene	Not Applicable	SB-07_0-0.16	61	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Ethylbenzene	Not Applicable	SB-07_0-0.16	68	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Hexachlorobutadiene	Not Applicable	SB-07_0-0.16	19	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Hexachlorobutadiene	Not Applicable	SB-07_0-0.16	29	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Isopropylbenzene (Cumene)	Not Applicable	SB-07_0-0.16	57	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Isopropylbenzene (Cumene)	Not Applicable	SB-07_0-0.16	66	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	m,p-Xylenes	Not Applicable	SB-07_0-0.16	62	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Naphthalene	Not Applicable	SB-07_0-0.16	39	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Naphthalene	Not Applicable	SB-07_0-0.16	34	J	SB-07_0-0.16
L2506987	SW8260D	MS	n-Butylbenzene	Not Applicable	SB-07_0-0.16	33	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	n-Butylbenzene	Not Applicable	SB-07_0-0.16	45	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	n-Propylbenzene	Not Applicable	SB-07_0-0.16	48	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	n-Propylbenzene	Not Applicable	SB-07_0-0.16	57	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	o-Xylene	Not Applicable	SB-07_0-0.16	61	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	o-Xylene	Not Applicable	SB-07_0-0.16	65	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Styrene	Not Applicable	SB-07_0-0.16	60	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Styrene	Not Applicable	SB-07_0-0.16	61	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	tert-Butylbenzene	Not Applicable	SB-07_0-0.16	48	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	tert-Butylbenzene	Not Applicable	SB-07_0-0.16	60	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Tetrachloroethene	Not Applicable	SB-07_0-0.16	68	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	trans-1,3-Dichloropropene	Not Applicable	SB-07_0-0.16	69	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	trans-1,4-Dichloro-2-butene	Not Applicable	SB-07_0-0.16	68	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	trans-1,4-Dichloro-2-butene	Not Applicable	SB-07_0-0.16	63	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Trichloroethene	Not Applicable	SB-07_0-0.16	146	UJ	SB-07_0-0.16
L2506987	SW8260D	MSD	Trichloroethene	Not Applicable	SB-07_0-0.16	139	UJ	SB-07_0-0.16
L2506987	SW8260D	MS	Vinyl acetate	Not Applicable	SB-07_0-0.16	16	R	SB-07_0-0.16
L2506987	SW8260D	MSD	Vinyl acetate	Not Applicable	SB-07_0-0.16	15	R	SB-07_0-0.16
L2506987	SW8270E	MS	2,4-Dinitrophenol	Not Applicable	SB-07_0-0.16	0	R	SB-07_0-0.16
L2506987	SW8270E	MSD	2,4-Dinitrophenol	Not Applicable	SB-07_0-0.16	0	R	SB-07_0-0.16
L2506987	SW8270E	MS	4,6-Dinitro-2-methylphenol	Not Applicable	SB-07_0-0.16	8	R	SB-07_0-0.16
L2506987	SW8270E	MSD	4,6-Dinitro-2-methylphenol	Not Applicable	SB-07_0-0.16	0	R	SB-07_0-0.16
L2506987	SW8270E	MS	Benzoic acid	Not Applicable	SB-07_0-0.16	0	R	SB-07_0-0.16
L2506987	SW8270E	MSD	Benzoic acid	Not Applicable	SB-07_0-0.16	0	R	SB-07_0-0.16
L2506987	SW8270E	MS	Hexachlorocyclopentadiene	Not Applicable	SB-07_0-0.16	24	R	SB-07_0-0.16
L2506987	SW8270E	MSD	Hexachlorocyclopentadiene	Not Applicable	SB-07_0-0.16	15	UJ	SB-07_0-0.16
L2508240	E1633	MSD	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	Not Applicable	MW-03_20250213	163	UJ	MW-03_20250213
L2508240	E1633	MSD	Perfluoroheptanoic acid (PFHpA)	Not Applicable	MW-03_20250213	180	J	MW-03_20250213
L2508240	E1633	MSD	Perfluorooctanesulfonic acid (PFOS)	Not Applicable	MW-03_20250213	163	J	MW-03_20250213
L2508240	E1633	MS	Perfluorooctanoic acid (PFOA)	Not Applicable	MW-03_20250213	64	J	MW-03_20250213
L2508240	SW6020B	MS	Calcium	Total	MW-03_20250213	230	None	None, native sample >4x spike added
L2508240	SW6020B	MS	Calcium	Dissolved	MW-03_20250213	70	None	None, native sample >4x spike added
L2508240	SW6020B	MS	Magnesium	Total	MW-03_20250213	130	None	None, native sample >4x spike added
L2508240	SW6020B	MS	Sodium	Total	MW-03_20250213	180	None	None, native sample >4x spike added
L2508240	SW6020B	MSD	Sodium	Total	MW-03_20250213	130	None	None, native sample >4x spike added
L2508240	SW8260D	MS	Bromomethane (Methyl Bromide)	Not Applicable	MW-03_20250213	26	UJ	MW-03_20250213
L2508240	SW8260D	MSD	Bromomethane (Methyl Bromide)	Not Applicable	MW-03_20250213	28	UJ	MW-03_20250213
L2508240	SW8260D	MS	Chloromethane (Methyl Chloride)	Not Applicable	MW-03_20250213	58	UJ	MW-03_20250213
L2508240	SW8260D	MS	trans-1,4-Dichloro-2-butene	Not Applicable	MW-03_20250213	66	UJ	MW-03_20250213
L2508240	SW8260D	MSD	trans-1,4-Dichloro-2-butene	Not Applicable	MW-03_20250213	69	UJ	MW-03_20250213
L2508240	SW8260D	MS	Vinyl acetate	Not Applicable	MW-03_20250213	140	None	None, sample is ND
L2508240	SW8260D	MSD	Vinyl acetate	Not Applicable	MW-03_20250213	140	None	None, sample is ND
L2508240	SW8270E	MS	3,3'-Dichlorobenzidine	Not Applicable	MW-03_20250213	11	UJ	MW-03_20250213
L2508240	SW8270E	MSD	3,3'-Dichlorobenzidine	Not Applicable	MW-03_20250213	11	UJ	MW-03_20250213
L2508240	SW8270E	MSD	4-Chloroaniline	Not Applicable	MW-03_20250213	35	UJ	MW-03_20250213

TABLE 7A
METHOD BLANKS
180 EAST 125TH STREET
NEW YORK, NEW YORK

Blank Type	SDG	Method	Batch ID	Analyte Detected in Blank	ank Concentrati	Units	Qualification	Affected Sample(s)
Method Blank	200-76966-1	TO15	200-213644	n-Butane	0.605 J	ug/m3	None	None, sample >10x blank
Method Blank	200-76966-1	TO15	200-213644	Tetrachloroethene	0.642 J	ug/m3	None	None, sample >10x blank
Method Blank	200-76966-1	TO15	200-213644	Tetrachloroethene	0.0681 J	ug/m3	None	None, sample >10x blank
Method Blank	L2506469	E1633	2027894	Perfluorooctanesulfonic acid (PFOS)	0.272 J	ng/L	None	None, sample is ND
Method Blank	L2506469	E1633	2031611	Perfluorooctanesulfonic acid (PFOS)	0.047 J	ng/g	RL U	DUP-01_20250205
Method Blank	L2506469	E1633	2031611	Perfluorooctanesulfonic acid (PFOS)	0.047 J	ng/g	RL U	SB-07_11-13
Method Blank	L2506469	E1633	2031611	Perfluorooctanesulfonic acid (PFOS)	0.047 J	ng/g	J+	SB-06_11-13
Method Blank	L2506469	E1633	2031611	Perfluorooctanesulfonic acid (PFOS)	0.047 J	ng/g	J+	SB-07_0-0.16
Method Blank	L2506469	E1633	2031611	US EPA PFAS (PFOS + PFOA)	0.047 J	ng/g	None	Not applicable; calculations not evaluated
Method Blank	L2506469	SW8082A	2027729	Aroclor-1260 (PCB-1260)	0.026 J	ug/L	None	None, sample is ND
Method Blank	L2506692	SW8270E	2028668	Di-n-butylphthalate (DBP)	54 J	ug/kg	RL U	SB-11_11-13
Method Blank	L2506692	SW8270E	2028668	Di-n-butylphthalate (DBP)	54 J	ug/kg	RL U	SB-11_0-0.16
Method Blank	L2506692	SW8270E	2028668	Di-n-butylphthalate (DBP)	54 J	ug/kg	RL U	SB-11_4-6
Method Blank	L2506987	SW8270E	2028839	Di-n-butylphthalate (DBP)	65 J	ug/kg	RL U	SB-07_0-0.16
Method Blank	L2506469	SW8082A	2027729	Polychlorinated biphenyls (PCBs)	0.026 J	ug/L	None	Not applicable; calculations not evaluated
Method Blank	L2506469	SW6010D	2028875	Iron	0.800 J	mg/kg	None	None, samples >10x blank
Method Blank	L2506469	SW8260D	2029003	Bromomethane (Methyl Bromide)	0.96 J	ug/kg	None	None, samples are ND
Method Blank	L2506469	SW6010D	2029221	Iron	0.652 J	mg/kg	None	None, samples >10x blank
Method Blank	L2506692	SW6010D	2029282	Iron	1.73 J	mg/kg	None	None, samples >10x blank
Method Blank	L2506692	SW6010D	2029335	Iron	1.16 J	mg/kg	None	None, samples >10x blank
Method Blank	L2506692	SW6010D	2029706	Iron	0.742 J	mg/kg	None	None, samples >10x blank
Method Blank	L2506987	SW6010D	2030066	Iron	1.14 J	mg/kg	None	None, samples >10x blank
Method Blank	L2506987	SW6010D	2030184	Iron	0.856 J	mg/kg	None	None, samples >10x blank
Method Blank	L2506987	SW8270E	2028839	Di-n-butylphthalate (DBP)	65 J	ug/kg	RL U	SB-07_11-13
Method Blank	L2506987	SW8270E	2028839	Di-n-butylphthalate (DBP)	65 J	ug/kg	RL U	SB-07_5-7
Method Blank	L2506987	SW8270E	2028839	Di-n-butylphthalate (DBP)	65 J	ug/kg	RL U	SB-06_0-0.16
Method Blank	L2506987	SW8270E	2028839	Di-n-butylphthalate (DBP)	65 J	ug/kg	RL U	SB-06_11-13

TABLE 7B
FIELD BLANKS
180 EAST 125TH STREET
NEW YORK, NEW YORK

Blank Type	lab_sdg	analytic_method	sys_sample_code	Date of Blank	Analyte Detected in Blank	Concentration	Fraction	Qualifier	Affected Samples
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Manganese	0.00055 J	Total	None	None, applicable samples >10x blank
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Sodium	0.102 J	Total	None	None, applicable samples >10x blank
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Barium	0.00066	Total	None	None, applicable samples >10x blank
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Zinc	0.01294	Total	J+	All samples of the matrix collected that day
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Nickel	0.00055 J	Dissolved	RL U	DUP-01_20250213
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Nickel	0.00055 J	Dissolved	RL U	MW-01_20250213
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Nickel	0.00055 J	Dissolved	RL U	MW-05_20250213
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Nickel	0.00055 J	Dissolved	RL U	MW-02_20250213
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Nickel	0.00055 J	Dissolved	J+	MW-04_20250213
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Nickel	0.00055 J	Dissolved	J+	MW-03_20250213
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Sodium	0.207 J	Dissolved	None	None, applicable samples >10x blank
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Calcium	0.0528 J	Dissolved	None	None, applicable samples >10x blank
Field Blank	L2508240	SW6020B	FB-01_20250213	2/13/2025	Calcium	0.0967 J	Total	None	None, applicable samples >10x blank
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Pentachlorophenol	0.06 J	Not Applicable	RL U	DUP-01_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Pentachlorophenol	0.06 J	Not Applicable	RL U	MW-03_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Pentachlorophenol	0.06 J	Not Applicable	RL U	MW-04_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Pentachlorophenol	0.06 J	Not Applicable	RL U	MW-02_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Pentachlorophenol	0.06 J	Not Applicable	RL U	MW-05_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Naphthalene	0.05 J	Not Applicable	RL U	DUP-01_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Naphthalene	0.05 J	Not Applicable	RL U	MW-03_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Naphthalene	0.05 J	Not Applicable	RL U	MW-04_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Naphthalene	0.05 J	Not Applicable	RL U	MW-01_20250213
Field Blank	L2508240	SW8270ESIM	FB-01_20250213	2/13/2025	Naphthalene	0.05 J	Not Applicable	J+	MW-05_20250213
Field Blank	L2506987	SW6010D	FB-02_20250207	2/7/2025	Sodium	0.252 J	Total	None	None, applicable samples >10x blank
Field Blank	L2506987	SW6010D	FB-02_20250207	2/7/2025	Calcium	0.0604 J	Total	None	None, applicable samples >10x blank
Field Blank	L2506987	SW8260D	FB-02_20250207	2/7/2025	Acetone	3.6 J	Not Applicable	Not Applicable	Cannot be evaluated; sample prep info not provided for the method.
Field Blank	L2506987	SW8270E	FB-02_20250207	2/7/2025	Benzoic acid	15 J	Not Applicable	Not Applicable	Cannot be evaluated; sample prep info not provided for the method.
Field Blank	L2506987	SW8270E	FB-02_20250207	2/7/2025	Di-n-butylphthalate (DBP)	7.5	Not Applicable	Not Applicable	Cannot be evaluated; sample prep info not provided for the method.

TABLE 8A
LABORATORY DUPLICATE SAMPLES
180 EAST 125TH STREET
NEW YORK, NEW YORK

Client Sample ID	Method
SB-07_0-0.016	6010D
SB-07_0-0.016	2540G
SB-05_0-0.16	2540G

TABLE 8B
FIELD DUPLICATE SAMPLES
180 EAST 125TH STREET
NEW YORK, NEW YORK

Location	Primary Sample ID	Duplicate Sample ID	Methods
MW-02	MW-02_20250213	DUP-01_20250213	E1633, EPA 6020B, EPA 7470A, EPA 8081B, EPA 8082A, EPA 8260D, EPA 8270E, EPA 8270ESIM
SB-09	SB-09_11-13	DUP-01_20250205	E1633, SM 2540G, EPA 6010D, EPA 7471B, EPA 8081B, EPA 8082A, EPA 8260D, EPA 8270E
SB-06	SB-06_0-0.16	DUP-02_20250207	E1633, SM 2540G, EPA 6010D, EPA 7471B, EPA 8081B, EPA 8082A, EPA 8260D, EPA 8270E

TABLE 8C
FIELD DUPLICATE EXCEEDANCES
180 EAST 125TH STREET
NEW YORK, NEW YORK

Analyte	Primary Sample ID	Duplicate Sample ID	% RPD	Qualification
	SB-09_11-13	DUP-01_20250205		
Acenaphthylene	2000	310	NA	J/UJ, Abs. Diff. > RL
Anthracene	1900	400	NA	J/UJ, Abs. Diff. > RL
Carbazole	1000	240	NA	J/UJ, Abs. Diff. > RL
Dibenz(a,h)anthracene	850	210	NA	J/UJ, Abs. Diff. > RL
Naphthalene	510	120	NA	J/UJ, Abs. Diff. > RL
Perfluorooctanesulfonic acid (PFOS)	1.37	0.175	155	Qualify primary sample J. Detect >2x RL and RPD>30.
4,4'-DDT	10.5	89.1	158	J/UJ, RPD>50
Benzo(a)anthracene	5800	1100	136	J/UJ, RPD>50
Benzo(a)pyrene	5600	1300	125	J/UJ, RPD>50
Benzo(b)fluoranthene	7400	1600	129	J/UJ, RPD>50
Benzo(g,h,i)perylene	3800	1200	104	J/UJ, RPD>50
Benzo(k)fluoranthene	2100	580	113	J/UJ, RPD>50
Chrysene	5200	1100	130	J/UJ, RPD>50
Dieldrin	ND	6.41	139	J/UJ, RPD>50
Fluoranthene	12000	2500	131	J/UJ, RPD>50
Indeno(1,2,3-cd)pyrene	3900	1000	118	J/UJ, RPD>50
Phenanthrene	8200	1600	135	J/UJ, RPD>50
Pyrene	9300	2200	123	J/UJ, RPD>50
Zinc, Total	57.6	32.8	55	J/UJ, RPD>50
Analyte	**Primary Sample ID**	**Duplicate Sample ID**	**% RPD**	**Qualification**
	SB-06_0-0.16	**DUP-02_20250207**		
4,4'-DDD	12.9	7.97	NA	J/UJ, Abs. Diff. > RL
Acetone	21	ND	NA	J/UJ, Abs. Diff. > RL
Anthracene	500	340	NA	J/UJ, Abs. Diff. > RL
Arsenic, Total	4.97	3.52	NA	J/UJ, Abs. Diff. > RL
Chlordane	144	59.3	NA	J/UJ, Abs. Diff. > RL
Cymene (p-Isopropyltoluene)	3.1	0.6	NA	J/UJ, Abs. Diff. > RL
Endosulfan sulfate	2.7	ND	NA	J/UJ, Abs. Diff. > RL
Indeno(1,2,3-cd)pyrene	1000	710	NA	J/UJ, Abs. Diff. > RL
alpha-Chlordane (cis)	16.6	6.69	NA	J/UJ, Abs. Diff. > RL
gamma-Chlordane (trans)	22.7	10.3	NA	J/UJ, Abs. Diff. > RL
4,4'-DDE	27.7	14.4	63	J/UJ, RPD>50
4,4'-DDT	85.2	34.9	84	J/UJ, RPD>50
Dieldrin	33.1	10.2	106	J/UJ, RPD>50
Perfluorooctanesulfonic acid (PFOS)	0.597	0.432	32	Qualify primary sample J. Detect >2x RL and RPD>30.
Analyte	**Primary Sample ID**	**Duplicate Sample ID**	**% RPD**	**Qualification**
	MW-02_20250213	**DUP-01_20250213**		
Aluminum, Total	0.0214	0.00746	NA	J/UJ, Abs. Diff. > RL

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2508240	SW6020B	NA	DUP-01_20250213	L2508240-03	Nickel	D	Yes	0.0008 J	0.002 U	FBK
L2508240	SW6020B	NA	DUP-01_20250213	L2508240-03	Zinc	T	Yes	0.01329	0.01329 J+	FBK
L2508240	SW8270ESIM	NA	DUP-01_20250213	L2508240-03	Naphthalene	N	Yes	0.02 J	0.1 U	FBK
L2508240	SW8270ESIM	NA	DUP-01_20250213	L2508240-03	Pentachlorophenol	N	Yes	0.08 J	0.8 U	FBK
L2508240	SW6020B	NA	MW-01_20250213	L2508240-01	Nickel	D	Yes	0.00167 J	0.002 U	FBK
L2508240	SW6020B	NA	MW-01_20250213	L2508240-01	Zinc	T	Yes	0.0164	0.0164 J+	FBK
L2508240	SW8270ESIM	NA	MW-01_20250213	L2508240-01	Naphthalene	N	Yes	0.03 J	0.1 U	FBK
L2508240	SW6020B	NA	MW-02_20250213	L2508240-02	Nickel	D	Yes	0.00098 J	0.002 U	FBK
L2508240	SW6020B	NA	MW-02_20250213	L2508240-02	Zinc	T	Yes	0.0158	0.0158 J+	FBK
L2508240	SW8270ESIM	NA	MW-02_20250213	L2508240-02	Pentachlorophenol	N	Yes	0.09 J	0.8 U	FBK
L2508240	SW6020B	NA	MW-03_20250213	L2508240-04	Nickel	D	Yes	0.00262	0.00262 J+	FBK
L2508240	SW6020B	NA	MW-03_20250213	L2508240-04	Zinc	T	Yes	0.01779	0.01779 J+	FBK
L2508240	SW8270ESIM	NA	MW-03_20250213	L2508240-04	Naphthalene	N	Yes	0.04 J	0.1 U	FBK
L2508240	SW8270ESIM	NA	MW-03_20250213	L2508240-04	Pentachlorophenol	N	Yes	0.08 J	0.8 U	FBK
L2508240	SW6020B	NA	MW-04_20250213	L2508240-06	Nickel	D	Yes	0.00249	0.00249 J+	FBK
L2508240	SW6020B	NA	MW-04_20250213	L2508240-06	Zinc	T	Yes	0.0169	0.0169 J+	FBK
L2508240	SW8270ESIM	NA	MW-04_20250213	L2508240-06	Naphthalene	N	Yes	0.04 J	0.1 U	FBK
L2508240	SW8270ESIM	NA	MW-04_20250213	L2508240-06	Pentachlorophenol	N	Yes	0.07 J	0.8 U	FBK
L2508240	SW6020B	NA	MW-05_20250213	L2508240-05	Nickel	D	Yes	0.00173 J	0.002 U	FBK
L2508240	SW6020B	NA	MW-05_20250213	L2508240-05	Zinc	T	Yes	0.01776	0.01776 J+	FBK
L2508240	SW8270ESIM	NA	MW-05_20250213	L2508240-05	Naphthalene	N	Yes	0.13	0.13 J+	FBK
L2508240	SW8270ESIM	NA	MW-05_20250213	L2508240-05	Pentachlorophenol	N	Yes	0.1 J	0.8 U	FBK
L2506469	E1633	Dry	DUP-01_20250205	L2506469-24	Perfluorooctanesulfonic acid (PFOS)	N	Yes	0.175 J	0.2 U	FDP
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Zinc	N	Yes	32.8	32.8 J	FDP
L2506469	SW8081B	Dry	DUP-01_20250205	L2506469-24	4,4'-DDT	N	Yes	89.1	89.1 J	FDP
L2506469	SW8081B	Dry	DUP-01_20250205	L2506469-24	Dieldrin	N	Yes	6.41	6.41 J	FDP
L2506469	SW8260D	Dry	DUP-01_20250205	L2506469-24	Naphthalene	N	Yes	U	UJ	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Acenaphthylene	N	Yes	310	310 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Anthracene	N	Yes	400	400 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Benzo(a)anthracene	N	Yes	1100	1100 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Benzo(a)pyrene	N	Yes	1300	1300 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Benzo(b)fluoranthene	N	Yes	1600	1600 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Benzo(g,h,i)perylene	N	Yes	1200	1200 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Benzo(k)fluoranthene	N	Yes	580	580 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Carbazole	N	Yes	240	240 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Chrysene	N	Yes	1100	1100 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Dibenz(a,h)anthracene	N	Yes	210	210 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Fluoranthene	N	Yes	2500	2500 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Indeno(1,2,3-cd)pyrene	N	Yes	1000	1000 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Naphthalene	N	Yes	120 J	120 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Phenanthrene	N	Yes	1600	1600 J	FDP
L2506469	SW8270E	Dry	DUP-01_20250205	L2506469-24	Pyrene	N	Yes	2200	2200 J	FDP
L2508240	SW6020B	NA	DUP-01_20250213	L2508240-03	Aluminum	T	Yes	0.00746 J	0.00746 J	FDP
L2506987	SW6010D	Dry	DUP-02_20250207	L2506987-07	Arsenic	N	Yes	3.52	3.52 J	FDP
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	4,4'-DDD	N	Yes	7.97	7.97 J	FDP
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	4,4'-DDE	N	Yes	14.4	14.4 J	FDP
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	4,4'-DDT	N	Yes	34.9	34.9 J	FDP
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	Chlordane	N	Yes	59.3	59.3 J	FDP
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	Dieldrin	N	Yes	10.2	10.2 J	FDP
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	Endosulfan sulfate	N	Yes	U	UJ	FDP

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	gamma-Chlordane (trans)	N	Yes	10.3	10.3 J	FDP
L2506987	SW8260D	Dry	DUP-02_20250207	L2506987-07	Acetone	N	Yes	U	UJ	FDP
L2506987	SW8260D	Dry	DUP-02_20250207	L2506987-07	Cymene (p-Isopropyltoluene)	N	Yes	0.6 J	0.6 J	FDP
L2506987	SW8270E	Dry	DUP-02_20250207	L2506987-07	Anthracene	N	Yes	340	340 J	FDP
L2508240	SW6020B	NA	MW-02_20250213	L2508240-02	Aluminum	T	Yes	0.0214	0.0214 J	FDP
L2506987	E1633	Dry	SB-06_0-0.16	L2506987-06	Perfluorooctanesulfonic acid (PFOS)	N	Yes	0.597	0.597 J	FDP
L2506987	SW6010D	Dry	SB-06_0-0.16	L2506987-06	Arsenic	N	Yes	4.97	4.97 J	FDP
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	4,4'-DDD	N	Yes	12.9	12.9 J	FDP
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	4,4'-DDE	N	Yes	27.7	27.7 J	FDP
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	4,4'-DDT	N	Yes	85.2	85.2 J	FDP
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	Chlordane	N	Yes	144	144 J	FDP
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	Dieldrin	N	Yes	33.1	33.1 J	FDP
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	Endosulfan sulfate	N	Yes	2.7	2.7 J	FDP
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	gamma-Chlordane (trans)	N	Yes	22.7	22.7 J	FDP
L2506987	SW8260D	Dry	SB-06_0-0.16	L2506987-06	Acetone	N	Yes	21	21 J	FDP
L2506987	SW8260D	Dry	SB-06_0-0.16	L2506987-06	Cymene (p-Isopropyltoluene)	N	Yes	3.1	3.1 J	FDP
L2506987	SW8270E	Dry	SB-06_0-0.16	L2506987-06	Anthracene	N	Yes	500	500 J	FDP
L2506469	E1633	Dry	SB-09_11-13	L2506469-19	Perfluorooctanesulfonic acid (PFOS)	N	Yes	1.37	1.37 J	FDP
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Zinc	N	Yes	57.6	57.6 J	FDP
L2506469	SW8081B	Dry	SB-09_11-13	L2506469-19	Dieldrin	N	Yes	U	UJ	FDP
L2506469	SW8260D	Dry	SB-09_11-13	L2506469-19	Naphthalene	N	Yes	4.4 J	4.4 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Acenaphthylene	N	Yes	2000	2000 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Anthracene	N	Yes	1900	1900 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Benzo(a)anthracene	N	Yes	5800	5800 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Benzo(a)pyrene	N	Yes	5600	5600 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Benzo(b)fluoranthene	N	Yes	7400	7400 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Benzo(g,h,i)perylene	N	Yes	3800	3800 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Benzo(k)fluoranthene	N	Yes	2100	2100 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Carbazole	N	Yes	1000	1000 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Chrysene	N	Yes	5200	5200 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Dibenz(a,h)anthracene	N	Yes	850	850 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Fluoranthene	N	Yes	12000	12000 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Indeno(1,2,3-cd)pyrene	N	Yes	3900	3900 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Naphthalene	N	Yes	510	510 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Phenanthrene	N	Yes	8200	8200 J	FDP
L2506469	SW8270E	Dry	SB-09_11-13	L2506469-19	Pyrene	N	Yes	9300	9300 J	FDP
L2506987	SW8081B	Dry	DUP-02_20250207	L2506987-07	alpha-Chlordane (cis)	N	Yes	6.69	6.69 J	FDP, RPD
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	alpha-Chlordane (cis)	N	Yes	16.6	16.6 J	FDP, RPD
L2506469	SW8081B	Dry	SB-09_11-13	L2506469-19	4,4'-DDT	N	Yes	10.5	10.5 J	FDP, RPD
L2508240	E1633	NA	DUP-01_20250213	L2508240-03	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	DUP-01_20250213	L2508240-03	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	N	Yes	U	UJ	IDL
L2506987	E1633	Dry	DUP-02_20250207	L2506987-07	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	U	UJ	IDL
L2506987	E1633	Dry	DUP-02_20250207	L2506987-07	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-01_20250213	L2508240-01	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-01_20250213	L2508240-01	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-02_20250213	L2508240-02	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-02_20250213	L2508240-02	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-03_20250213	L2508240-04	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-03_20250213	L2508240-04	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-03_20250213	L2508240-04	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	N	Yes	U	UJ	IDL

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2508240	E1633	NA	MW-03_20250213	L2508240-04	Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-03_20250213	L2508240-04	Perfluorononanoic acid (PFNA)	N	Yes	9.82	9.82 J	IDL
L2508240	E1633	NA	MW-04_20250213	L2508240-06	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-04_20250213	L2508240-06	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-05_20250213	L2508240-05	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-05_20250213	L2508240-05	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-01_12-14	L2506692-04	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-01_12-14	L2506692-04	Perfluorotetradecanoic acid (PFTeDA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-02_0-0.16	L2506469-03	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-03_0-0.16	L2506469-06	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	0.15 J	0.15 J	IDL
L2506469	E1633	Dry	SB-03_15-17	L2506469-08	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-04_0-0.16	L2506469-09	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	0.11 J	0.11 J	IDL
L2506469	E1633	Dry	SB-04_0-0.16	L2506469-09	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-04_14-16	L2506469-11	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-05_8-10	L2506469-13	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	8.48	8.48 J	IDL
L2506987	E1633	Dry	SB-06_0-0.16	L2506987-06	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	0.066 J	0.066 J	IDL
L2506987	E1633	Dry	SB-06_0-0.16	L2506987-06	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506987	E1633	Dry	SB-07_0-0.16	L2506987-03	N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	N	Yes	U	UJ	IDL
L2506987	E1633	Dry	SB-07_11-13	L2506987-05	N-Ethylperfluorooctane sulfonamidoethanol (N-EtFOSE)	N	Yes	U	UJ	IDL
L2506987	E1633	Dry	SB-07_11-13	L2506987-05	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-08_0-0.16	L2506469-15	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	0.14 J	0.14 J	IDL
L2506469	E1633	Dry	SB-08_0-0.16	L2506469-15	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-08_13-15	L2506469-17	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-08_13-15	L2506469-17	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-09_0-0.16	L2506469-18	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	0.144 J	0.144 J	IDL
L2506469	E1633	Dry	SB-09_0-0.16	L2506469-18	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-09_13-15	L2506469-20	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506469	E1633	Dry	SB-10_0-0.16	L2506469-21	N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	N	Yes	0.077 J	0.077 J	IDL
L2506692	E1633	Dry	SB-11_0-0.16	L2506692-05	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-11_11-13	L2506692-07	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-11_11-13	L2506692-07	Perfluoro-2-propoxypropanoic acid (PFPrOPrA)(GenX) (HFPO-DA)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-11_11-13	L2506692-07	Perfluorobutanesulfonic acid (PFBS)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-11_11-13	L2506692-07	Perfluorohexanoic acid (PFHxA)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-11_11-13	L2506692-07	Perfluorooctane sulfonamide (PFOSA)	N	Yes	U	UJ	IDL
L2506692	E1633	Dry	SB-11_11-13	L2506692-07	Perfluoropentanoic acid (PFPeA)	N	Yes	U	UJ	IDL
L2508240	E1633	NA	MW-03_20250213	L2508240-04	Perfluorooctanoic acid (PFOA)	N	Yes	122	122 J	IDL, MSD
L2508240	SW8260D	NA	DUP-01_20250213	L2508240-03	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS
L2506987	SW8270E	Dry	DUP-02_20250207	L2506987-07	3,3'-Dichlorobenzidine	N	Yes	U	R	LCS
L2506469	SW8260D	NA	FB-01_20250205	L2506469-02	trans-1,4-Dichloro-2-butene	N	Yes	U	UJ	LCS
L2506469	SW8270E	NA	FB-01_20250205	L2506469-02	Benzoic acid	N	Yes	U	R	LCS
L2508240	SW8260D	NA	FB-01_20250213	L2508240-07	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS
L2508240	SW8260D	NA	MW-01_20250213	L2508240-01	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS
L2508240	SW8260D	NA	MW-02_20250213	L2508240-02	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS
L2508240	SW8260D	NA	MW-04_20250213	L2508240-06	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS
L2508240	SW8260D	NA	MW-05_20250213	L2508240-05	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS
L2506692	SW8260D	Dry	SB-01_0-0.16	L2506692-02	Acetone	N	Yes	U	UJ	LCS
L2506692	SW8260D	Dry	SB-01_12-14	L2506692-04	Acetone	N	Yes	U	UJ	LCS
L2506692	SW8260D	Dry	SB-01_9-11	L2506692-03	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8260D	Dry	SB-02_0-0.16	L2506469-03	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-02_0-0.16	L2506469-03	4-Chloroaniline	N	Yes	U	R	LCS

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506469	SW8260D	Dry	SB-02_11-13	L2506469-05	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-02_11-13	L2506469-05	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-02_4-6	L2506469-04	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-02_4-6	L2506469-04	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-03_0-0.16	L2506469-06	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-03_0-0.16	L2506469-06	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-03_13-15	L2506469-07	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-03_13-15	L2506469-07	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-03_15-17	L2506469-08	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8270E	Dry	SB-04_0-0.16	L2506469-09	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-04_12-14	L2506469-10	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-04_12-14	L2506469-10	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-04_14-16	L2506469-11	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-04_14-16	L2506469-11	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8270E	Dry	SB-05_11-13	L2506469-14	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-05_8-10	L2506469-13	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-05_8-10	L2506469-13	4-Chloroaniline	N	Yes	U	R	LCS
L2506987	SW8270E	Dry	SB-06_0-0.16	L2506987-06	3,3'-Dichlorobenzidine	N	Yes	U	R	LCS
L2506987	SW8270E	Dry	SB-06_11-13	L2506987-09	3,3'-Dichlorobenzidine	N	Yes	U	R	LCS
L2506987	SW8270E	Dry	SB-06_9-11	L2506987-08	3,3'-Dichlorobenzidine	N	Yes	U	R	LCS
L2506987	SW8270E	Dry	SB-07_0-0.16	L2506987-03	3,3'-Dichlorobenzidine	N	Yes	U	R	LCS
L2506987	SW8270E	Dry	SB-07_11-13	L2506987-05	3,3'-Dichlorobenzidine	N	Yes	U	R	LCS
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	3,3'-Dichlorobenzidine	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-08_0-0.16	L2506469-15	Acetone	N	Yes	7.4 J	7.4 J	LCS
L2506469	SW8260D	Dry	SB-08_11-13	L2506469-16	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-08_11-13	L2506469-16	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-08_13-15	L2506469-17	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-08_13-15	L2506469-17	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-09_0-0.16	L2506469-18	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-09_0-0.16	L2506469-18	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-09_11-13	L2506469-19	Acetone	N	Yes	17 J	17 J	LCS
L2506469	SW8260D	Dry	SB-09_13-15	L2506469-20	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-09_13-15	L2506469-20	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8260D	Dry	SB-10_0-0.16	L2506469-21	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8270E	Dry	SB-10_0-0.16	L2506469-21	4-Chloroaniline	N	Yes	U	R	LCS
L2506469	SW8270E	Dry	SB-10_8-10	L2506469-22	4-Chloroaniline	N	Yes	U	R	LCS
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Acetone	N	Yes	16	16 J	LCS
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chloroaniline	N	Yes	U	R	LCS
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Carbazole	N	Yes	56 J	56 J-	LCS
L2506692	SW8260D	Dry	SB-11_11-13	L2506692-07	Acetone	N	Yes	U	UJ	LCS
L2506692	SW8260D	Dry	SB-11_4-6	L2506692-06	Acetone	N	Yes	U	UJ	LCS
L2506469	SW8260D	NA	TB-01_20250205	L2506469-01	trans-1,4-Dichloro-2-butene	N	Yes	U	UJ	LCS
L2508240	SW8260D	NA	TB-01_20250213	L2508240-08	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS
L2506692	SW8260D	NA	TB-02_20250206	L2506692-01	Vinyl acetate	N	Yes	U	UJ	LCS
L2508240	SW8260D	NA	MW-03_20250213	L2508240-04	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	LCS, MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Acetone	N	Yes	U	UJ	LCS, MSD
L2506987	SW8270E	Dry	SB-06_0-0.16	L2506987-06	Di-n-butylphthalate (DBP)	N	Yes	170 J	190.0 U	MBK
L2506987	E1633	Dry	SB-06_11-13	L2506987-09	Perfluorooctanesulfonic acid (PFOS)	N	Yes	0.229	0.229 J+	MBK
L2506987	SW8270E	Dry	SB-06_11-13	L2506987-09	Di-n-butylphthalate (DBP)	N	Yes	54 J	170.0 U	MBK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506987	E1633	Dry	SB-07_0-0.16	L2506987-03	Perfluorooctanesulfonic acid (PFOS)	N	Yes	0.242	0.242 J+	MBK
L2506987	SW8270E	Dry	SB-07_0-0.16	L2506987-03	Di-n-butylphthalate (DBP)	N	Yes	68 J	180.0 U	MBK
L2506987	E1633	Dry	SB-07_11-13	L2506987-05	Perfluorooctanesulfonic acid (PFOS)	N	Yes	0.178 J	0.199 U	MBK
L2506987	SW8270E	Dry	SB-07_11-13	L2506987-05	Di-n-butylphthalate (DBP)	N	Yes	73 J	180.0 U	MBK
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	Di-n-butylphthalate (DBP)	N	Yes	68 J	190.0 U	MBK
L2506692	SW8270E	Dry	SB-11_11-13	L2506692-07	Di-n-butylphthalate (DBP)	N	Yes	43 J	180.0 U	MBK
L2506692	SW8270E	Dry	SB-11_4-6	L2506692-06	Di-n-butylphthalate (DBP)	N	Yes	54 J	190.0 U	MBK
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Arsenic	N	Yes	0.449 J	0.449 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Barium	N	Yes	31	31 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Chromium	N	Yes	9.27	9.27 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Cobalt	N	Yes	3.41	3.41 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Copper	N	Yes	20.9	20.9 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Nickel	N	Yes	9.7	9.7 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Potassium	N	Yes	1130	1130 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Sodium	N	Yes	119 J	119 J	MSD
L2506469	SW6010D	Dry	DUP-01_20250205	L2506469-24	Vanadium	N	Yes	12.8	12.8 J	MSD
L2506987	SW6010D	Dry	DUP-02_20250207	L2506987-07	Antimony	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	DUP-02_20250207	L2506987-07	Chromium	N	Yes	16	16 J	MSD
L2506987	SW6010D	Dry	DUP-02_20250207	L2506987-07	Lead	N	Yes	213	213 J	MSD
L2506987	SW6010D	Dry	DUP-02_20250207	L2506987-07	Vanadium	N	Yes	19.7	19.7 J	MSD
L2508240	E1633	NA	MW-03_20250213	L2508240-04	N-Methyl Perfluorooctanesulfonamidoacetic Acid (MeFOSAA)	N	Yes	U	UJ	MSD
L2508240	E1633	NA	MW-03_20250213	L2508240-04	Perfluoroheptanoic acid (PFHpA)	N	Yes	38.3	38.3 J	MSD
L2508240	E1633	NA	MW-03_20250213	L2508240-04	Perfluorooctanesulfonic acid (PFOS)	N	Yes	181	181 J	MSD
L2508240	SW8260D	NA	MW-03_20250213	L2508240-04	Chloromethane (Methyl Chloride)	N	Yes	U	UJ	MSD
L2508240	SW8260D	NA	MW-03_20250213	L2508240-04	Vinyl acetate	N	Yes	U	UJ	MSD
L2508240	SW8260D	NA	MW-03_20250213	L2508240-04	trans-1,4-Dichloro-2-butene	N	Yes	U	UJ	MSD
L2508240	SW8270E	NA	MW-03_20250213	L2508240-04	3,3'-Dichlorobenzidine	N	Yes	U	UJ	MSD
L2508240	SW8270E	NA	MW-03_20250213	L2508240-04	4-Chloroaniline	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Arsenic	N	Yes	1.98	1.98 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Barium	N	Yes	138	138 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Chromium	N	Yes	12.4	12.4 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Cobalt	N	Yes	4.2	4.2 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Copper	N	Yes	22.2	22.2 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Nickel	N	Yes	10.1	10.1 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Potassium	N	Yes	1430	1430 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Sodium	N	Yes	136 J	136 J	MSD
L2506469	SW6010D	Dry	SB-02_0-0.16	L2506469-03	Vanadium	N	Yes	18.6	18.6 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Arsenic	N	Yes	0.878	0.878 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Barium	N	Yes	15.5	15.5 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Chromium	N	Yes	4.19	4.19 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Cobalt	N	Yes	4.19	4.19 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Copper	N	Yes	17.9	17.9 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Nickel	N	Yes	5.67	5.67 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Potassium	N	Yes	469	469 J	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Sodium	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-02_11-13	L2506469-05	Vanadium	N	Yes	10.5	10.5 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Antimony	N	Yes	U	UJ	MSD

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Arsenic	N	Yes	0.411 J	0.411 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Barium	N	Yes	37.3	37.3 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Chromium	N	Yes	11.2	11.2 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Cobalt	N	Yes	6.68	6.68 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Copper	N	Yes	24.7	24.7 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Nickel	N	Yes	13	13 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Potassium	N	Yes	1750	1750 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Sodium	N	Yes	105 J	105 J	MSD
L2506469	SW6010D	Dry	SB-02_4-6	L2506469-04	Vanadium	N	Yes	18.9	18.9 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Arsenic	N	Yes	3.94	3.94 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Barium	N	Yes	438	438 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Chromium	N	Yes	15.8	15.8 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Cobalt	N	Yes	4.1	4.1 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Copper	N	Yes	31.3	31.3 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Nickel	N	Yes	11.8	11.8 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Potassium	N	Yes	1220	1220 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Sodium	N	Yes	166 J	166 J	MSD
L2506469	SW6010D	Dry	SB-03_0-0.16	L2506469-06	Vanadium	N	Yes	25.2	25.2 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Arsenic	N	Yes	5.04	5.04 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Barium	N	Yes	211	211 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Chromium	N	Yes	16.5	16.5 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Cobalt	N	Yes	4.53	4.53 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Copper	N	Yes	35.2	35.2 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Nickel	N	Yes	13	13 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Potassium	N	Yes	1190	1190 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Sodium	N	Yes	192	192 J	MSD
L2506469	SW6010D	Dry	SB-03_13-15	L2506469-07	Vanadium	N	Yes	24.5	24.5 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Arsenic	N	Yes	2.45	2.45 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Barium	N	Yes	118	118 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Chromium	N	Yes	10.9	10.9 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Cobalt	N	Yes	2.72	2.72 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Copper	N	Yes	18.2	18.2 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Nickel	N	Yes	7.07	7.07 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Potassium	N	Yes	922	922 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Sodium	N	Yes	221	221 J	MSD
L2506469	SW6010D	Dry	SB-03_15-17	L2506469-08	Vanadium	N	Yes	15	15 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Arsenic	N	Yes	3.96	3.96 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Barium	N	Yes	338	338 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Chromium	N	Yes	14.3	14.3 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Cobalt	N	Yes	3.55	3.55 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Copper	N	Yes	33.5	33.5 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Nickel	N	Yes	10.8	10.8 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Potassium	N	Yes	953	953 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Sodium	N	Yes	167 J	167 J	MSD
L2506469	SW6010D	Dry	SB-04_0-0.16	L2506469-09	Vanadium	N	Yes	19.2	19.2 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Antimony	N	Yes	U	UJ	MSD

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Arsenic	N	Yes	0.553 J	0.553 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Barium	N	Yes	77.3	77.3 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Chromium	N	Yes	21.2	21.2 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Cobalt	N	Yes	6.92	6.92 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Copper	N	Yes	25.1	25.1 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Nickel	N	Yes	16.2	16.2 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Potassium	N	Yes	4170	4170 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Sodium	N	Yes	520	520 J	MSD
L2506469	SW6010D	Dry	SB-04_12-14	L2506469-10	Vanadium	N	Yes	40.1	40.1 J	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Arsenic	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Barium	N	Yes	12.8	12.8 J	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Chromium	N	Yes	4.84	4.84 J	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Cobalt	N	Yes	2.99	2.99 J	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Copper	N	Yes	12.8	12.8 J	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Nickel	N	Yes	5.28	5.28 J	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Potassium	N	Yes	568	568 J	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Sodium	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-04_14-16	L2506469-11	Vanadium	N	Yes	9.41	9.41 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Arsenic	N	Yes	3.53	3.53 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Barium	N	Yes	255	255 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Chromium	N	Yes	15.9	15.9 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Cobalt	N	Yes	5.56	5.56 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Copper	N	Yes	41.2	41.2 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Nickel	N	Yes	14.1	14.1 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Potassium	N	Yes	1700	1700 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Sodium	N	Yes	247	247 J	MSD
L2506469	SW6010D	Dry	SB-05_0-0.16	L2506469-12	Vanadium	N	Yes	23.3	23.3 J	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,1,2,2-Tetrachloroethane	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,1-Dichloropropene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,2,3-Trichlorobenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,2,4,5-Tetramethylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,2,4-Trichlorobenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,2,4-Trimethylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,2-Dibromo-3-chloropropane (DBCP)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,2-Dibromoethane (Ethylene Dibromide)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,2-Dichlorobenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,3,5-Trimethylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,3-Dichlorobenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,4-Dichlorobenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	1,4-Diethylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	2,2-Dichloropropane	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	2-Butanone (Methyl Ethyl Ketone)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	2-Chlorotoluene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	2-Hexanone (Methyl Butyl Ketone)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	2-Phenylbutane (sec-Butylbenzene)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	4-Chlorotoluene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	N	Yes	U	UJ	MSD

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Acrylonitrile	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Bromobenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Carbon disulfide	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Carbon tetrachloride	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Chlorobenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Chlorobromomethane	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Cymene (p-Isopropyltoluene)	N	Yes	10	10 J	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Dibromochloromethane	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Dibromomethane	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Ethylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Hexachlorobutadiene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Isopropylbenzene (Cumene)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Methylene chloride (Dichloromethane)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Naphthalene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Styrene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Tetrachloroethene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Toluene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Trichlorofluoromethane (CFC-11)	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Vinyl acetate	N	Yes	U	R	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	Vinyl chloride	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	cis-1,2-Dichloroethene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	cis-1,3-Dichloropropene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	m,p-Xylenes	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	n-Butylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	n-Propylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	o-Xylene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	tert-Butylbenzene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	trans-1,2-Dichloroethene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	trans-1,3-Dichloropropene	N	Yes	U	UJ	MSD
L2506469	SW8260D	Dry	SB-05_0-0.16	L2506469-12	trans-1,4-Dichloro-2-butene	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Arsenic	N	Yes	0.654 J	0.654 J	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Barium	N	Yes	20.7	20.7 J	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Chromium	N	Yes	7.86	7.86 J	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Cobalt	N	Yes	4.43	4.43 J	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Copper	N	Yes	15.1	15.1 J	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Nickel	N	Yes	10.2	10.2 J	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Potassium	N	Yes	925	925 J	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Sodium	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-05_11-13	L2506469-14	Vanadium	N	Yes	10.4	10.4 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Arsenic	N	Yes	2.11	2.11 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Barium	N	Yes	106	106 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Chromium	N	Yes	14.2	14.2 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Cobalt	N	Yes	4.86	4.86 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Copper	N	Yes	21.5	21.5 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Nickel	N	Yes	15	15 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Potassium	N	Yes	1610	1610 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Sodium	N	Yes	100 J	100 J	MSD
L2506469	SW6010D	Dry	SB-05_8-10	L2506469-13	Vanadium	N	Yes	23.2	23.2 J	MSD

TABLE 9
SYSTEM PERFORMANCE SUMMARY
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SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506987	SW6010D	Dry	SB-06_0-0.16	L2506987-06	Antimony	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	SB-06_0-0.16	L2506987-06	Chromium	N	Yes	16.9	16.9 J	MSD
L2506987	SW6010D	Dry	SB-06_0-0.16	L2506987-06	Lead	N	Yes	284	284 J	MSD
L2506987	SW6010D	Dry	SB-06_0-0.16	L2506987-06	Vanadium	N	Yes	21.1	21.1 J	MSD
L2506987	SW6010D	Dry	SB-06_11-13	L2506987-09	Antimony	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	SB-06_11-13	L2506987-09	Chromium	N	Yes	2.71	2.71 J	MSD
L2506987	SW6010D	Dry	SB-06_11-13	L2506987-09	Lead	N	Yes	2.16 J	2.16 J	MSD
L2506987	SW6010D	Dry	SB-06_11-13	L2506987-09	Vanadium	N	Yes	5.82	5.82 J	MSD
L2506987	SW6010D	Dry	SB-06_9-11	L2506987-08	Antimony	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	SB-06_9-11	L2506987-08	Chromium	N	Yes	4.5	4.5 J	MSD
L2506987	SW6010D	Dry	SB-06_9-11	L2506987-08	Lead	N	Yes	47.3	47.3 J	MSD
L2506987	SW6010D	Dry	SB-06_9-11	L2506987-08	Vanadium	N	Yes	9.85	9.85 J	MSD
L2506987	SW6010D	Dry	SB-07_0-0.16	L2506987-03	Antimony	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	SB-07_0-0.16	L2506987-03	Chromium	N	Yes	16.5	16.5 J	MSD
L2506987	SW6010D	Dry	SB-07_0-0.16	L2506987-03	Lead	N	Yes	109	109 J	MSD
L2506987	SW6010D	Dry	SB-07_0-0.16	L2506987-03	Vanadium	N	Yes	26.3	26.3 J	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,1,2,2-Tetrachloroethane	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,1,2-Trichloroethane	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,2,3-Trichlorobenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,2,3-Trichloropropane	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,2,4,5-Tetramethylbenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,2,4-Trichlorobenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,2,4-Trimethylbenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,2-Dibromo-3-chloropropane (DBCP)	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,2-Dichlorobenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,3,5-Trimethylbenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,3-Dichlorobenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,4-Dichlorobenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	1,4-Diethylbenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	2-Chlorotoluene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	2-Phenylbutane (sec-Butylbenzene)	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	4-Chlorotoluene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	4-Ethyltoluene (1-Ethyl-4-Methylbenzene)	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Acetone	N	Yes	7 J	7 J	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Bromobenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Chlorobenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Cymene (p-Isopropyltoluene)	N	Yes	0.25 J	0.25 J	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Ethylbenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Hexachlorobutadiene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Isopropylbenzene (Cumene)	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Naphthalene	N	Yes	2.3 J	2.3 J	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Styrene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Tetrachloroethene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Trichloroethene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	Vinyl acetate	N	Yes	U	R	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	m,p-Xylenes	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	n-Butylbenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	n-Propylbenzene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	o-Xylene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	tert-Butylbenzene	N	Yes	U	UJ	MSD

TABLE 9
SYSTEM PERFORMANCE SUMMARY
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SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	trans-1,3-Dichloropropene	N	Yes	U	UJ	MSD
L2506987	SW8260D	Dry	SB-07_0-0.16	L2506987-03	trans-1,4-Dichloro-2-butene	N	Yes	U	UJ	MSD
L2506987	SW8270E	Dry	SB-07_0-0.16	L2506987-03	2,4-Dinitrophenol	N	Yes	U	R	MSD
L2506987	SW8270E	Dry	SB-07_0-0.16	L2506987-03	4,6-Dinitro-2-methylphenol	N	Yes	U	R	MSD
L2506987	SW8270E	Dry	SB-07_0-0.16	L2506987-03	Benzoic acid	N	Yes	U	R	MSD
L2506987	SW8270E	Dry	SB-07_0-0.16	L2506987-03	Hexachlorocyclopentadiene	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	SB-07_11-13	L2506987-05	Antimony	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	SB-07_11-13	L2506987-05	Chromium	N	Yes	6.54	6.54 J	MSD
L2506987	SW6010D	Dry	SB-07_11-13	L2506987-05	Lead	N	Yes	6.57	6.57 J	MSD
L2506987	SW6010D	Dry	SB-07_11-13	L2506987-05	Vanadium	N	Yes	8.86	8.86 J	MSD
L2506987	SW6010D	Dry	SB-07_5-7	L2506987-04	Antimony	N	Yes	U	UJ	MSD
L2506987	SW6010D	Dry	SB-07_5-7	L2506987-04	Chromium	N	Yes	18.6	18.6 J	MSD
L2506987	SW6010D	Dry	SB-07_5-7	L2506987-04	Lead	N	Yes	177	177 J	MSD
L2506987	SW6010D	Dry	SB-07_5-7	L2506987-04	Vanadium	N	Yes	27.6	27.6 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Arsenic	N	Yes	4.84	4.84 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Barium	N	Yes	494	494 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Chromium	N	Yes	18.4	18.4 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Cobalt	N	Yes	5.89	5.89 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Copper	N	Yes	41.8	41.8 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Nickel	N	Yes	13.4	13.4 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Potassium	N	Yes	1130	1130 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Sodium	N	Yes	243	243 J	MSD
L2506469	SW6010D	Dry	SB-08_0-0.16	L2506469-15	Vanadium	N	Yes	29	29 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Arsenic	N	Yes	5.12	5.12 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Barium	N	Yes	731	731 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Chromium	N	Yes	12.6	12.6 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Cobalt	N	Yes	3.74	3.74 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Copper	N	Yes	13.8	13.8 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Nickel	N	Yes	8.26	8.26 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Potassium	N	Yes	848	848 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Sodium	N	Yes	728	728 J	MSD
L2506469	SW6010D	Dry	SB-08_11-13	L2506469-16	Vanadium	N	Yes	21.6	21.6 J	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Arsenic	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Barium	N	Yes	16.3	16.3 J	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Chromium	N	Yes	3.85	3.85 J	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Cobalt	N	Yes	1.98	1.98 J	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Copper	N	Yes	8.86	8.86 J	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Nickel	N	Yes	4.48	4.48 J	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Potassium	N	Yes	469	469 J	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Sodium	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-08_13-15	L2506469-17	Vanadium	N	Yes	6.28	6.28 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Arsenic	N	Yes	1.96	1.96 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Barium	N	Yes	131	131 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Chromium	N	Yes	10.5	10.5 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Cobalt	N	Yes	3.86	3.86 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Copper	N	Yes	19.3	19.3 J	MSD

TABLE 9
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SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Nickel	N	Yes	8.38	8.38 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Potassium	N	Yes	1230	1230 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Sodium	N	Yes	107 J	107 J	MSD
L2506469	SW6010D	Dry	SB-09_0-0.16	L2506469-18	Vanadium	N	Yes	14.4	14.4 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Arsenic	N	Yes	1.06	1.06 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Barium	N	Yes	42.7	42.7 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Chromium	N	Yes	7.87	7.87 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Cobalt	N	Yes	3.16	3.16 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Copper	N	Yes	25.2	25.2 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Nickel	N	Yes	8.97	8.97 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Potassium	N	Yes	1050	1050 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Sodium	N	Yes	108 J	108 J	MSD
L2506469	SW6010D	Dry	SB-09_11-13	L2506469-19	Vanadium	N	Yes	10.8	10.8 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Arsenic	N	Yes	0.459 J	0.459 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Barium	N	Yes	27.2	27.2 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Chromium	N	Yes	10.2	10.2 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Cobalt	N	Yes	8.29	8.29 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Copper	N	Yes	18.7	18.7 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Nickel	N	Yes	20.5	20.5 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Potassium	N	Yes	2030	2030 J	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Sodium	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-09_13-15	L2506469-20	Vanadium	N	Yes	15	15 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Arsenic	N	Yes	6.48	6.48 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Barium	N	Yes	384	384 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Chromium	N	Yes	15.3	15.3 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Cobalt	N	Yes	4.5	4.5 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Copper	N	Yes	38.9	38.9 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Nickel	N	Yes	13.9	13.9 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Potassium	N	Yes	1220	1220 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Sodium	N	Yes	197	197 J	MSD
L2506469	SW6010D	Dry	SB-10_0-0.16	L2506469-21	Vanadium	N	Yes	23.4	23.4 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Arsenic	N	Yes	0.594 J	0.594 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Barium	N	Yes	19.7	19.7 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Chromium	N	Yes	4.4	4.4 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Cobalt	N	Yes	2.9	2.9 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Copper	N	Yes	14.8	14.8 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Nickel	N	Yes	5.87	5.87 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Potassium	N	Yes	449	449 J	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Sodium	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-10_12-14	L2506469-23	Vanadium	N	Yes	7.53	7.53 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Antimony	N	Yes	U	UJ	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Arsenic	N	Yes	0.364 J	0.364 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Barium	N	Yes	37.6	37.6 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Chromium	N	Yes	10.1	10.1 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Cobalt	N	Yes	7.11	7.11 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Copper	N	Yes	39.8	39.8 J	MSD

TABLE 9
SYSTEM PERFORMANCE SUMMARY
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SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Nickel	N	Yes	9.42	9.42 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Potassium	N	Yes	1510	1510 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Sodium	N	Yes	87.6 J	87.6 J	MSD
L2506469	SW6010D	Dry	SB-10_8-10	L2506469-22	Vanadium	N	Yes	16.8	16.8 J	MSD
L2506469	SW8081B	Dry	DUP-01_20250205	L2506469-24	alpha-Chlordane (cis)	N	Yes	2.03 J	2.03 J	RPD
L2506469	SW8081B	Dry	DUP-01_20250205	L2506469-24	gamma-Chlordane (trans)	N	Yes	2.91	2.91 J	RPD
L2506692	SW8081B	Dry	SB-01_0-0.16	L2506692-02	Chlordane	N	Yes	115	115 J	RPD
L2506692	SW8081B	Dry	SB-01_0-0.16	L2506692-02	Heptachlor	N	Yes	0.862 J	0.862 J	RPD
L2506692	SW8081B	Dry	SB-01_0-0.16	L2506692-02	Heptachlor epoxide	N	Yes	2.87 J	2.87 J	RPD
L2506692	SW8081B	Dry	SB-01_0-0.16	L2506692-02	alpha-Chlordane (cis)	N	Yes	20.6	20.6 J	RPD
L2506469	SW8081B	Dry	SB-02_0-0.16	L2506469-03	4,4'-DDD	N	Yes	8.42	8.42 J	RPD
L2506469	SW8081B	Dry	SB-03_0-0.16	L2506469-06	Chlordane	N	Yes	106	106 J	RPD
L2506469	SW8081B	Dry	SB-03_13-15	L2506469-07	Chlordane	N	Yes	73.7	73.7 J	RPD
L2506469	SW8081B	Dry	SB-04_0-0.16	L2506469-09	4,4'-DDD	N	Yes	14.8	14.8 J	RPD
L2506469	SW8081B	Dry	SB-04_0-0.16	L2506469-09	4,4'-DDT	N	Yes	29	29 J	RPD
L2506469	SW8081B	Dry	SB-04_0-0.16	L2506469-09	Aldrin	N	Yes	0.88 J	0.88 J	RPD
L2506469	SW8081B	Dry	SB-04_0-0.16	L2506469-09	gamma-Chlordane (trans)	N	Yes	49.9	49.9 J	RPD
L2506469	SW8081B	Dry	SB-05_0-0.16	L2506469-12	4,4'-DDE	N	Yes	6.11	6.11 J	RPD
L2506469	SW8081B	Dry	SB-05_11-13	L2506469-14	gamma-Chlordane (trans)	N	Yes	0.819 J	0.819 J	RPD
L2506469	SW8081B	Dry	SB-05_8-10	L2506469-13	Chlordane	N	Yes	32.1	32.1 J	RPD
L2506987	SW8081B	Dry	SB-06_0-0.16	L2506987-06	Heptachlor	N	Yes	U	UJ	RPD
L2506987	SW8081B	Dry	SB-06_9-11	L2506987-08	alpha-Chlordane (cis)	N	Yes	6.6	6.6 J	RPD
L2506987	SW8081B	Dry	SB-06_9-11	L2506987-08	gamma-Chlordane (trans)	N	Yes	8.65	8.65 J	RPD
L2506987	SW8081B	Dry	SB-07_0-0.16	L2506987-03	4,4'-DDT	N	Yes	12.6	12.6 J	RPD
L2506987	SW8081B	Dry	SB-07_0-0.16	L2506987-03	Chlordane	N	Yes	23.4	23.4 J	RPD
L2506987	SW8081B	Dry	SB-07_0-0.16	L2506987-03	alpha-Chlordane (cis)	N	Yes	2.74	2.74 J	RPD
L2506987	SW8081B	Dry	SB-07_0-0.16	L2506987-03	gamma-Chlordane (trans)	N	Yes	3.34	3.34 J	RPD
L2506987	SW8081B	Dry	SB-07_5-7	L2506987-04	4,4'-DDT	N	Yes	21	21 J	RPD
L2506987	SW8081B	Dry	SB-07_5-7	L2506987-04	alpha-Chlordane (cis)	N	Yes	4.96	4.96 J	RPD
L2506469	SW8081B	Dry	SB-09_0-0.16	L2506469-18	4,4'-DDT	N	Yes	3.44	3.44 J	RPD
L2506469	SW8081B	Dry	SB-09_0-0.16	L2506469-18	gamma-Chlordane (trans)	N	Yes	2.13	2.13 J	RPD
L2506469	SW8081B	Dry	SB-09_11-13	L2506469-19	alpha-Chlordane (cis)	N	Yes	U	UJ	RPD
L2506469	SW8081B	Dry	SB-10_0-0.16	L2506469-21	4,4'-DDT	N	Yes	13.2	13.2 J	RPD
L2506469	SW8081B	Dry	SB-10_0-0.16	L2506469-21	Chlordane	N	Yes	100	100 J	RPD
L2506469	SW8081B	Dry	SB-10_0-0.16	L2506469-21	gamma-Chlordane (trans)	N	Yes	17	17 J	RPD
L2506469	SW8081B	Dry	SB-10_12-14	L2506469-23	gamma-Chlordane (trans)	N	Yes	U	UJ	RPD
L2508240	SW8270ESIM	NA	MW-03_20250213	L2508240-04	Fluorene	N	Yes	0.09 J	0.09 J+	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	1,2-Dichlorobenzene	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	1,3-Dichlorobenzene	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	1,4-Dichlorobenzene	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	2-Chlorophenol	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	2-Methylphenol (o-Cresol)	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	3&4-Methylphenol	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	Benzyl Alcohol	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	Hexachloroethane	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	N-Nitrosodi-n-propylamine	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	N-Nitrosodiphenylamine	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	Phenol	N	Yes	U	UJ	SUR
L2506469	SW8270E	Dry	SB-03_15-17	L2506469-08	bis(2-Chloroethyl)ether	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	1,2-Dichlorobenzene	N	Yes	U	UJ	SUR

TABLE 9
SYSTEM PERFORMANCE SUMMARY
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SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	1,3-Dichlorobenzene	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	1,4-Dichlorobenzene	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	2-Chlorophenol	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	2-Methylphenol (o-Cresol)	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	3&4-Methylphenol	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	Benzyl Alcohol	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	Hexachloroethane	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	N-Nitrosodi-n-propylamine	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	N-Nitrosodiphenylamine	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	Phenol	N	Yes	U	UJ	SUR
L2506987	SW8270E	Dry	SB-07_5-7	L2506987-04	bis(2-Chloroethyl)ether	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	1,1,1-Trichloroethane	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	1,1-Dichloroethane	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	1,1-Dichloroethene	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	1,1-Dichloropropene	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	1,2-Dichloroethane	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	1,2-Dichloroethene (total)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	2,2-Dichloropropane	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	2-Butanone (Methyl Ethyl Ketone)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Acrylonitrile	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Benzene	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Bromomethane (Methyl Bromide)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Carbon disulfide	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Carbon tetrachloride	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Chlorobromomethane	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Chloroethane	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Chloroform (Trichloromethane)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Chloromethane (Methyl Chloride)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Dichlorodifluoromethane (CFC-12)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Methyl Tert Butyl Ether (MTBE)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Methylene chloride (Dichloromethane)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Trichlorofluoromethane (CFC-11)	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Vinyl acetate	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	Vinyl chloride	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	cis-1,2-Dichloroethene	N	Yes	U	UJ	SUR
L2506692	SW8260D	Dry	SB-11_0-0.16	L2506692-05	trans-1,2-Dichloroethene	N	Yes	U	UJ	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4,5-Trichlorophenol	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4,6-Trichlorophenol	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dinitrophenol	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dinitrotoluene	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,6-Dinitrotoluene	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Chloronaphthalene	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Nitroaniline	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	3-Nitroaniline	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chlorophenyl phenyl ether	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Nitroaniline	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Nitrophenol	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acenaphthene	N	Yes	89 J	89 J-	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acenaphthylene	N	Yes	79 J	79 J-	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dibenzofuran	N	Yes	63 J	63 J-	SUR

TABLE 9
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SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Diethyl phthalate	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dimethyl phthalate	N	Yes	U	R	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Fluorene	N	Yes	110 J	110 J-	SUR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachlorocyclopentadiene	N	Yes	U	R	SUR
L2506469	SW8270E	Dry	SB-02_0-0.16	L2506469-03	Fluoranthene	N	No	9900	9900	VCD
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,2,4,5-Tetrachlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,2,4-Trichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,2-Dichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,3-Dichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,4-Dichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,4-Dioxane	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,2'-oxybis(1-Chloropropane)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4,5-Trichlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4,6-Trichlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dichlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dimethylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dinitrophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dinitrotoluene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,6-Dinitrotoluene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Chloronaphthalene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Chlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Methylnaphthalene	N	No	92 J	92	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Methylphenol (o-Cresol)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Nitroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Nitrophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	3&4-Methylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	3,3'-Dichlorobenzidine	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	3-Nitroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4,6-Dinitro-2-methylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Bromophenyl phenyl ether (BDE-3)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chloro-3-methylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chloroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chlorophenyl phenyl ether	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Nitroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Nitrophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acenaphthene	N	No	90 J	90	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acenaphthylene	N	No	59 J	59	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acetophenone	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Anthracene	N	No	210	210	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(a)anthracene	N	No	340	340	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(a)pyrene	N	No	290	290	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(b)fluoranthene	N	No	370	370	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(g,h,i)perylene	N	No	180	180	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(k)fluoranthene	N	No	120	120	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzoic acid	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzyl Alcohol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Biphenyl	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Butyl benzylphthalate (BBP)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Carbazole	N	No	55 J	55	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Chrysene	N	No	340	340	VCR

TABLE 9
SYSTEM PERFORMANCE SUMMARY
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NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Di-n-butylphthalate (DBP)	N	No	60 J	190.0 U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Di-n-octyl phthalate (DnOP)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dibenz(a,h)anthracene	N	No	43 J	43	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dibenzofuran	N	No	74 J	74	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Diethyl phthalate	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dimethyl phthalate	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Fluoranthene	N	No	820	820	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Fluorene	N	No	110 J	110	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachlorobutadiene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachlorocyclopentadiene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachloroethane	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Indeno(1,2,3-cd)pyrene	N	No	160	160	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Isophorone	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	N-Nitrosodi-n-propylamine	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	N-Nitrosodiphenylamine	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Naphthalene	N	No	160 J	160	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Nitrobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Pentachlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Phenanthrene	N	No	610	610	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Phenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Pyrene	N	No	690	690	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	bis(2-Chloroethoxy)methane	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	bis(2-Chloroethyl)ether	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	bis(2-Ethylhexyl)phthalate	N	No	U	U	VCR
L2506469	SW8270E	Dry	SB-02_0-0.16	L2506469-03	Fluoranthene	N	No	9900	9900	VCD
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dibenz(a,h)anthracene	N	No	43 J	43 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachlorocyclopentadiene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachloroethane	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Indeno(1,2,3-cd)pyrene	N	No	160	160	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Isophorone	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Naphthalene	N	No	160 J	160 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Nitrobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	N-Nitrosodi-n-propylamine	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	N-Nitrosodiphenylamine	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Pentachlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Phenanthrene	N	No	610	610	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Phenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Pyrene	N	No	690	690	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Di-n-octyl phthalate (DnOP)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dibenzofuran	N	No	74 J	74 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Dimethyl phthalate	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Diethyl phthalate	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Chrysene	N	No	340	340	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Carbazole	N	No	55 J	55 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	bis(2-Ethylhexyl)phthalate	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	bis(2-Chloroethyl)ether	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	bis(2-Chloroethoxy)methane	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzyl Alcohol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachlorobutadiene	N	No	U	U	VCR

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acenaphthylene	N	No	59 J	59 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(k)fluoranthene	N	No	120	120	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(g,h,i)perylene	N	No	180	180	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(b)fluoranthene	N	No	370	370	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(a)pyrene	N	No	290	290	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzo(a)anthracene	N	No	340	340	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Anthracene	N	No	210	210	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Benzoic acid	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Hexachlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,2-Dichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acetophenone	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	3&4-Methylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Nitrophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Methylnaphthalene	N	No	92 J	92 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Methylphenol (o-Cresol)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Nitroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chlorophenyl phenyl ether	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4,6-Trichlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chloroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Bromophenyl phenyl ether (BDE-3)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4,6-Dinitro-2-methylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	3-Nitroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	3,3'-Dichlorobenzidine	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Nitroaniline	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Biphenyl	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Chloro-3-methylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Fluorene	N	No	110 J	110 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Chloronaphthalene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,2,4-Trichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Butyl benzylphthalate (BBP)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Acenaphthene	N	No	90 J	90 J	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4,5-Trichlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,6-Dinitrotoluene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dinitrotoluene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dinitrophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,2,4,5-Tetrachlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dimethylphenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	4-Nitrophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,2'-oxybis(1-Chloropropane)	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2-Chlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,4-Dioxane	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,4-Dichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	1,3-Dichlorobenzene	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	2,4-Dichlorophenol	N	No	U	U	VCR
L2506692	SW8270E	Dry	SB-11_0-0.16	L2506692-05	Fluoranthene	N	No	820	820	VCR

Notes:

IDL = Isotope dilution (extraction internal standards for PFAS) outside the specified limits.
VCR = Validator's choice of reanalysis.
RPD = Pesticides or PCB confirmation column RPD Exceeded.

TABLE 9
SYSTEM PERFORMANCE SUMMARY
180 EAST 125TH STREET
NEW YORK, NEW YORK

SDG	Method	Basis	Sample ID	Lab ID	Analyte	Fraction	Reportable Result	Reported Result	Validated Result	Reason for Qualifier

LCS = Laboratory control/laboratory control spike duplicate percent recoveries or relative percent difference were outside the specified limits.
MSD = Matrix spike/matrix spike duplicate percent recoveries or relative percent difference were outside the specified limits.
SUR = Surrogate percent recovery outside the specified limits.
VCD = Validator's choice of dilution.
FDP = Field duplicate qualifier due to an exceedance of the specified limits.
FBK = Field blank contamination.
MBK = Method blank contamination.
J+ = The result is an estimated quantity, but the result may be biased high.
U = The compound was analyzed for but not detected.
R = The sample results were rejected as unusable; the compound may or may not be present in the sample.
UJ = The compound was not detected. The reported sample quantitation limit is approximate.
J- = The result is an estimated quantity, but the result may be biased low.
J = Estimated concentration.
N = NA = Not applicable.
T = Total.
D = Dissolved.

ATTACHMENT A
Pace Analytical 8260B Analyte List, Characteristic Mass and Associated Internal Standards

Analyte	CAS Number	Primary Ion	Secondary Ion (s)	Internal Standard used for Quantitation
Dichlorodifluoromethane	75-71-8	85	87	1
Chloromethane	74-87-3	50	52	1
Vinyl Chloride	75-01-4	62	64	1
Bromomethane	74-83-9	94	96	1
Chloroethane	75-00-3	64	66	1
Trichlorofluoromethane	75-69-4	101	103	1
Dichlorofluoromethane	75-43-4	67	69	1
Diethyl Ether	60-29-7	59	45, 74	1
Ethanol	64-17-5	45	46	4
1,1-Dichloroethene	75-35-4	96	61, 63	1
Carbon Disulfide	75-15-0	76	78	1
Trichlorotrifluoroethane	76-13-1	101	151, 103	1
Iodomethane	74-88-4	142	127,141	1
Acrolein	107-2-8	56	55	1
Allyl Chloride	107-05-1	41	76,39	1
Acetone d6 (IS#2)	**666-52-4**	**46**	**64**	
Isopropanol (2-Propanol)	67-63-0	45	43	4
Methylene Chloride	75-09-2	84	86	1
Acetone	67-64-1	58	43	2
trans-1,2-Dichloroethene	156-60-5	96	61,98	1
Methyl Acetate	79-20-9	74	43	
Hexane (n-Hexane)	110-54-3	86	57,56	2
Methyl-tert-butyl Ether	1634-04-4	87	57	1
Tert Butyl Alcohol (2-Methyl-2-propanol) (TBA)	75-65-0	59	41	4
Acetonitrile	75-05-8	41	40,39	1
Isopropyl Ether (Diisopropyl ether)	108-20-3	45	87,59	1

Chloroprene	126-99-8	53	88,90	1
1,1-Dichloroethane	75-34-3	63	65, 83	1
Acrylonitrile	107-13-1	53	52,51	1
ethyl tert-butyl ether	637-92-3	59	87	1
Vinyl Acetate	108-05-4	43	86	1
cis-1,2-Dichloroethene	156-59-2	96	61,98	1
2,2-Dichloropropane	594-20-7	77	97	1
Cyclohexane	110-82-7	56	84,41	1
Bromochloromethane	74-97-5	130	49, 128	1
Chloroform	67-66-3	83	85	1
Carbon Tetrachloride	56-23-5	117	119	1
Tetrahydrofuran	109-99-9	72	71,42	2
Ethyl acetate	141-78-6	43	61,70	1
1,1,1-Trichloroethane	71-55-6	97	99,61	1
Dibromofluoromethane (S)	***1868-53-7***	***113***		***1***
Sec-Butyl alcohol	78-92-2	45	59	4
1,1-Dichloropropene	563-58-6	75	110,77	1
2-Butanone (MEK)	78-93-3	43	72	1
2,2,4-trimethylpentane	540-84-1	57	56	1
Benzene	71-43-2	78	77	1
Propionitrile	107-12-0	54	55,52	1
Methacrylonitrile	126-98-7	41	67,39	1
Pentafluorobenzene (IS#1)	**363-72-4**	**168**		
tert-amyl methyl ether	994-05-8	73	87,55	1
1,2 Dichloroethane d4 (S)	***17060-07-0***	***65***	***67,51***	***1***
1,2-Dichloroethane	107-06-2	62	98	1
Isobutanol	78-83-1	43	41,42	4
tert-amyl alcohol	75-85-4	59	73,55	4

methylcylohexane	108-72-2	98	83,55	1
Trichloroethene	79-01-6	130	95, 132	3
1,4 Difluorobenzene (IS #3)	**540-36-3**	**114**		
Tert-amyl ethyl ether	919-94-8	59	87, 73	3
Dibromomethane	74-95-3	174	95,93	3
n-Butanol	71-36-3	56	41,43	4
1,2-Dichloropropane	78-87-5	63	112	3
Bromodichloromethane	75-27-4	83	85,127	3
Ethyl Acrylate	140-88-5	55	56	3
1,4 Dioxane-d8 (IS #4)	**17647-74-4**	**96**	**64**	
1,4-Dioxane	123-91-1	88	58,57	4
Methyl Methacrylate	80-62-6	69	41,100	3
3-Pentanone	96-22-0	57	86	3
2-Chloroethyl Vinyl Ether	110-75-8	63	106, 65	3
cis-1,3-Dichloropropene	10061-01-5	75	77, 39	3
Toluene d8 (S)	**2037-26-5**	**98**	**100**	**5**
Toluene	108-88-3	92	91	5
2-Nitropropane	79-46-9	43	41, 39	5
Tetrachloroethene	127-18-4	166	168, 129	5
4-Methyl-2-Pentanone (MIBK)	108-10-1	43	58, 85	5
trans-1,3-Dichloropropene	10061-02-6	75	77,39	5
1,1,2-Trichloroethane	79-00-5	97	83, 85	5
4-Methyl-2-pentanol	108-11-2	45	69,87	4
Ethyl Methacrylate	97-63-2	69	41,99	5
Dibromochloromethane	124-48-1	129	127	5
1,3-Dichloropropane	142-28-9	76	78	5
1,2-Dibromoethane	106-93-4	107	109, 188	5
2-Hexanone	591-78-6	43	58, 57	5

Chlorobenzene d5 (IS#5)	**3114-55-4**	**117**		
Chlorobenzene	108-90-7	112	77, 114	5
Ethylbenzene	100-41-4	91	106	5
1,1,1,2-Tetrachloroethane	630-20-6	131	133, 119	5
m&p-Xylene	7816-60-0	106	91	5
o-Xylene	95-47-6	106	91	5
Bromoform	75-25-2	173	175,254	5
Styrene	100-42-5	104	78	5
Isopropyl benzene (Cumene)	98-82-8	105	120	5
4-Bromofluorobenzene (BFB) (S)	***460-00-4***	***95***		***6***
Bromobenzene	108-86-1	156	77,158	6
Cis-1,4-Dichloro-2-butene	1476-11-5	53	77, 75	6
n-Propylbenzene	103-65-1	91	120	6
1,1,2,2-Tetrachloroethane	79-34-5	83	131, 85	6
2-Chlorotoluene	95-49-8	91	126	6
1,2,3-Trichloropropane	96-18-4	110	75, 112	6
1,3,5-Trimethylbenzene	108-67-8	105	120	6
Trans-1,4-Dichloro-2-butene	110-57-6	53	88, 75	6
4-Chlorotoluene	106-43-4	91	126	6
tert-Butylbenzene	98-06-6	119	91,134	6
1,2,4-Trimethylbenzene	95-63-6	105	120	6
sec-Butylbenzene	135-98-8	105	134	6
p-Isopropyltoluene	99-87-6	119	134, 91	6
1,3-Dichlorobenzene	541-73-1	146	111, 148	6
1,4-Dichlorobenzene-d4 (IS#6)	**3855-82-0**	**152**		
1,4-Dichlorobenzene	106-46-7	146	111, 148	6
1,2,3-Trimethylbenzene	526-73-8	105	120	1
n-Butylbenzene	104-51-8	91	92, 134	6

1,2-Dichlorobenzene	95-50-1	146	111, 148	6
1,2-Dibromo-3-chloropropane	96-12-8	75	155,157	6
Hexachloro-1,3-butadiene	87-68-3	225	227,223	6
1,2,4-Trichlorobenzene	120-82-1	180	182, 145	6
Naphthalene	91-20-3	128		6
1,2,3-Trichlorobenzene	87-61-6	180	182, 145	6
2-Methylnaphthalene	91-57-6	142	141	6
Xylene (total)	1330-20-7	NA	NA	5
1,2-Dichloroethene (total)	540-59-0	NA	NA	1
BTEX (total)	N/A	NA	NA	1,5
Total 1,3-Dichloropropene	NA	NA	NA	3,5

Note: Hexane uses 86 as the primary ion due to co-elution with MTBE.

ATTACHMENT B
Pace Analytical 8270 Characteristic Ions and Internal Standards Associations

Analyte	Primary Ion	Secondary Ion (s)	Internal Standard used for Quantitation
N-nitrosodimethylamine	74	42, 44	1
Pyridine	79	52	1
2-Fluorophenol (S)	***112***	***64***	***1***
Phenol-d6 (S)	***99***	***71, 42***	***1***
Phenol	94	66, 65	1
bis(2-Chloroethyl) ether	63	93, 95,	1
2-Chlorophenol	128	64, 130	1
1,3-Dichlorobenzene	146	148, 111	1
1-4-Dichlorobenzene-d4 (IS #1)	**152**	**150, 115**	
1,4-Dichlorobenzene	146	148, 111	1
Benzyl Alcohol	79	108, 77	1
1,2-Dichlorobenzene	146	148, 111	1
2-Methylphenol	107	108, 77	1
bis-(2-Chloroisopropyl) ether	45	77, 121	1
N-Nitroso-di-n-propylamine	70	42, 101, 130	1
3&4-Methylphenol	107	108, 77	1
Hexachloroethane	117	201, 199	1
Nitrobenzene-d5 (S)	***82***	***54***	***2***
Nitrobenzene	77	123, 65	2
Isophorone	82	138, 95	2
2-Nitrophenol	139	65, 109	2
2,4-Dimethylphenol	107	122, 121	2
bis(2-Chloroethoxy)methane	93	95, 123	2

Benzoic Acid	105	102, 77	2
2,4-Dichlorophenol	162	164, 98	2
1,2,4-Trichlorobenzene	180	182, 145	2
Naphthalene-d8 (IS #2)	**136**	**68**	
Naphthalene	128	129, 127	2
4-Chloroaniline	127	129, 65	2
Hexachlorobutadiene	225	223, 227	2
4-Chloro-3-methylphenol	107	142, 144	2
2-Methylnaphthalene	142	141	2
1-Methylnaphthalene	142	141	2
Hexachlorocyclopentadiene	237	235, 272	3
2,4,6-Trichlorophenol	196	198, 200	3
2,4,5-Trichlorophenol	196	198, 97	3
2-Fluorobiphenyl (S)	***172***		***3***
2-Chloronaphthalene	162	127, 164	3
2-Nitroaniline	65	138, 92	3
Dimethylphthalate	163	194, 164	3
2,6-Dinitrotoluene	165	63, 89	3
Acenaphthene-d10 (IS #3)	**164**	**162, 160**	
Acenaphthylene	152	151, 153	3
3-Nitroaniline	138	92, 108	3
Acenaphthene	154	152, 153	3
2,4-Dinitrophenol	184	63, 154	3
4-Nitrophenol	65	109, 139	3

Dibenzofuran	168	139	3
2,4-Dinitrotoluene	165	89, 63	3
Diethylphthalate	149	177, 150	3
4-Chlorophenyl phenyl ether	204	206, 141	3
Fluorene	166	165, 167	3
4-Nitroaniline	138	65, 108	3
4,6-Dinitro-2-methylphenol	198	51, 105	4
N-nitrosodiphenylamine	169	168, 167	4
1,2 Diphenylhydrazine	77		3
2,4,6-Tribromophenol (S)	***330***	***332, 141***	***3***
4-Bromophenyl phenyl ether	248	250, 141	4
Hexachlorobenzene	284	142, 249	4
Pentachlorophenol	266	264, 268	4
Phenanthrene-d10 (IS #4)	**188**	**94, 80**	
Phenanthrene	178	179, 176	4
Anthracene	178	176, 179	4
Carbazole	167	166	4
Di-n-butylphthalate	149	150, 104	4
Fluoranthene	202	101, 203	4
Benzidine	184	92	5
Pyrene	202	200, 203	5
Terphenyl-d14 (S)	***244***	***122, 212***	***5***
Butyl benzyl phthalate	149	91, 206	5
bis-(2-ethylhexyl)phthalate	149	167, 279	5

3,3'-Dichlorobenzidine	252	254, 126	5
Benzo(a)anthracene	228	229, 226	5
Chrysene-d12 (IS #5)	**240**	**120, 236**	
Chrysene	228	226, 229	5
Di-n-octyl phthalate	149	167, 43	5
Benzo(b)fluoranthene	252	253, 125	6
Benzo(k)fluoranthene	252	253, 125	6
Benzo(a)pyrene	252	253, 125	6
Perylene-d12 (IS #6)	**264**	**260, 265**	
Indeno(1,2,3-cd)pyrene	276	138, 277	6
Dibenz(a,h)anthracene	278	279, 139	6
Benzo(g,h,i)perylene	276	138, 277	6

APPENDIX J
Daily Reports

DAILY FIELD REPORT

Project	180 East 125th Street Development Site	**Report No.**	1
BCP Site	BCP Site No. C231160	**Date**	02/05/2025
Location	180 East 125th Street, New York, New York	**File No.**	0209815
Client	180 E125th Realty LLC	**Temperature**	24-35°F
Contractor	Ground Penetrating Radar Systems, LLC (GPRS), Lakewood Environmental Services Corp. (Lakewood)	**Wind Direction**	SE to NW
Weather	Partly Cloudy	**Personnel on Site**	J. Mastro, C. Jackson
Humidity	53%	**Time on Site**	6:30-17:30

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) was present to document implementation of the NYSDEC-approved January 2025 Remedial Investigation Work Plan (RIWP) prepared by Haley & Aldrich of New York. Site observations are summarized below.

Daily Observations:

- GPRS completed a Site-wide GPR survey and cleared soil boring locations.
- Lakewood mobilized a Geoprobe™ 6610DT drilling rig to the Site.
- Lakewood completed installation of five soil borings (SB-03, SB-04, SB-05, SB-09, and SB-10) to a depth of 20 feet below ground surface (ft bgs), one soil boring (SB-02) to a depth of 19 ft bgs, and one soil boring (SB-08) to a depth of 15 ft bgs and collected soil samples in accordance with the RIWP.

Samples Collected:

- Soil samples were collected from SB-02, SB-03, SB-04, SB-05, SB-08, SB-09, and SB-10 in accordance with the RIWP.
- All samples were submitted on ice in a cooler via courier to Alpha Analytical Laboratories, Inc. in Westborough, MA for analyses in accordance with the RIWP.

CAMP Activities:

- Air monitoring was performed at two locations during ground-intrusive work from 9:00 am to 4:00 pm. No 15-minute average concentrations of volatile organic compounds (VOCs) or particulate 15-minute average concentration of matter smaller than 10 microns in diameter (PM10) exceeded the action levels.
- No visible dust or odors were observed leaving the Site.

Activities Planned for Coming Week:

- Haley & Aldrich of New York and Lakewood will continue to implement the Remedial Investigation, including installation of soil borings, monitoring wells, and soil vapor points.

DAILY FIELD REPORT

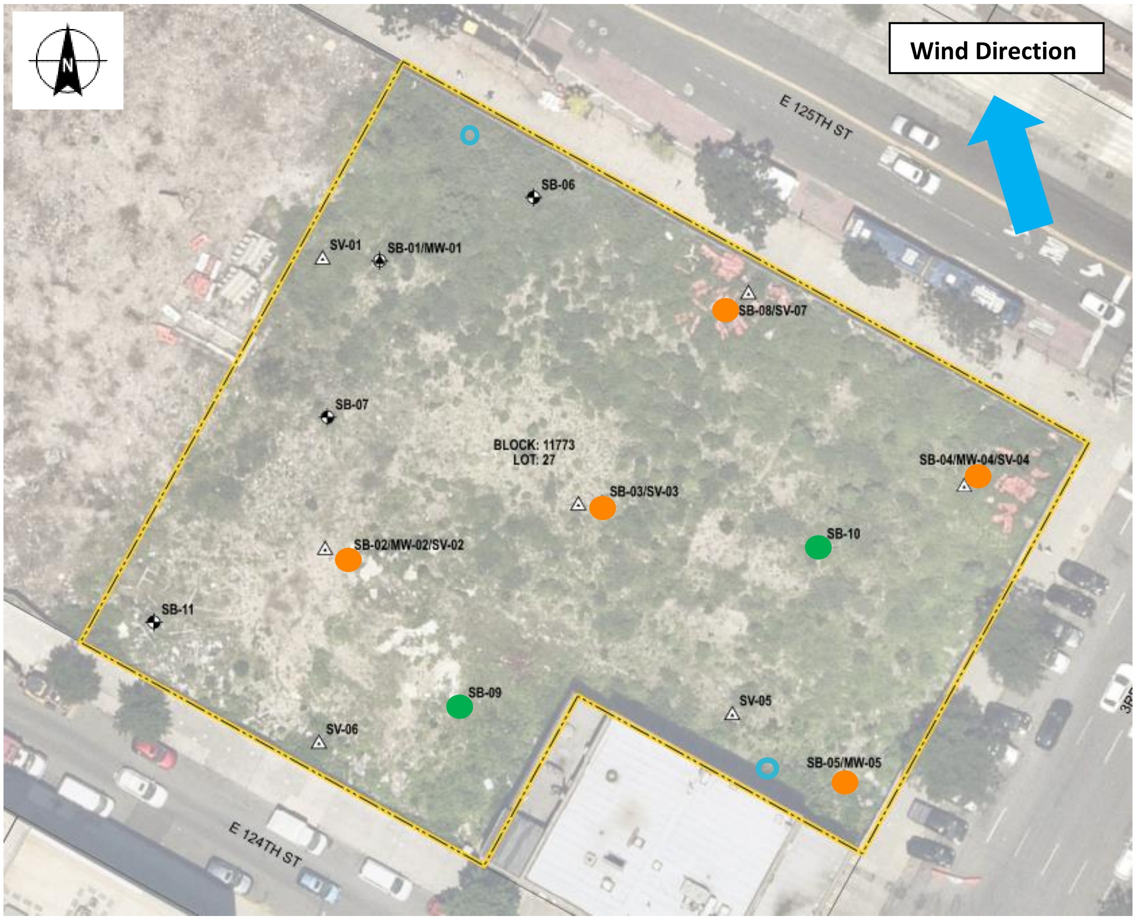
Site Photographs:

Photo 1: View of contractor installing soil boring SB-09, facing southwest

Photo 2: View of Site conditions, facing northwest

DAILY FIELD REPORT

Site Plan:



LEGEND:

- CAMP Station
- In Progress
- Complete

Air Monitoring Log

Date: 2/5/2025

Personnel: J. Mastro, C.Jackson

Weather: 24-35 °F, Partly Cloudy

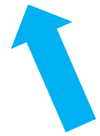
Humidity: 53%

Wind Direction: SE to NW

Particulate Background (mcg/m3): 0.004

PID Background (ppm): 0

Site Map:



Wind Direction

Upwind

Dustrak #:

Downwind

Dustrak #:

	Particulate		VOCs			Notes
	Upwind	Downwind	Upwind	Downwind		
Time	Dust (mcg/m3)	Dust (mcg/m3)	PID (ppm)	PID (ppm)	Odors (y/n)	Activities/Additional Monitoring
630						
645						
700						
715						
730						
745						
800						
815						
830						
845						
900	0.004	0.004	0	0	N	Installation of borings
915	0.005	0.004	0	0	N	Installation of borings
930	0.004	0.003	0	0	N	Installation of borings
945	0.006	0.003	0	0	N	Installation of borings
1000	0.003	0.003	0	0	N	Installation of borings
1015	0.003	0.002	0	0	N	Installation of borings
1030	0.002	0.004	0	0	N	Installation of borings
1045	0.008	0.004	0	0	N	Installation of borings

Air Monitoring Log

Time	Upwind Dust (mcg/m3)	Downwind Dust (mcg/m3)	Upwind PID (ppm)	Downwind PID (ppm)	Odors (y/n)	Notes Activities/Additional Monitoring
1100	0.002	0.005	0	0	N	Installation of borings
1115	0.002	0.006	0	0	N	Installation of borings
1130	0.005	0.004	0	0	N	Installation of borings
1145	0.004	0.004	0	0	N	Installation of borings
1200	0.006	0.002	0	0	N	Installation of borings
1215	0.004	0.001	0	0	N	Installation of borings
1230	0.005	0.006	0	0	N	Installation of borings
1245	0.011	0.006	0	0	N	Installation of borings
1300	0.003	0.003	0	0	N	Installation of borings
1315	0.004	0.004	0	0	N	Installation of borings
1330	0.008	0.003	0	0	N	Installation of borings
1345	0.007	0.004	0	0	N	Installation of borings
1400	0.009	0.004	0	0	N	Installation of borings
1430	0.003	0.004	0	0	N	Installation of borings
1445	0.004	0.003	0	0	N	Installation of borings
1500	0.005	0.008	0	0	N	Installation of borings
1515	0.012	0.003	0	0	N	Installation of borings
1530	0.008	0.007	0	0	N	Installation of borings
1545	0.004	0.003	0	0	N	Installation of borings
1600	0.002	0.002	0	0	N	Installation of borings
1615						
1630						
1645						
1700						
1715						
1730						
1745						
1800						
1815						
1830						
1845						
1900						

DAILY FIELD REPORT

Project	180 East 125th Street Development Site	Report No.	2
BCP Site	BCP Site No. C231160	Date	02/06/2025
Location	180 East 125th Street, New York, New York	File No.	0209815
Client	180 E125th Realty LLC	Temperature	31-36°F
Contractor	Lakewood Environmental Services Corp. (Lakewood)	Wind Direction	SE to NW
Weather	Snow, Rain	Personnel on Site	J. Mastro, C. Jackson
Humidity	91%	Time on Site	6:30-14:00

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) was present to document implementation of the NYSDEC-approved January 2025 Remedial Investigation Work Plan (RIWP) prepared by Haley & Aldrich of New York. Site observations are summarized below.

Daily Observations

- Lakewood completed installation of one soil boring (SB-01) to a depth of 20 feet below ground surface (ft bgs), one soil boring (SB-11) to a depth of 15 ft bgs, and collected soil samples in accordance with the RIWP.
- Lakewood completed the installation and development of five permanent groundwater monitoring wells (MW-01, MW-02, MW-03, MW-04, MW-05) in accordance with the RIWP.

Samples Collected:

- Soil samples were collected from SB-01 and SB-11, in accordance with the RIWP.
- All samples were submitted on ice in a cooler via courier to Alpha Analytical Laboratories, Inc. in Westborough, MA for analyses in accordance with the RIWP.

CAMP Activities:

- Air monitoring was performed at two locations during ground-intrusive work from 7:00 am to 1:30 pm. No 15-minute average concentrations of volatile organic compounds (VOCs) or particulate 15-minute average concentration of matter smaller than 10 microns in diameter (PM10) exceeded the action levels.
- No visible dust or odors were observed leaving the Site.

Activities Planned for Coming Week:

- Haley & Aldrich of New York and Lakewood will continue to implement the Remedial Investigation, including installation of soil borings, and soil vapor points.

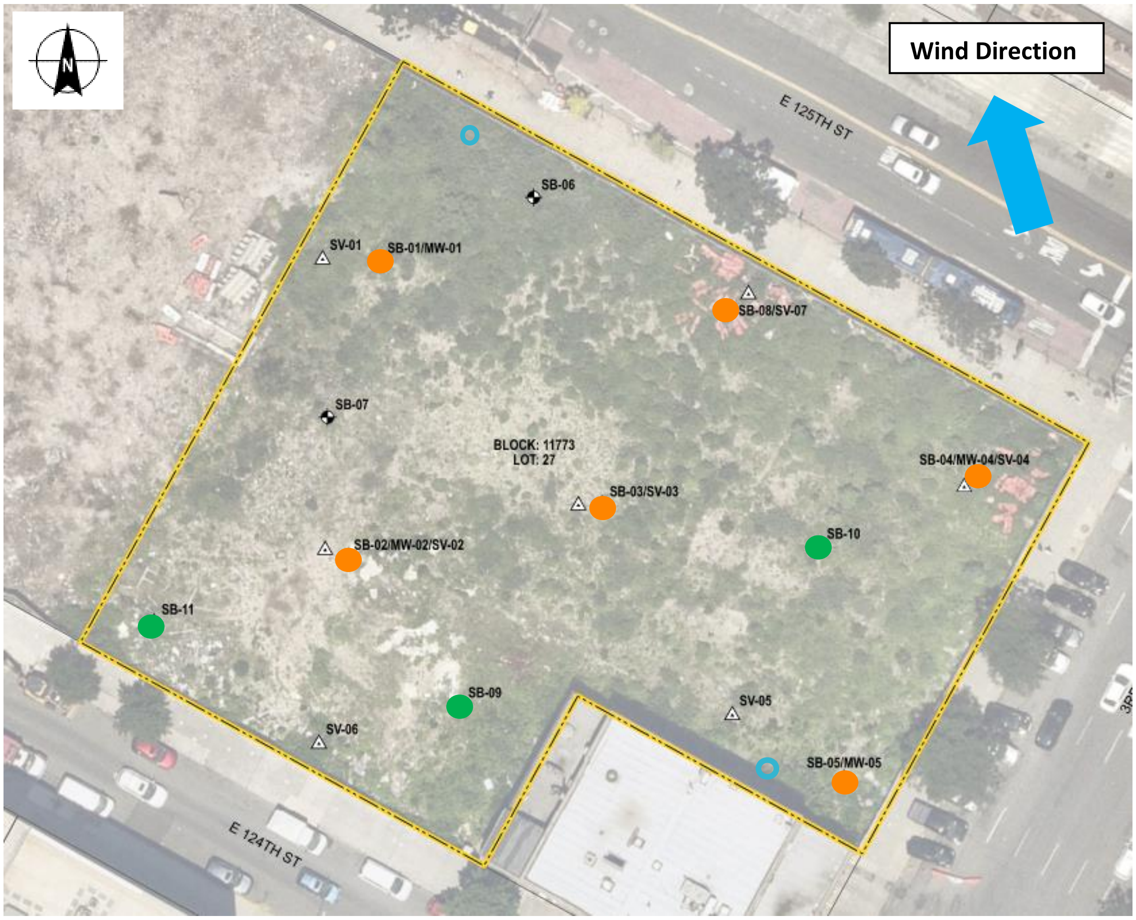
Site Photographs:

Photo 1: View of contractor installing soil boring SB-11, facing southwest.

Photo 2: View of site conditions facing northwest.

DAILY FIELD REPORT

Site Plan:



LEGEND:

- CAMP Station
- In Progress
- Complete

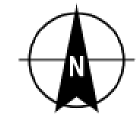
Air Monitoring Log

Date: 2/6/2025
Personnel: J. Mastro, C.Jackson
Weather: 31-36 °F, Snowy/Rainy
Humidity: 91%
Wind Direction: NW to SE

Particulate Background (mcg/m3): 0.014
PID Background (ppm): 0

Site Map:

Wind Direction



Upwind
Dustrak #:
Downwind
Dustrak #:

	Particulate		VOCs			Notes
	Upwind	**Downwind**	**Upwind**	**Downwind**		
Time	Dust (mcg/m3)	Dust (mcg/m3)	PID (ppm)	PID (ppm)	Odors (y/n)	Activities/Additional Monitoring
630						
645						
700						
715						
730	0.014	0.011	0	0	N	Installation of borings
745	0.009	0.004	0	0	N	Installation of borings
800	0.01	0.007	0	0	N	Installation of borings
815	0.009	0.003	0	0	N	Installation of borings
830	0.019	0.01	0	0	N	Installation of borings
845	0.006	0.008	0	0	N	Installation of borings
900	0.004	0.004	0	0	N	Installation of borings
915	0.007	0.004	0	0	N	Installation of borings
930	0.004	0.003	0	0	N	Installation of borings
945	0.011	0.006	0	0	N	Installation of borings
1000	0.009	0.005	0	0	N	Installation of borings
1015	0.008	0.007	0	0	N	Installation of borings
1030	0.009	0.003	0	0	N	Installation of borings
1045	0.006	0.006	0	0	N	Installation of borings

Air Monitoring Log

Time	Upwind Dust (mcg/m3)	Downwind Dust (mcg/m3)	Upwind PID (ppm)	Downwind PID (ppm)	Odors (y/n)	Notes Activities/Additional Monitoring
1100	0.004	0.009	0	0	N	Installation of borings
1115	0.012	0.005	0	0	N	Installation of borings
1130	0.008	0.004	0	0	N	Installation of borings
1145	0.003	0.004	0	0	N	Installation of borings
1200	0.005	0.003	0	0	N	Installation of borings
1215	0.008	0.007	0	0	N	Installation of borings
1230	0.007	0.007	0	0	N	Installation of borings
1245	0.008	0.003	0	0	N	Installation of borings
1300	0.006	0.005	0	0	N	Installation of borings
1315	0.004	0.004	0	0	N	Installation of borings
1330	0.004	0.003	0	0	N	Installation of borings
1345						
1400						
1430						
1445						
1500						
1515						
1530						
1545						
1600						
1615						
1630						
1645						
1700						
1715						
1730						
1745						
1800						
1815						
1830						
1845						
1900						

DAILY FIELD REPORT

Project	180 East 125th Street Development Site	**Report No.**	3
BCP Site	BCP Site No. C231160	**Date**	02/07/2025
Location	180 East 125th Street, New York, New York	**File No.**	0209815
Client	180 E125th Realty LLC	**Temperature**	31-38°F
Contractor	Lakewood Environmental Services Corp. (Lakewood)	**Wind Direction**	NW to SE
Weather	Sunny	**Personnel on Site**	J. Mastro, C. Jackson
Humidity	51%	**Time on Site**	6:30-14:15

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) was present to document implementation of the NYSDEC-approved January 2025 Remedial Investigation Work Plan (RIWP) prepared by Haley & Aldrich of New York. Site observations are summarized below.

Daily Observations

- Lakewood completed installation of two soil boring (SB-06, SB-07) to a depth of 20 feet below ground surface (ft bgs) and collected soil samples in accordance with the RIWP.
- Lakewood completed the installation of seven soil vapor points (SV-01, SV-02, SV-03, SV-04, SV-05, SV-06, SV-07) to a depth of 12 feet below ground surface (ft bgs) and collected soil vapor samples in accordance with the RIWP.

Samples Collected:

- Soil samples were collected from SB-06 and SB-07, in accordance with the RIWP.
- All samples were submitted on ice in a cooler via courier to Alpha Analytical Laboratories, Inc. in Westborough, MA for analyses in accordance with the RIWP.
- Soil vapor samples were collected from SV-01, SV-02, SV-04, SV-05, SV-06, and SV-07, in accordance with the RIWP.
- All samples were submitted via courier to Eurofins TestAmerica, in South Burlington, VT in accordance with the RIWP.

CAMP Activities:

- Air monitoring was performed at two locations during ground-intrusive work from 7:30 am to 12:00 pm. No 15-minute average concentrations of volatile organic compounds (VOCs) or particulate 15-minute average concentration of matter smaller than 10 microns in diameter (PM10) exceeded the action levels.
- No visible dust or odors were observed leaving the Site.

Activities Planned for Coming Week:

- Haley & Aldrich of New York will continue to implement the Remedial Investigation, including sampling groundwater, and soil vapor points.

DAILY FIELD REPORT

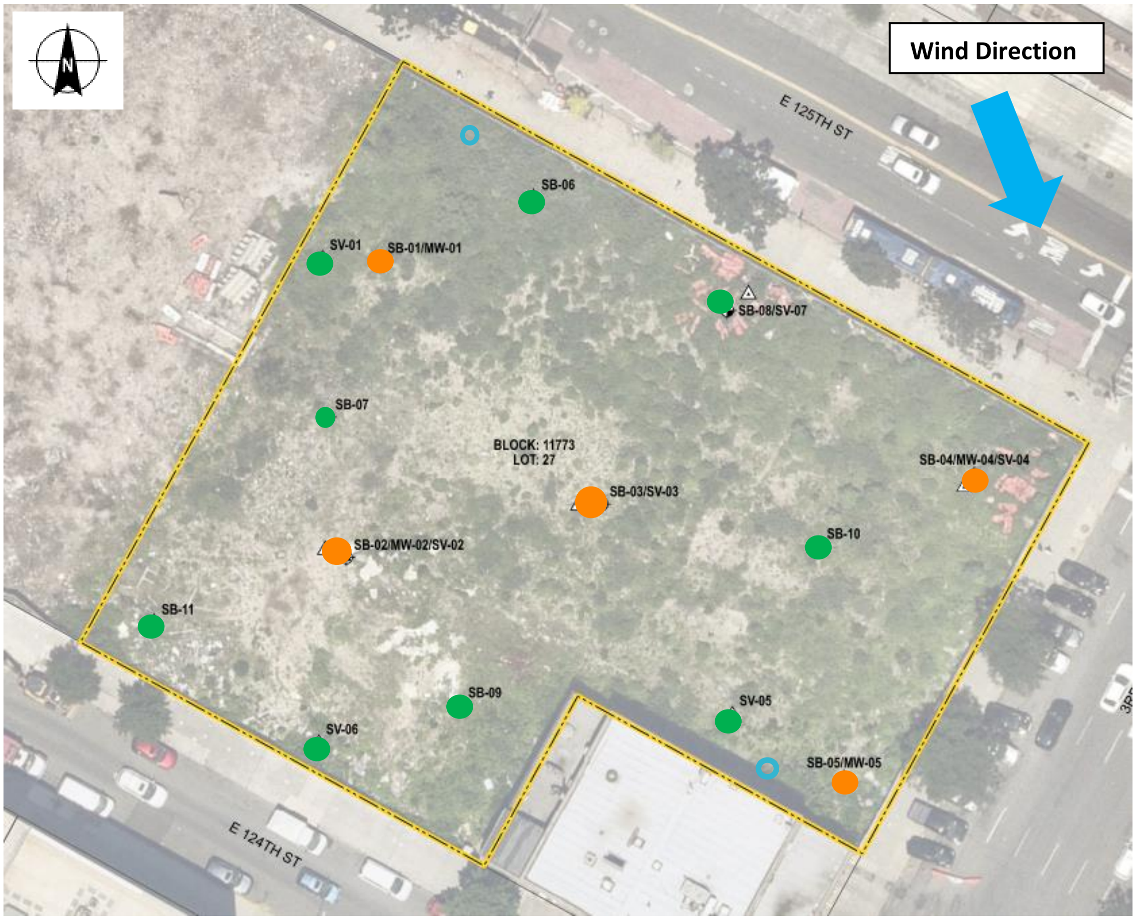
Site Photographs:

Photo 1: *View of MW-04 and SV-04, facing northwest.*

Photo 2: *View of site conditions facing northwest.*

DAILY FIELD REPORT

Site Plan:



LEGEND:

- CAMP Station
- In Progress
- Complete

Air Monitoring Log

Date: 2/7/2025
Personnel: J. Mastro, C.Jackson
Weather: 31-38 °F, Partly Cloudy
Humidity: 51%
Wind Direction: NW to SE

Particulate Background (mcg/m3): 0.009
PID Background (ppm): 0

Site Map:

Wind Direction

Upwind
Dustrak #:
Downwind
Dustrak #:

	Particulate		VOCs			Notes
	Upwind	Downwind	Upwind	Downwind		
Time	Dust (mcg/m3)	Dust (mcg/m3)	PID (ppm)	PID (ppm)	Odors (y/n)	Activities/Additional Monitoring
630						
645						
700						
715						
730	0.009	0.006	0	0	N	Installation of borings
745	0.008	0.008	0	0	N	Installation of borings
800	0.01	0.011	0	0	N	Installation of borings
815	0.007	0.008	0	0	N	Installation of borings
830	0.009	0.007	0	0	N	Installation of borings
845	0.009	0.005	0	0	N	Installation of borings
900	0.012	0.009	0	0	N	Installation of borings
915	0.011	0.009	0	0	N	Installation of borings
930	0.008	0.006	0	0	N	Installation of borings
945	0.008	0.008	0	0	N	Installation of borings
1000	0.013	0.007	0	0	N	Installation of borings
1015	0.009	0.009	0	0	N	Installation of borings
1030	0.009	0.006	0	0	N	Installation of borings
1045	0.01	0.009	0	0	N	Installation of borings

Air Monitoring Log

Time	Upwind Dust (mcg/m3)	Downwind Dust (mcg/m3)	Upwind PID (ppm)	Downwind PID (ppm)	Odors (y/n)	Notes Activities/Additional Monitoring
1100	0.008	0.006	0	0	N	Installation of borings
1115	0.011	0.007	0	0	N	Installation of borings
1130	0.009	0.007	0	0	N	Installation of borings
1145	0.012	0.006	0	0	N	Installation of borings
1200	0.007	0.006	0	0	N	Installation of borings
1215						
1230						
1245						
1300						
1315						
1330						
1345						
1400						
1430						
1445						
1500						
1515						
1530						
1545						
1600						
1615						
1630						
1645						
1700						
1715						
1730						
1745						
1800						
1815						
1830						
1845						
1900						

DAILY FIELD REPORT

Project	180 East 125th Street Development Site	**Report No.**	4
BCP Site	BCP Site No. C231160	**Date**	02/12/2025
Location	180 East 125th Street, New York, New York	**File No.**	0209815
Client	180 E125th Realty LLC	**Temperature**	31-33°F
Contractor	N/A	**Wind Direction**	NE to SW
Weather	Cloudy	**Personnel on Site**	C. Jackson
Humidity	86%	**Time on Site**	7:45-11:30

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) was present to document implementation of the NYSDEC-approved January 2025 Remedial Investigation Work Plan (RIWP) prepared by Haley & Aldrich of New York. Site observations are summarized below.

Daily Observations

- Haley & Aldrich of New York was on site to complete soil vapor sampling in accordance with the RIWP.

Samples Collected:

- One soil vapor sample was collected from SV-03, in accordance with the RIWP.
- The sample was submitted via courier to Eurofins TestAmerica, in South Burlington, VT in accordance with the RIWP.

CAMP Activities:

- No ground intrusive activities took place today. Haley & Aldrich departed site at 11:30 after soil vapor samples were relinquished to the courier.

Activities Planned for Coming Week:

- Haley & Aldrich of New York will continue to implement the Remedial Investigation, including sampling groundwater.

Site Photographs:

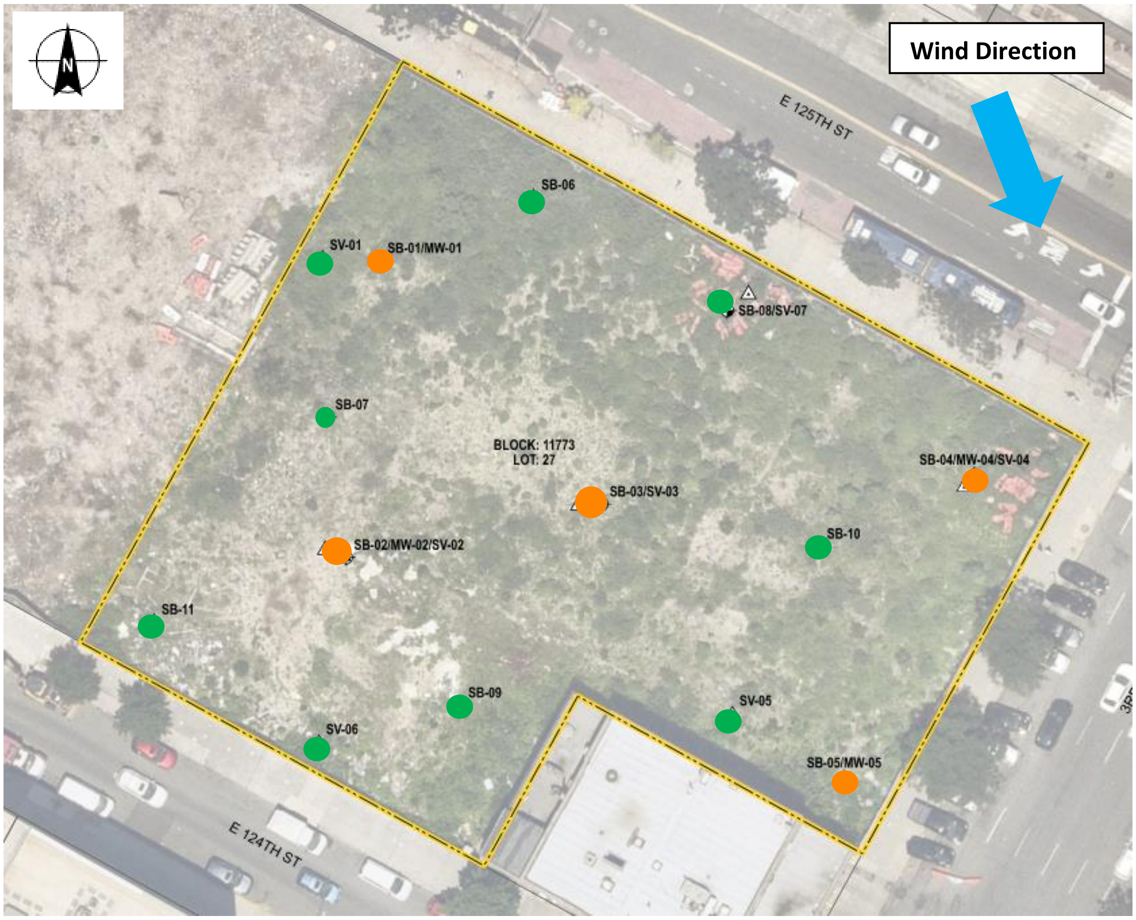
Photo 1: *View of soil vapor sample SV-03, facing southeast.*

Photo 2: *View of site conditions facing west.*

HALEY ALDRICH

DAILY FIELD REPORT

Site Plan:



LEGEND:

- CAMP Station
- In Progress
- Complete

DAILY FIELD REPORT

Project	180 East 125th Street Development Site	**Report No.**	5
BCP Site	BCP Site No. C231160	**Date**	02/13/2025
Location	180 East 125th Street, New York, New York	**File No.**	0209815
Client	180 E125th Realty LLC	**Temperature**	34-38°F
Contractor	N/A	**Wind Direction**	NE to SW
Weather	Light Rain, Overcast	**Personnel on Site**	C. Jackson, J. Mastro
Humidity	82%	**Time on Site**	6:30-16:00

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) was present to document implementation of the NYSDEC-approved January 2025 Remedial Investigation Work Plan (RIWP) prepared by Haley & Aldrich of New York. Site observations are summarized below.

Daily Observations

- Haley & Aldrich of New York was on site to conduct groundwater sampling in accordance with the RIWP.
- DPK Consulting LLC was on-Site to conduct a survey of the groundwater monitoring wells.

Samples Collected:

- Five groundwater samples were collected from MW-01, MW-02, MW-03, MW-04, and MW-05 in accordance with the RIWP.
- The samples were submitted via courier to Alpha Analytical Laboratories, in Westborough, MA in accordance with the RIWP.

CAMP Activities:

- No ground intrusive activities took place today. Haley & Aldrich departed site at 16:00 after groundwater samples were relinquished to the courier.

Activities Planned for Coming Week:

- None.

DAILY FIELD REPORT

Site Photographs:

Photo 1: *View of groundwater sampling MW-02, facing southeast.*

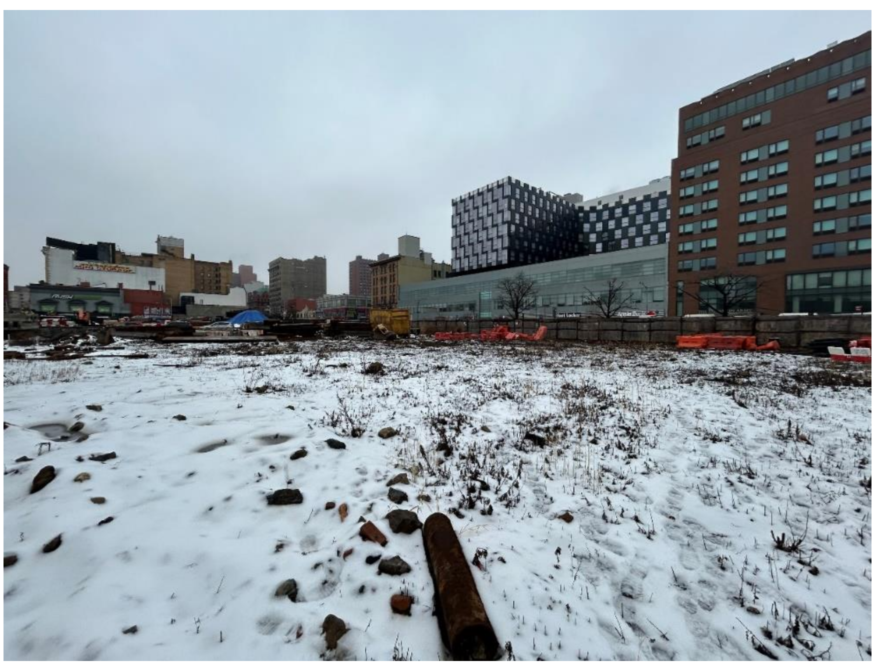
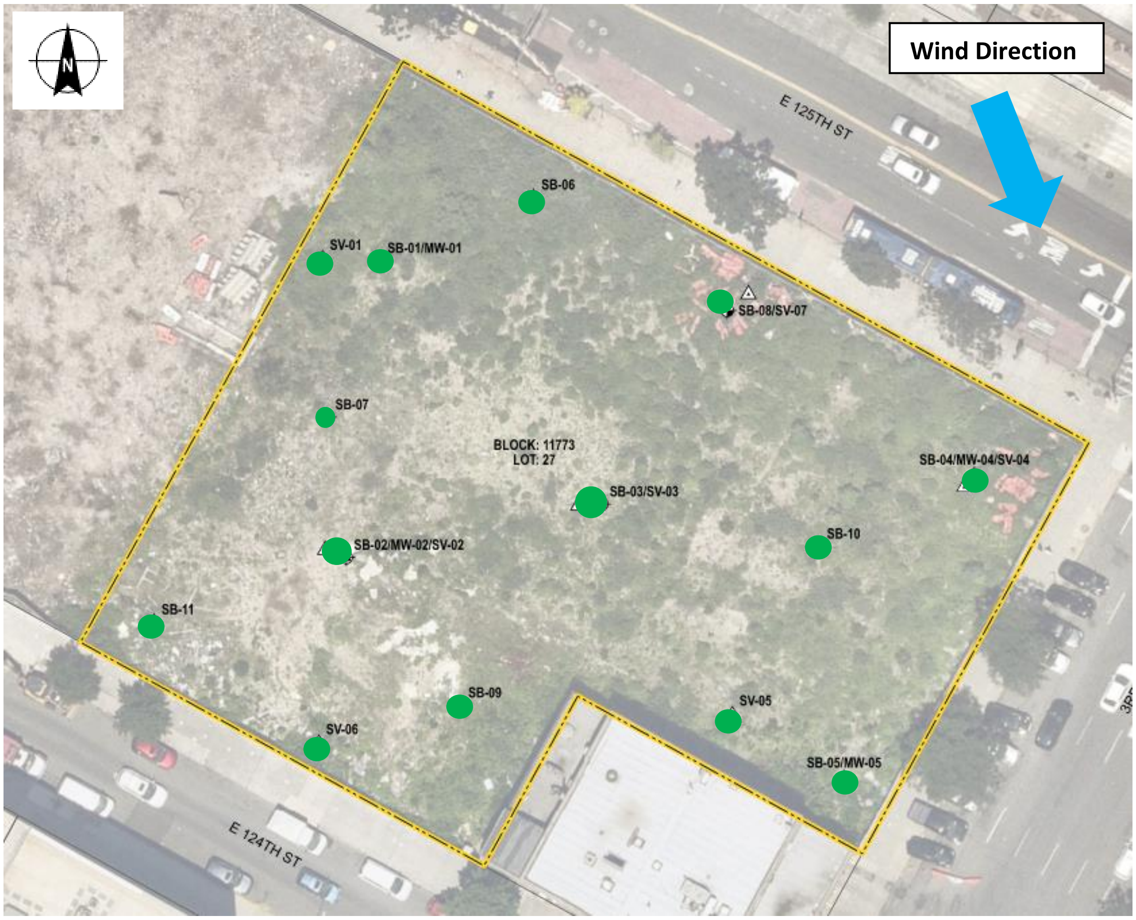


Photo 2: *View of site conditions facing north.*

DAILY FIELD REPORT

Site Plan:



LEGEND:

- CAMP Station
- In Progress
- Complete

APPENDIX K

Green and Sustainable Remediation and Climate Screening Checklist

H & A OF NEW YORK ENGINEERING
AND GEOLOGY, LLP
213 W. 35th Street
7th Floor
New York, NY 10001
646.277.5685

May 8, 2025
File No. 0204391

New York State Department of Environmental Conservation
Region 2 – Division of Environmental Remediation
47-40 21st Street
Long Island City, New York 11101-5401

Attention: Abdulla Elbuytari

Subject: Remedial Investigation Report
180 East 125th Street Development Site
180 East 125th Street
BCP Site C231160
New York, New York

Dear Abdulla Elbuytari,

H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) presents the following environmental footprint analysis in accordance with U.S. Environmental Protection Agency (USEPA) 542-R-12-002 for the Remedial Investigation (RI) conducted in February 2025 at the above-referenced site located at 180 East 125th Street, New York, New York (Site).

180 EAST 125TH STREET DEVELOPMENT SITE – INVESTIGATION

The RI resulted in the estimated totals of:

- 68.2 metric million British thermal units (MMBtus) of energy used;
- 5.1 tons of total greenhouse gas emissions (CO2e);
- 206.2 pounds (lbs) of NOx + SOx +PM emissions; and,
- 11.3 lbs of HAP emissions.

Energy

- 9.0 MMbtus used for on-Site activities, such as well development and sampling.
- 0.00 MMbtus used for Grid Electricity Generation.
- 34.2 MMbtus used for transportation of personnel and investigation materials.
- 25.0 MMbtus used for off-Site activities.

Greenhouse Gas Emissions (CO2e)

- 0.7 lbs of CO2e produced from on-Site activities, such as drilling.
- 0.0 lbs of CO2e produced from Grid Electricity Generation.

- 2.8 lbs of CO_2e produced from transportation of contractors, personnel, and investigation materials.
- 1.6 lbs of CO_2e produced from off-Site activities.

Water Usage

- 0.0 gallons of water were used for the operation of drill rigs during the investigation.

Overall, the main contributors to the environmental footprint of the RI are transportation, on-Site equipment use, and off-Site activities (which include diesel fuel production). Off-Site energy use is anticipated to comprise 36.6 percent of all energy use and off-Site greenhouse gas emissions to comprise 31.1 percent of all emissions for the Remedy.

Sincerely yours,
H & A OF NEW YORK ENGINEERING AND GEOLOGY, LLP

Joseph Mastro
Staff Geologist

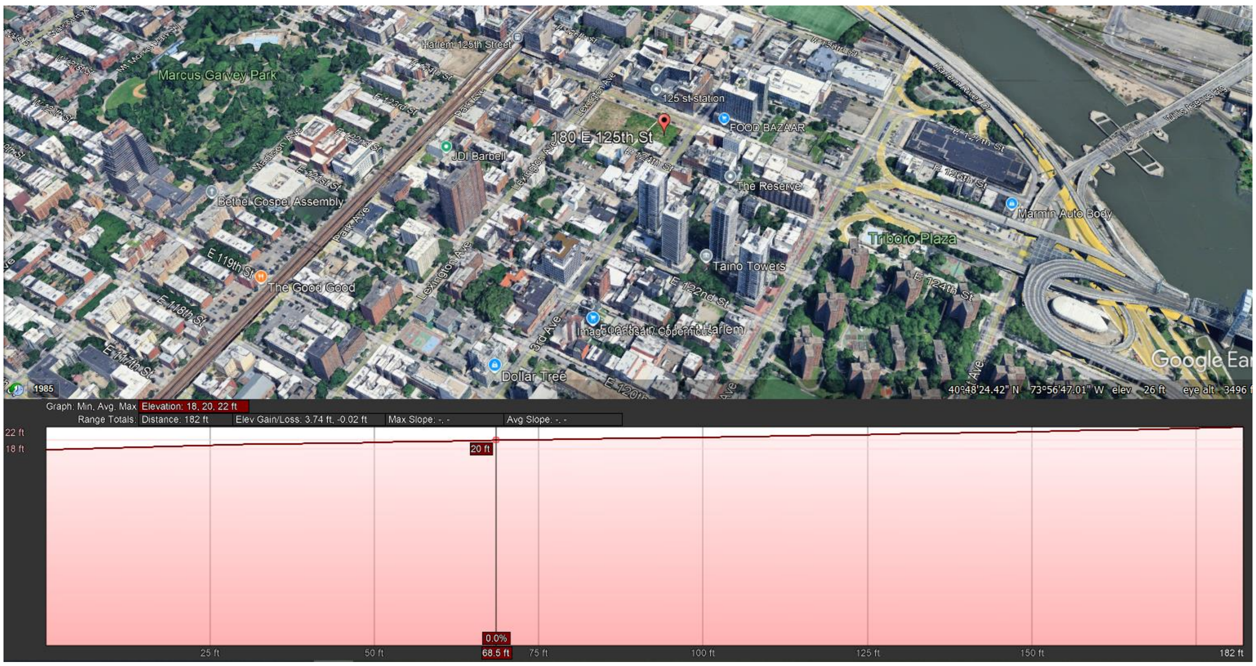
Sarah A. Commisso, G.I.T.
Assistant Project Manager

\\haleyaldrich.com\share\CF\Projects\0209815\Deliverables\7. RIR\Appendices\K - GSR and Climate Screening Checklist\1. GSR_Overview_Letter.docx

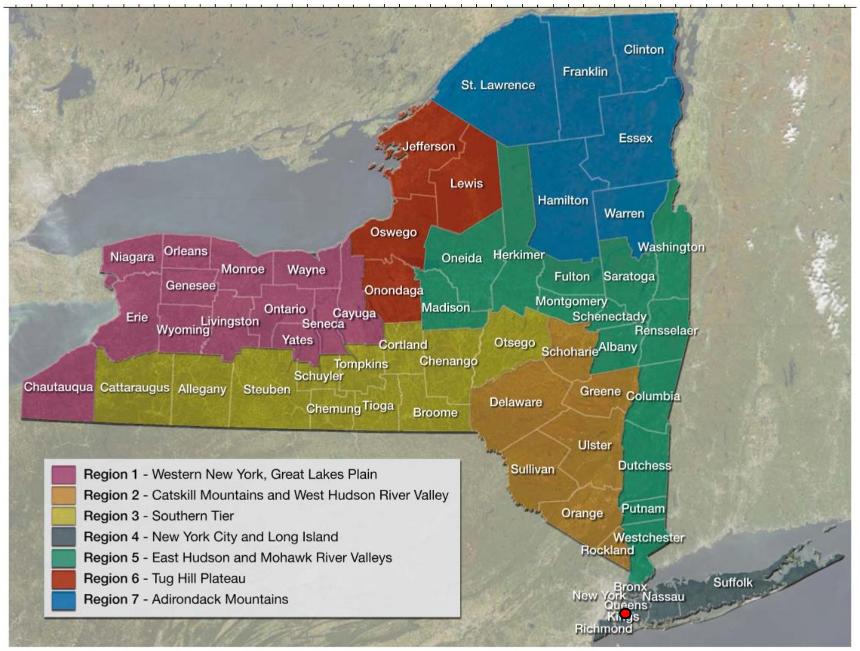
Climate Screening Checklist

Background Information

- Project Manager: Sarah A. Commisso, G.I.T.
- Site Name: 180 East 125th Street Development Site (the "Site")
- Site Number: C231160
- Site Location: 180 East 125th Street, New York, New York
- Site Elevation (average above sea level): Approximately 18 feet (ft) above sea level (Google Earth)



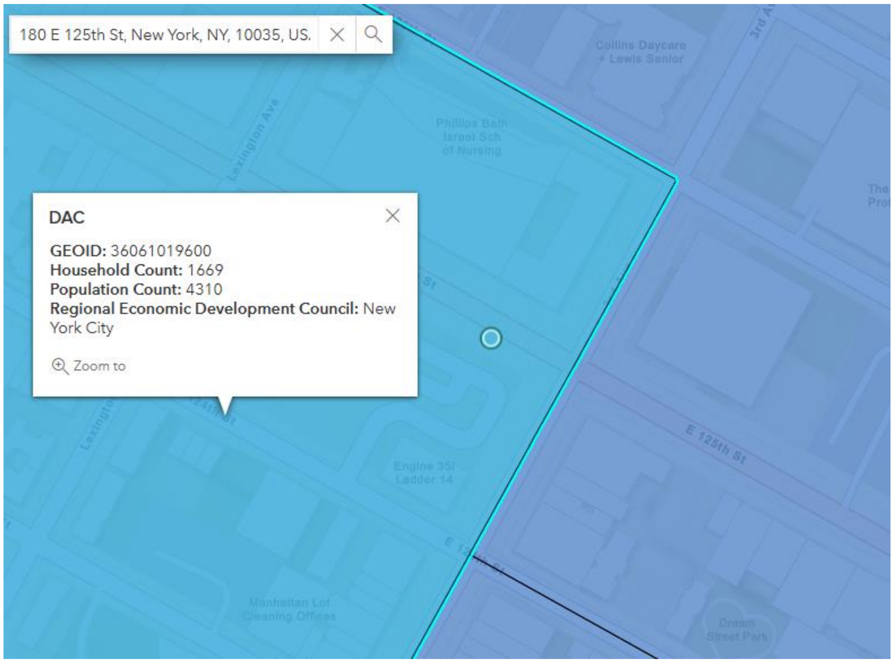
- ClimAID Region ([Responding Climate Change in New York State (ClimAID) - NYSERDA](#)): Region 4 – New York City and Long Island



- Remedial Stage/Site Classification: Pending
- Contamination – Media-Impacted/ Contaminants of Concern: Soil – metals, semi-volatile organic compounds (SVOCs; specifically polycyclic aromatic hydrocarbons [PAHs]), pesticides, and polychlorinated biphenyls (PCBs); groundwater – VOCs (specifically chlorinated VOCs [CVOCs] tetrachloroethene [PCE]), PFAS, and total/dissolved metals; and, soil vapor – VOCs.
- Proposed/Current Remedy: Proposed Track 1 remedy – remedy will potentially consist of excavation, stockpiling, off-Site transport, and disposal of contaminated historical fill material and contaminated soil below the historic fill interval Site-wide up to 15 ft below ground surface (bgs); removal of underground storage tanks (USTs) and/or associated appurtenances, if encountered, and decommissioning and off-Site disposal; and installation of a composite cover beneath the Site building footprint.
- What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years? The Track 1 remedy will take approximately six months to achieve. Components of the remedy including the composite cover system will be present in 10+ years.
- Is the site in proximity to any sensitive receptors? (e.g. wetlands, waterbodies, residential properties, hospitals, schools, drinking water supplies, etc.). There are three sensitive receptors within a 500-ft radius of the Site: Northern Manhattan Nursing, 116 East 125th Street; Dr. Ronald E. McNair Playground, Lexington Avenue between East 122nd Street and East 123rd Street; and the FDNY Engine 35/ Ladder 14/Battalion 12, 2282 3rd Avenue.

Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA) (Use DECinfolocator: DECinfo Locator (ny.gov))?

X Yes ☐ No



If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why. The site is located in a disadvantage community.

X Yes ☐No

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐ Yes X No

Climate Screening Table*

Potential Climate Hazards	**Relevant to the Site Location** (Y/N/NA)[1]	**Projected Change** (Reference data source/Model)[3]	**Potential to Impact Remedy** (Y/N)	**Is remedy/site already resilient?** (Y/N)[4]
Precipitation	Y	N/A	N/A	Y
Temperature[2] (Extreme Heat or Cold Weather Impacts)	Y	N/A	N/A	Y
Sea Level Rise	N	N/A	N/A	N/A
Flooding	N	N/A	N/A	N/A
Storm Surge	N	N/A	N/A	N/A
Wildfire	N	N/A	N/A	N/A
Drought	N	N/A	N/A	N/A
Storm Severity	N	N/A	N/A	N/A
Landslides	N	N/A	N/A	N/A
Other Hazards:	N/A	N/A	N/A	N/A

* Links to potential data sources can be found on the following page

[1] If the first column is N --> The rest of the columns will be N/A, the hazard is not applicable to the site.

[2] Extreme Heat: periods of three or more days above 90°F- Extreme Cold: Individual days with minimum temperatures at or below 0 degrees F (NYSERDA ClimAID report)

[3] List the projected change in specific terms or units e.g. inches of rain fall, feet of sea level rise, etc.

[4] If final column is Y, provide reasoning, if the final column is N --> Climate Vulnerability Assessment (CVA) required.

Required Next Steps (If no further action is required, provide justification):

Design and implementation of the potential remedy.

Potential Data Sources (not an exhaustive list)- from Superfund Climate Resilience: Vulnerability Assessment | US EPA

Department of Agriculture Forest Service Wildfire Risk to Communities

EPA Climate Change Indicators in the United States

EPA Climate Resilience Evaluation & Awareness Tool (CREAT) | U.S. Climate Resilience Toolkit

EPA National Stormwater Calculator

FEMA- National Flood Hazard Layer | FEMA.gov

National Integrated Drought Information System U.S. Drought Portal

National Interagency Coordination Center National Interagency Fire Center

National Oceanic and Atmospheric Administration Coastal Services Digital Coast

National Oceanic and Atmospheric Administration National Centers for Environmental Information website

National Oceanic and Atmospheric Administration Sea Level Trends

National Weather Service Climate Prediction Center

National Weather Service National Hurricane Center

National Weather Service Sea, Lake, and Overland Surges from Hurricanes (SLOSH)

National Weather Service Storm Surge Hazard Maps

NOAA- National Storm Surge Risk Maps - Version 3 (noaa.gov)

NYS Department of State- Assess | Department of State (ny.gov)

NYSDEC Costal Erosion Hazards- Coastal Areas Regulated By The CEHA Permit Program - NYDEC

NYSDOH Heat Index- health.ny.gov/environmental/weather/vulnerability_index/county_maps.htm

NYSERDA ClimAID report- Responding Climate Change in New York State (ClimAID) - NYSERDA

NYSERDA NY Costal Floodplain Mapper- Home Page (ny.gov)

Resources to help communities assess coastal hazards, such as the Sea Level Rise Viewer for visualizing community-level impacts of flooding or sea level rise and downloadable LIDAR data

U.S. Army Corps of Engineers Climate Prepardness and Resilience

U.S. Federal Government Climate Resilience Toolkit: The Climate Explorer

U.S. Geological Survey Coastal Change Hazards Portal

U.S. Geological Survey Landslide Hazards Program

U.S. Geological Survey National Climate Change Viewer

U.S. Geological Survey National Ground-water Monitoring Network Data Portal

U.S. Geological Survey National Water Dashboard

U.S. Geological Survey StreamStats

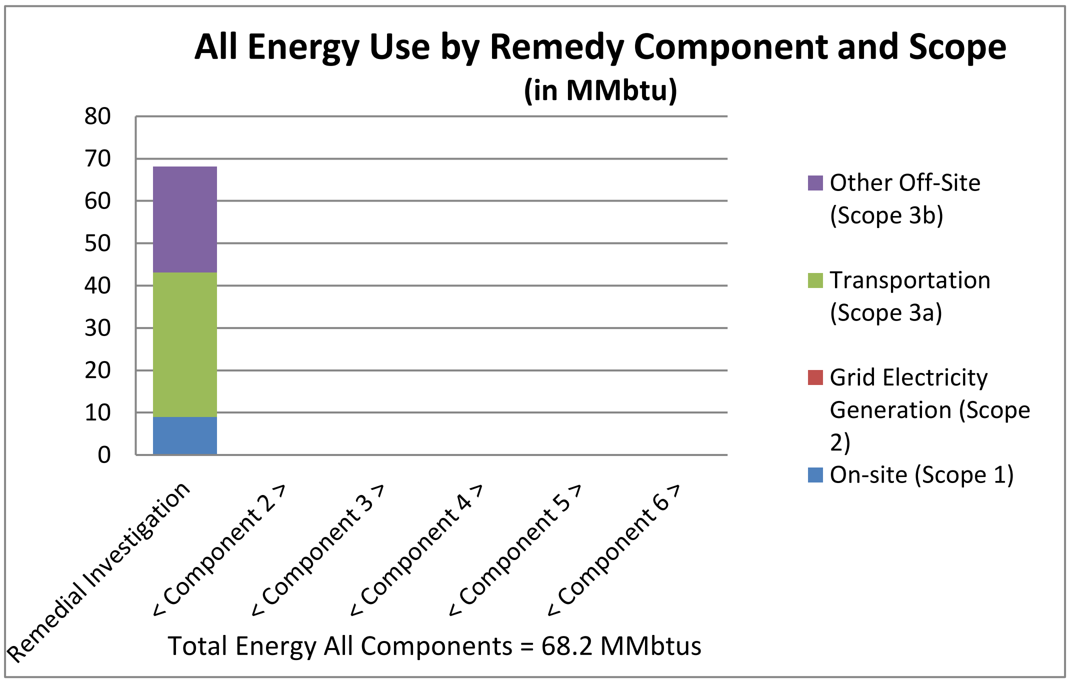
Environmental Footprint Summary

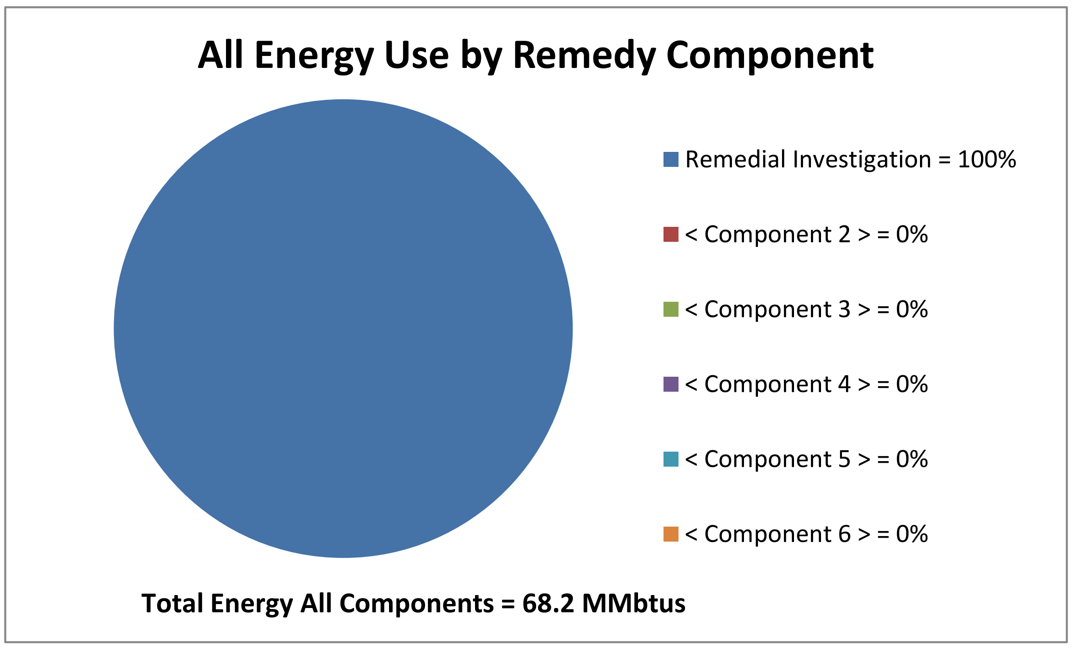
Core Element	Metric		Unit of Measure	Footprint						
				Remedial Investigation	< Component 2 >	< Component 3 >	< Component 4 >	< Component 5 >	< Component 6 >	Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	0.4	0.0	0.0	0.0	0.0	0.0	0.4
	M&W-2	% of refined materials from recycled or reused material	%	0.0%						0.0%
	M&W-3	Unrefined materials used on-site	Tons	0.350	0.000	0.000	0.000	0.000	0.000	0.4
	M&W-4	% of unrefined materials from recycled or reused material	%	100.0%						100.0%
	M&W-5	On-site hazardous waste disposed of off-site	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-7	Recycled or reused waste	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-8	% of total potential waste recycled or reused	%							
Water (used on-site)	W-1	Public water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	68.2	0.0	0.0	0.0	0.0	0.0	68.2
	E-2	Energy voluntarily derived from renewable resources								
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	0.000	0.000	0.000	0.000	0.000	0.000	0.0
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	11.6	0.0	0.0	0.0	0.0	0.0	11.6
	A-2	On-site HAP emissions	Pounds	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	A-3	Total NOx, SOx, and PM emissions	Pounds	206.2	0.0	0.0	0.0	0.0	0.0	206.2
	A-3A	Total NOx emissions	Pounds	89.5	0.0	0.0	0.0	0.0	0.0	89.5
	A-3B	Total SOx emissions	Pounds	100.5	0.0	0.0	0.0	0.0	0.0	100.5
	A-3C	Total PM emissions	Pounds	16.2	0.0	0.0	0.0	0.0	0.0	16.2
	A-4	Total HAP emissions	Pounds	11.3	0.0	0.0	0.0	0.0	0.0	11.3
	A-5	Total greenhouse gas emissions	Tons CO2e*	5.1	0.0	0.0	0.0	0.0	0.0	5.1
Land & Ecosystems		Qualitative Description								

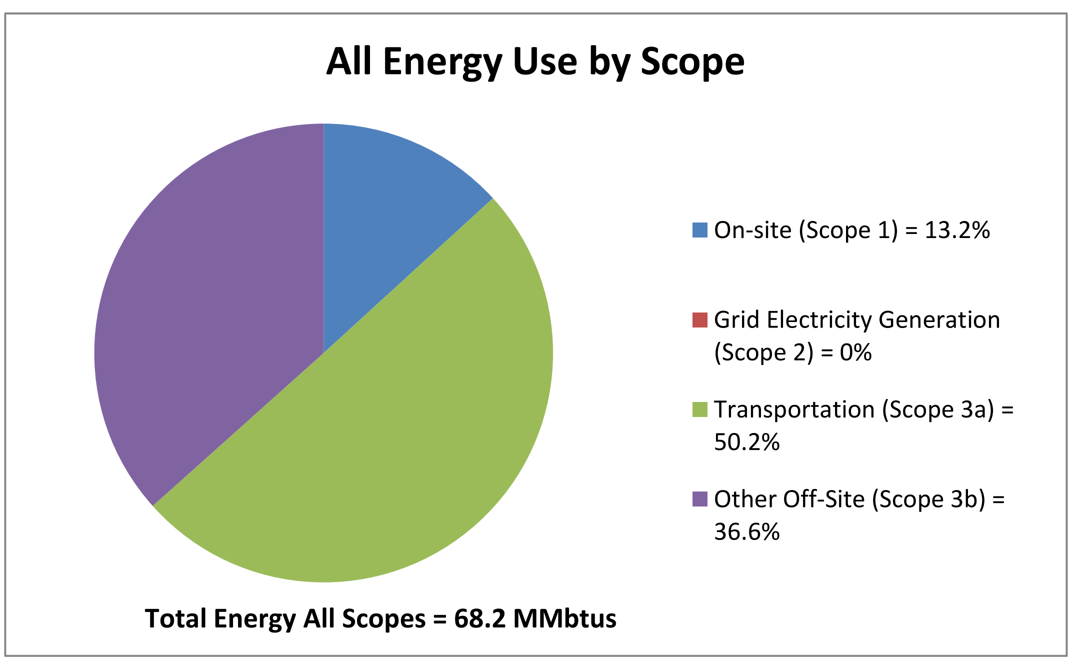
** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*
"MMBtu" = millions of Btus
"MG" = millions of gallons
"CO2e" = carbon dioxide equivalents of global warming potential
"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)
"Tons" = short tons (2,000 pounds)

The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes:


All Energy Use by Remedy Component and Scope
(in MMbtu)
80
70
60
50
40
30
20
10
0
Remedial Investigation
< Component 2 >
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Total Energy All Components = 68.2 MMbtus


All Energy Use by Remedy Component
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
Total Energy All Components = 68.2 MMbtus

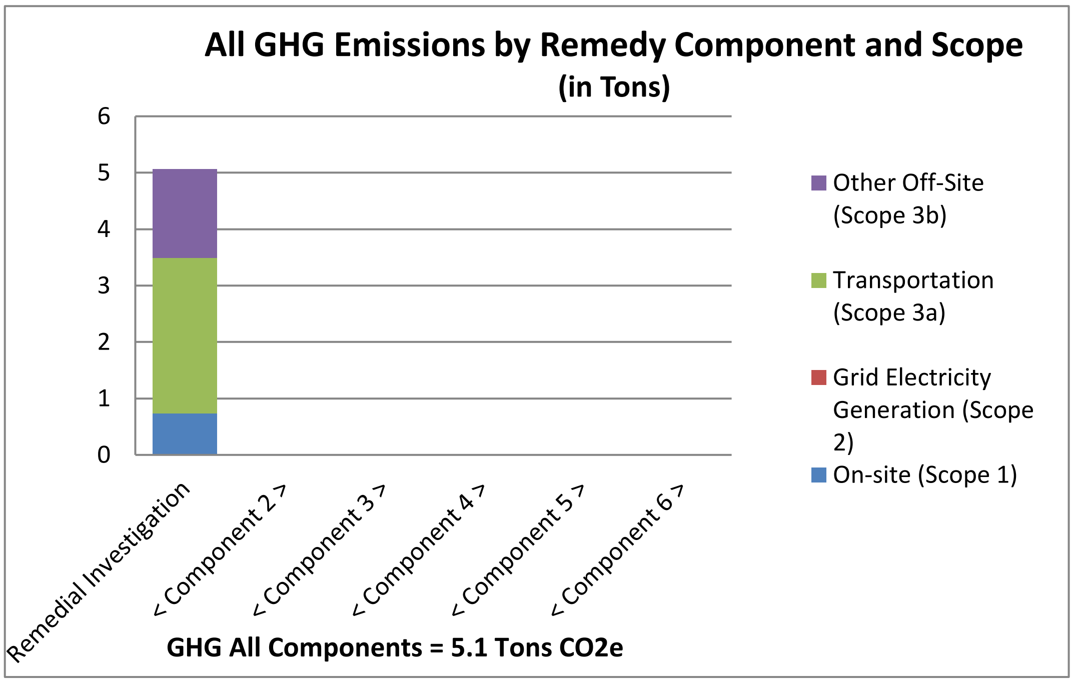

All Energy Use by Scope
On-site (Scope 1) = 13.2%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 50.2%
Other Off-Site (Scope 3b) = 36.6%
Total Energy All Scopes = 68.2 MMbtus

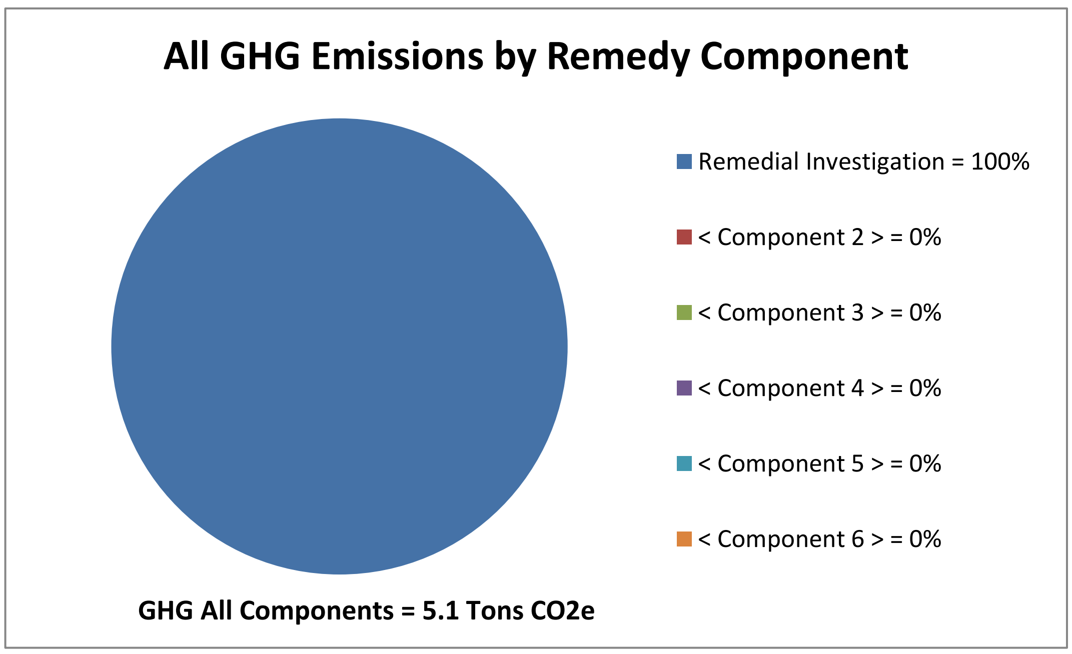
Total Energy MMbtus	Remedial I	< Compone	< Compone	< Compone	< Compone	< Compone	Total
On-site (Scope 1)	9.0	0.0	0.0	0.0	0.0	0.0	9.0
Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
nsportation (Scope 3a)	34.2	0.0	0.0	0.0	0.0	0.0	34.2
her Off-Site (Scope 3b)	25.0	0.0	0.0	0.0	0.0	0.0	25.0
Total	68.2	0.0	0.0	0.0	0.0	0.0	68.2

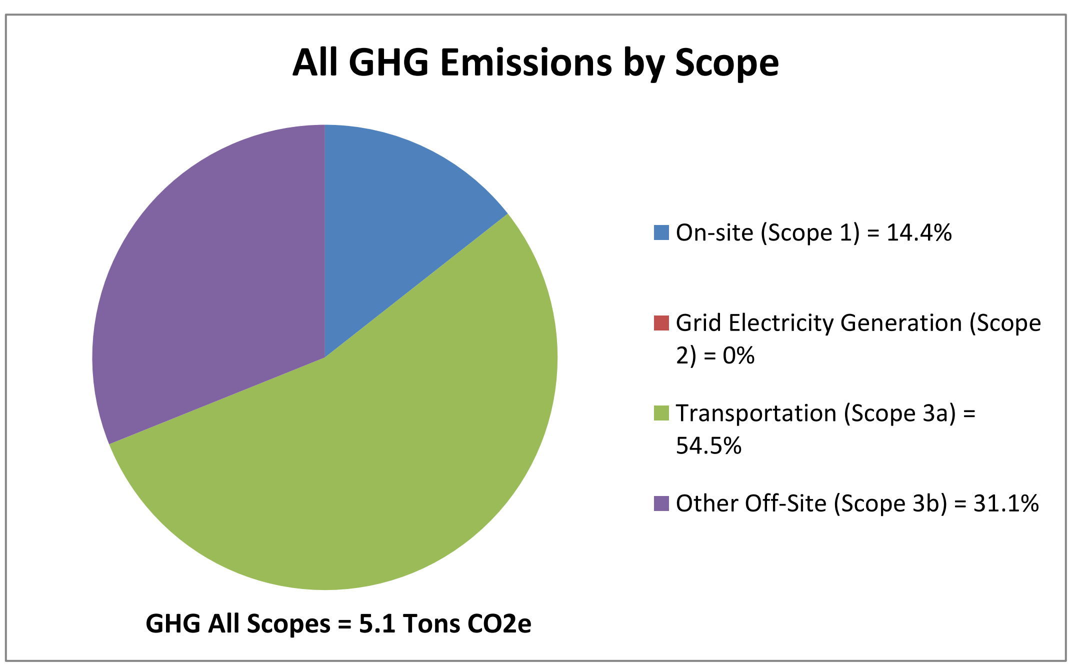
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 13.2%
Grid Electricity Generation (Scope
Transportation (Scope 3a) = 50.2%
Other Off-Site (Scope 3b) = 36.6%

Total Energy All Components = 68.2 MMbtus
Total Energy All Scopes = 68.2 MMbtus


All GHG Emissions by Remedy Component and Scope
(in Tons)
6
5
4
3
2
1
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Remedial Investigation
< Component 2 >
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
GHG All Components = 5.1 Tons CO2e


All GHG Emissions by Remedy Component
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
GHG All Components = 5.1 Tons CO2e

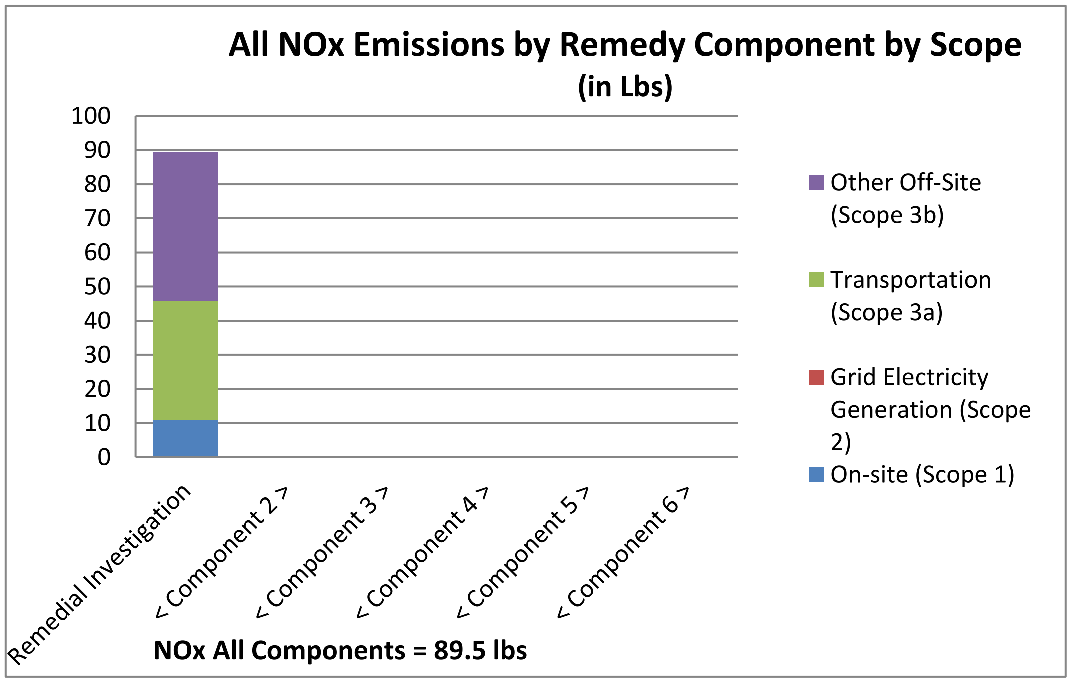

All GHG Emissions by Scope
On-site (Scope 1) = 14.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 54.5%
Other Off-Site (Scope 3b) = 31.1%
GHG All Scopes = 5.1 Tons CO2e

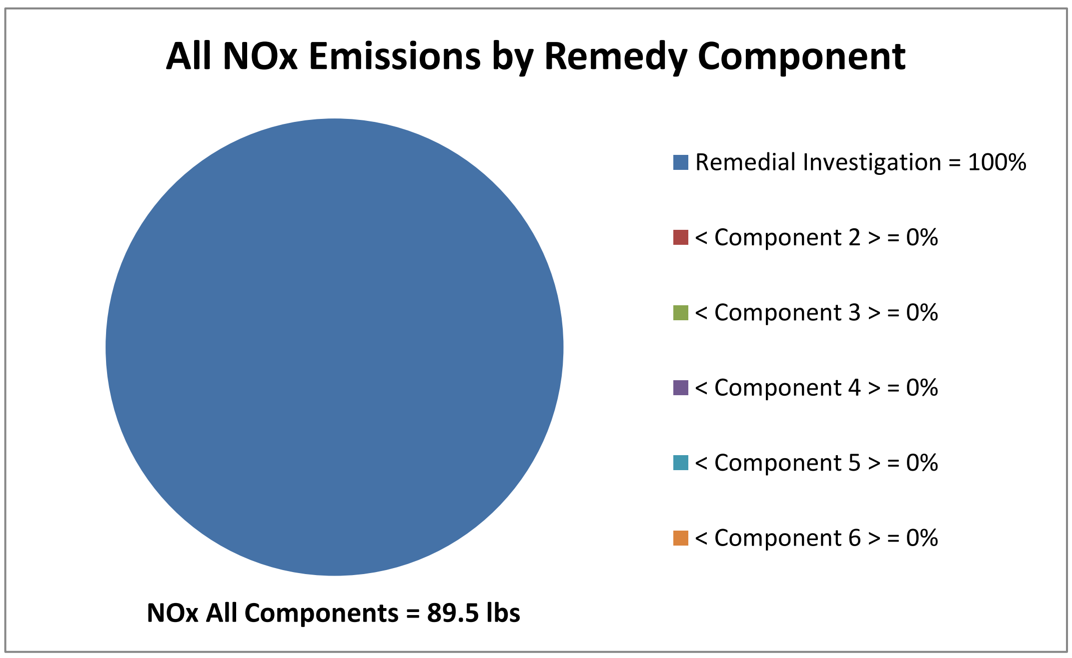
GHG Tons CO2e	Remedial I	< Compone	< Compone	< Compone	< Compone	< Compone	Total
On-site (Scope 1)	0.7	0.0	0.0	0.0	0.0	0.0	0.7
d Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	2.8	0.0	0.0	0.0	0.0	0.0	2.8
Other Off-Site (Scope 3b)	1.6	0.0	0.0	0.0	0.0	0.0	1.6
Total	5.1	0.0	0.0	0.0	0.0	0.0	5.1

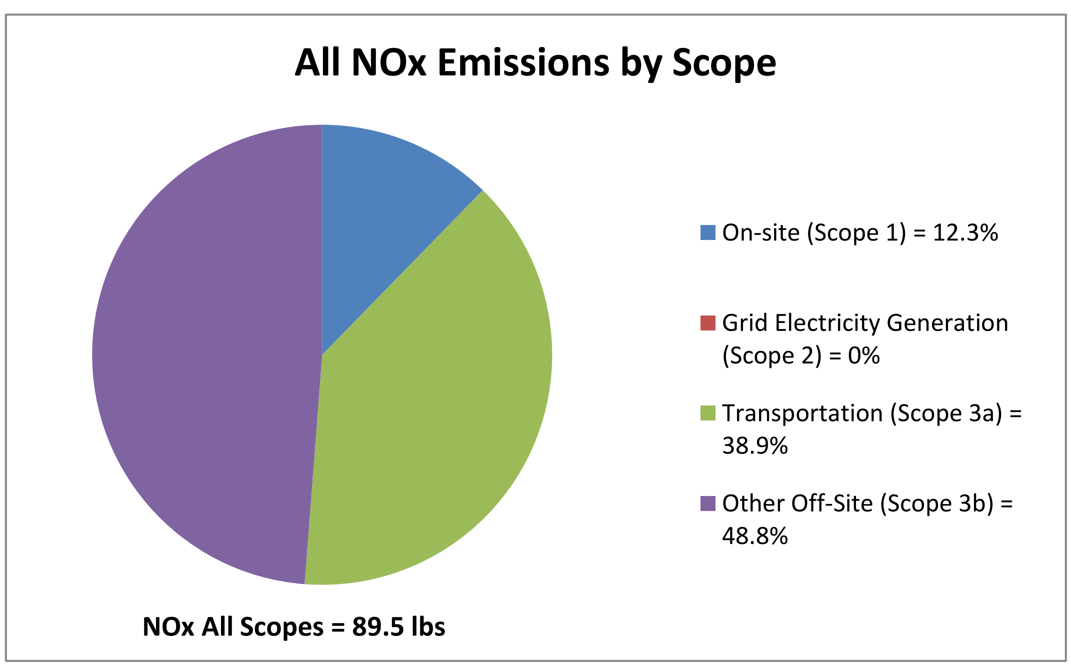
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 14.4%
Grid Electricity Generation (Scope
Transportation (Scope 3a) = 54.5
Other Off-Site (Scope 3b) = 31.1%

GHG All Components = 5.1 Tons CO2e
GHG All Scopes = 5.1 Tons CO2e


All NOx Emissions by Remedy Component by Scope
(in Lbs)
100
90
80
70
60
50
40
30
20
10
0
Remedial Investigation
< Component 2 >
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
NOx All Components = 89.5 lbs


All NOx Emissions by Remedy Component
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
NOx All Components = 89.5 lbs


All NOx Emissions by Scope
On-site (Scope 1) = 12.3%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 38.9%
Other Off-Site (Scope 3b) = 48.8%
NOx All Scopes = 89.5 lbs

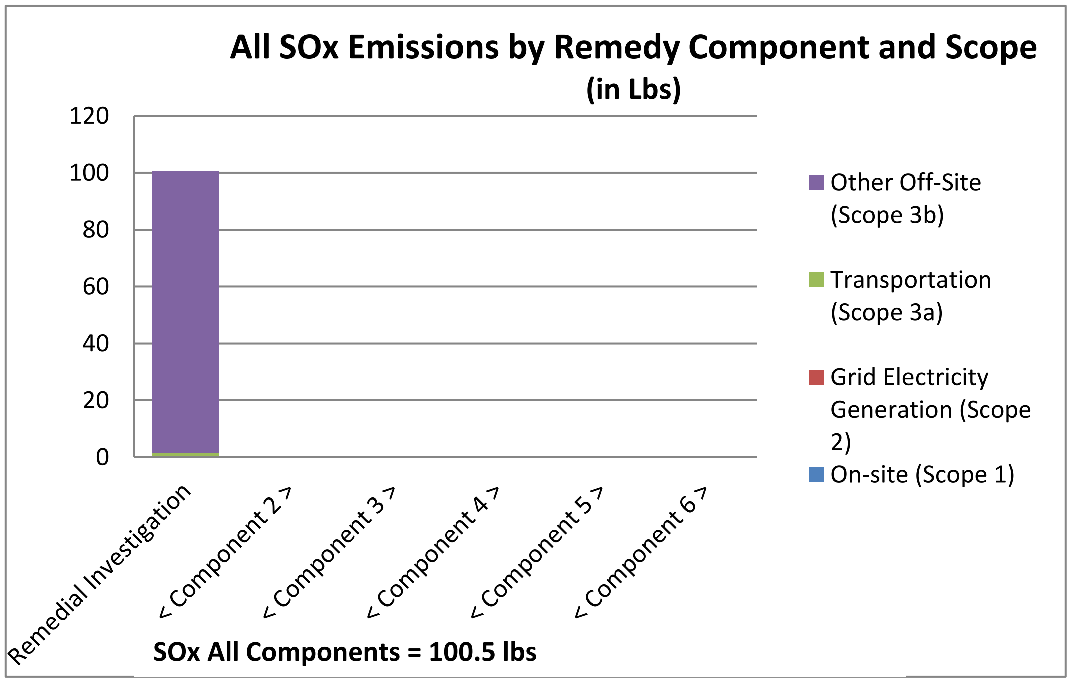
NOx
lbs

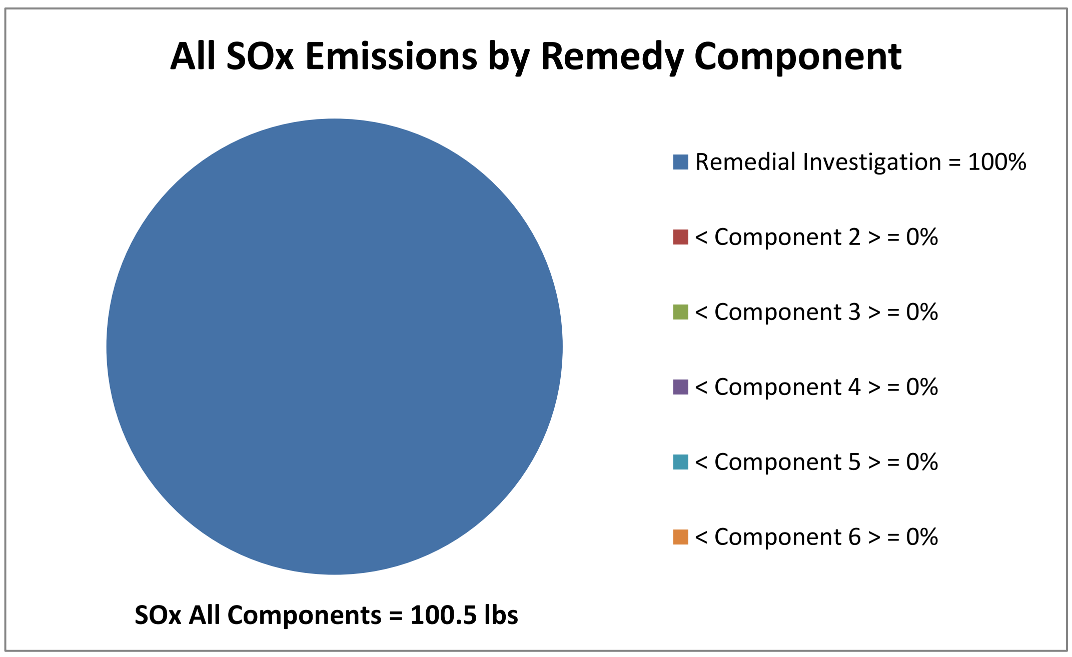
	Remedial I	< Compon	< Compon	< Compon	< Compon	< Compon	Total
On-site (Scope 1)	11.0	0.0	0.0	0.0	0.0	0.0	11.0
d Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	34.8	0.0	0.0	0.0	0.0	0.0	34.8
Other Off-Site (Scope 3b)	43.7	0.0	0.0	0.0	0.0	0.0	43.7
Total	89.5	0.0	0.0	0.0	0.0	0.0	89.5

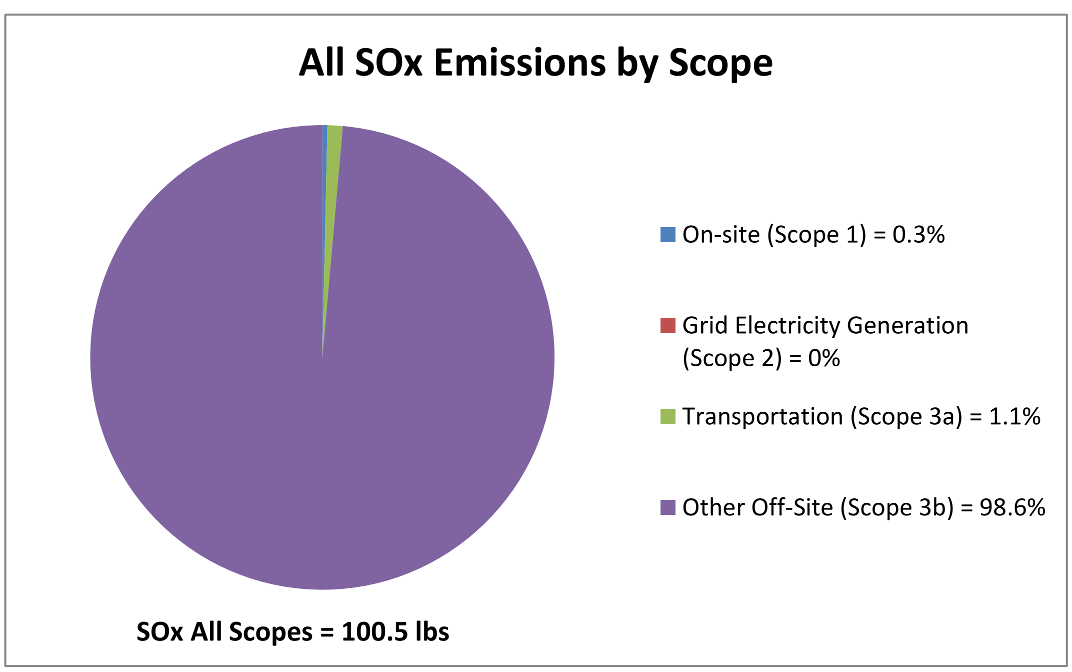
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 12.3%
Grid Electricity Generation (Scope
Transportation (Scope 3a) = 38.9
Other Off-Site (Scope 3b) = 48.8%

NOx All Components = 89.5 lbs
NOx All Scopes = 89.5 lbs


All SOx Emissions by Remedy Component and Scope
(in Lbs)
120
100
80
60
40
20
0
Remedial Investigation
< Component 2 >
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
SOx All Components = 100.5 lbs


All SOx Emissions by Remedy Component
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
SOx All Components = 100.5 lbs

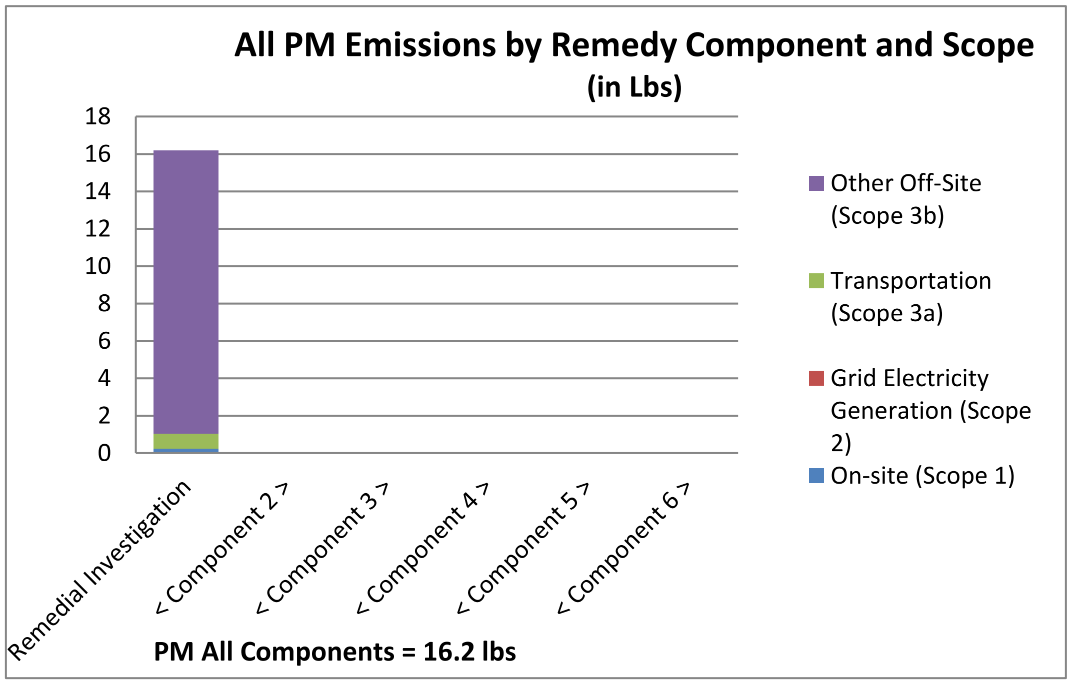

All SOx Emissions by Scope
On-site (Scope 1) = 0.3%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 1.1%
Other Off-Site (Scope 3b) = 98.6%
SOx All Scopes = 100.5 lbs

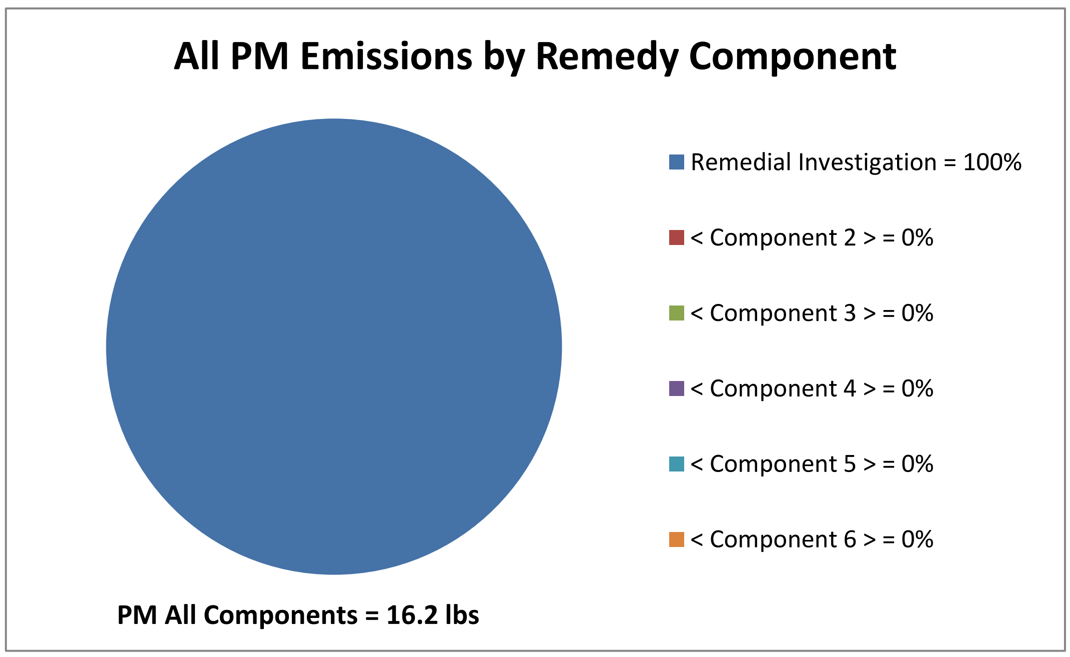
SOx lbs	Remedial I	< Compone	< Compone	< Compone	< Compone	< Compone	Total
On-site (Scope 1)	0.3	0.0	0.0	0.0	0.0	0.0	0.3
d Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	1.1	0.0	0.0	0.0	0.0	0.0	1.1
Other Off-Site (Scope 3b)	99.1	0.0	0.0	0.0	0.0	0.0	99.1
Total	100.5	0.0	0.0	0.0	0.0	0.0	100.5

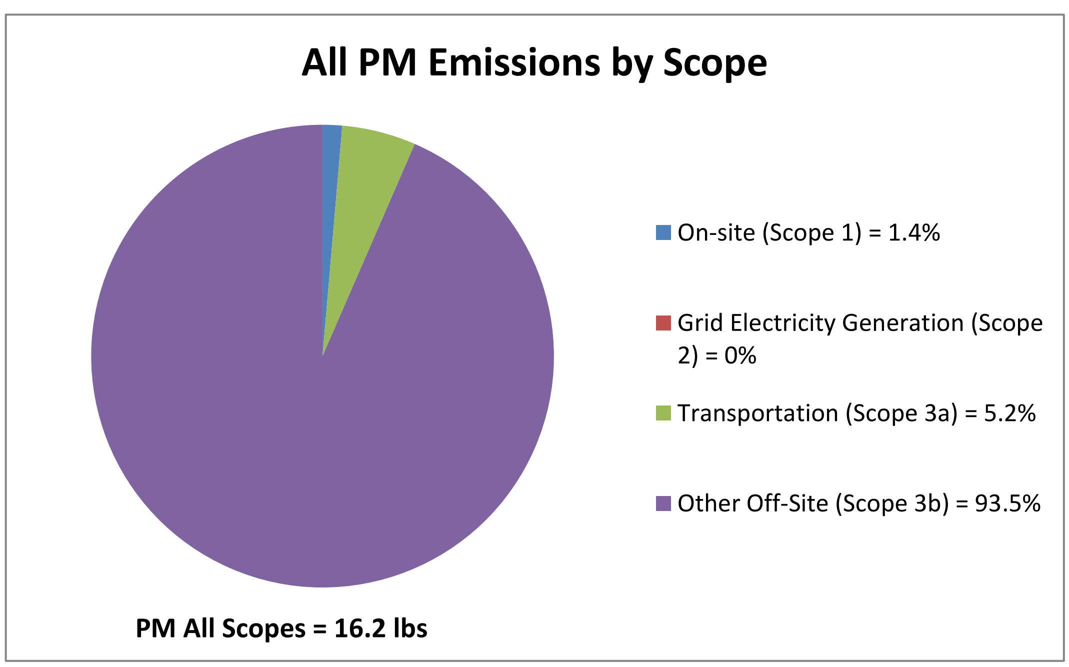
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 0.3%
Grid Electricity Generation (Scope
Transportation (Scope 3a) = 1.1%
Other Off-Site (Scope 3b) = 98.6%

SOx All Components = 100.5 lbs
SOx All Scopes = 100.5 lbs


All PM Emissions by Remedy Component and Scope
(in Lbs)
18
16
14
12
10
8
6
4
2
0
Remedial Investigation
< Component 2 >
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
PM All Components = 16.2 lbs


All PM Emissions by Remedy Component
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
PM All Components = 16.2 lbs


All PM Emissions by Scope
On-site (Scope 1) = 1.4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 5.2%
Other Off-Site (Scope 3b) = 93.5%
PM All Scopes = 16.2 lbs

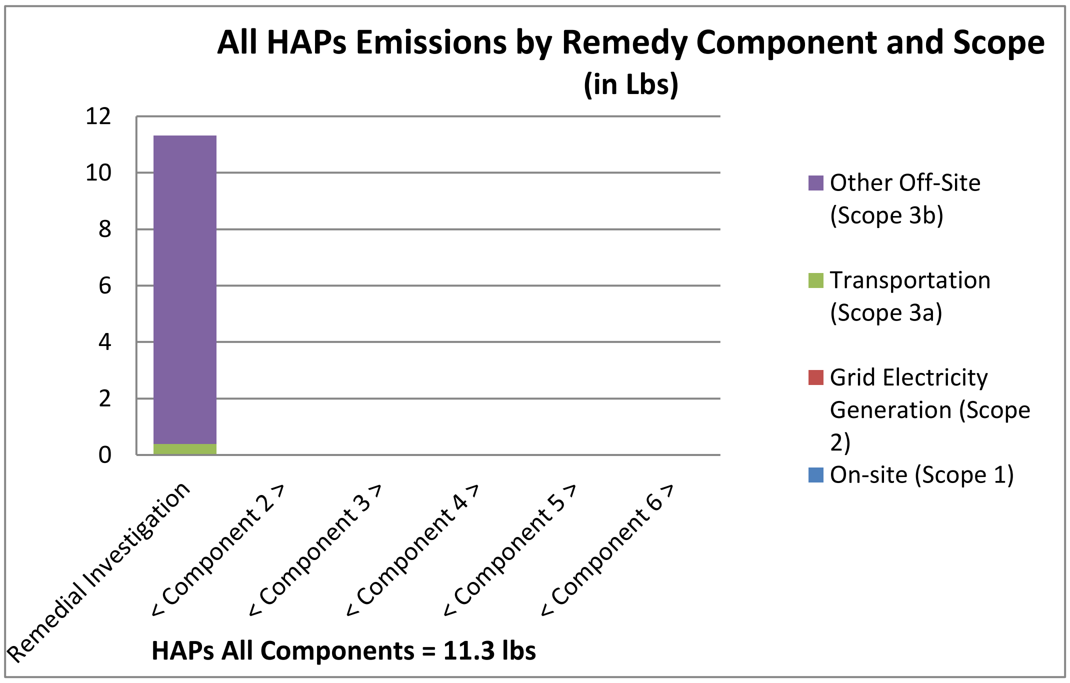
PM
lbs

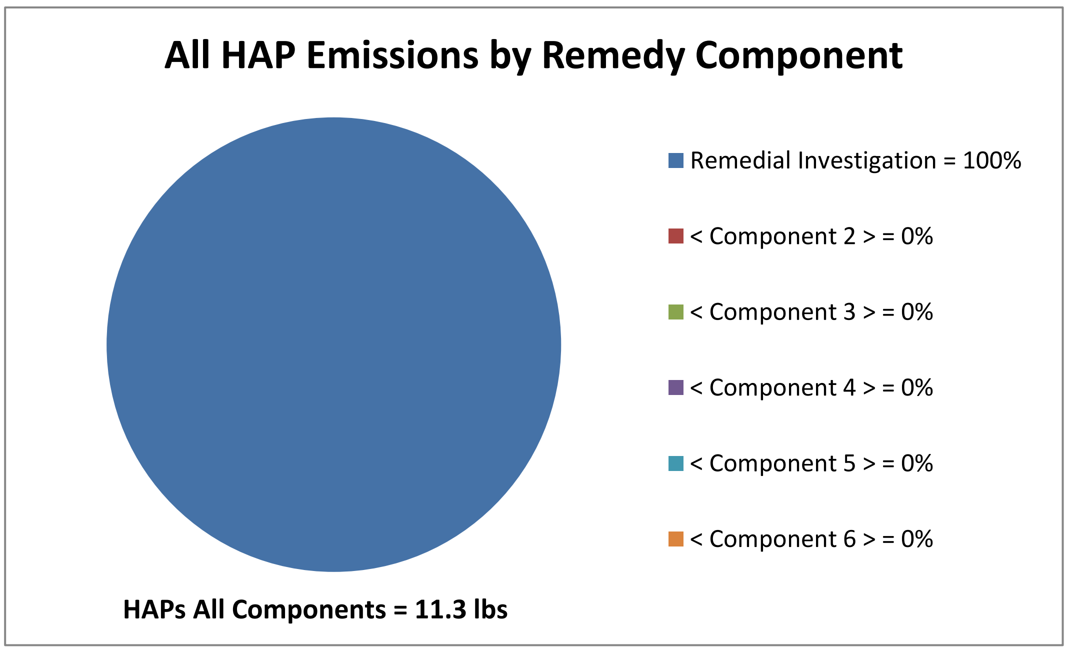
	Remedial I	< Compon	< Compon	< Compon	< Compon	< Compon	Total
On-site (Scope 1)	0.2	0.0	0.0	0.0	0.0	0.0	0.2
d Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	0.8	0.0	0.0	0.0	0.0	0.0	0.8
Other Off-Site (Scope 3b)	15.1	0.0	0.0	0.0	0.0	0.0	15.1
Total	16.2	0.0	0.0	0.0	0.0	0.0	16.2

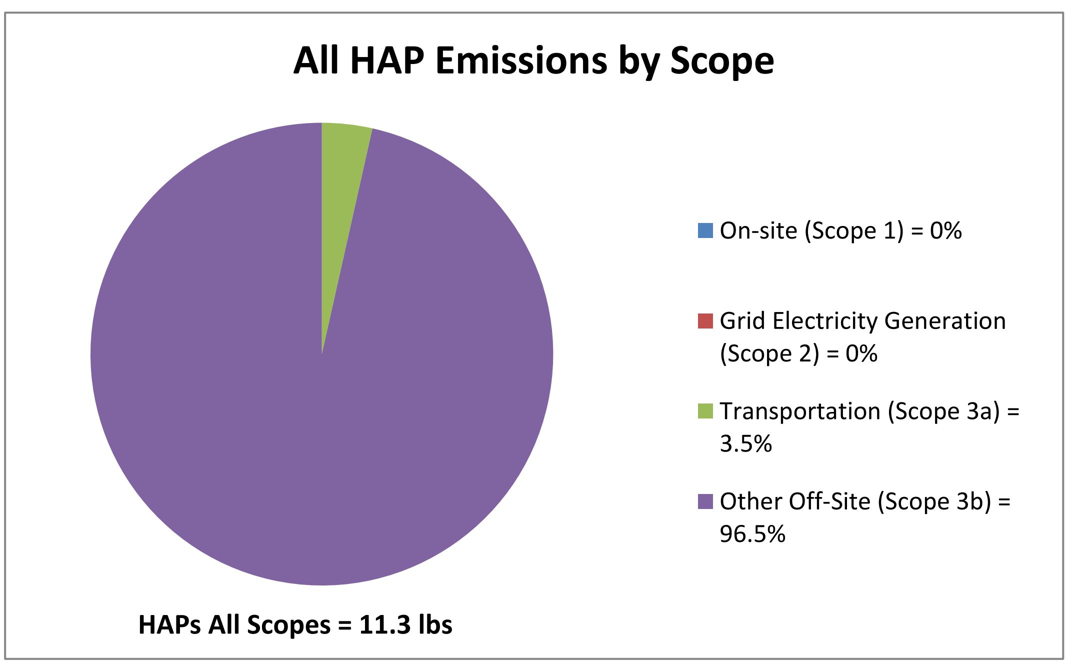
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 1.4%
Grid Electricity Generation (Scope
Transportation (Scope 3a) = 5.2%
Other Off-Site (Scope 3b) = 93.5%

PM All Components = 16.2 lbs
PM All Scopes = 16.2 lbs


All HAPs Emissions by Remedy Component and Scope
(in Lbs)
12
10
8
6
4
2
0
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Remedial Investigation
< Component 2 >
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
HAPs All Components = 11.3 lbs


All HAP Emissions by Remedy Component
Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
HAPs All Components = 11.3 lbs


All HAP Emissions by Scope
On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 3.5%
Other Off-Site (Scope 3b) = 96.5%
HAPs All Scopes = 11.3 lbs

HAPs
lbs

	Remedial I	< Compone	< Compone	< Compone	< Compone	< Compone	Total
On-site (Scope 1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
d Electricity Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Transportation (Scope 3a)	0.4	0.0	0.0	0.0	0.0	0.0	0.4
Other Off-Site (Scope 3b)	10.9	0.0	0.0	0.0	0.0	0.0	10.9
Total	11.3	0.0	0.0	0.0	0.0	0.0	11.3

Remedial Investigation = 100%
< Component 2 > = 0%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 0%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 3.5%
Other Off-Site (Scope 3b) = 96.5%

HAPs All Components = 11.3 lbs
HAPs All Scopes = 11.3 lbs

Spreadsheets for Environmental Footprint Analysis (SEFA) Version 3.0, November 2019
< Site Name > - < Remedy Name >

Input Summary

Column headings in Row 6 must match the name of "Input" tabs in this workbook for Columns C - P in this table to be populated
("0" in Row 4 means "Input" tab is turned Off and will not be grouped to a Remedy Component (Columns Q - V) or used in subsequent calculations)

Remedy Component Number →		1	2	3	4	5	6								
Item		Remedial Investigation	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)
On-Site															
On-site Renewable Energy															
Renewable electricity generated on-site	MWh	0													
Landfill gas combusted on-site for energy use	ccf CH_4	0													
On-site biodiesel use	gal	0													
On-site biodiesel use - Other	gal	0													
User-defined on-site renewable energy use #1	TBD	0													
User-defined on-site renewable energy use #2	TBD	0													
On-Site Conventional Energy															
Grid electricity	MWh	0													
On-site diesel use - Other	Gal	64.8													
On-site diesel use <75 hp	Gal	0													
On-site diesel use 75<hp<750	Gal	0													
On-site diesel use >750 hp	Gal	0													
On-site gasoline use - Other	Gal	0													
On-site gasoline use <25 hp	Gal	0													
On-site gasoline use >25 hp	Gal	0													
On-site natural gas use	ccf	0													
On-site compressed natural gas use - Other	ccf	0													
On-site compressed natural gas use	ccf	0													
On-site liquified petroleum gas use - Other	gal	0													
On-site liquified petroleum gas use	gal	0													
Other forms of on-site conventional energy use #1	TBD	0													
Other forms of on-site conventional energy use #2	TBD	0													
Other On-site Emissions															
On-site HAP process emissions	Lbs	0													
On-site GHG emissions	Lbs CO2e	0													
On-site carbon storage	Lbs CO2e	0													
GHG avoided by flaring on-site landfill methane	ccf CH4	0													
Other on-site NOx emissions or reductions	Lbs	0													
Other on-site SOx emissions or reductions	Lbs	0													
Other on-site PM emissions or reductions	Lbs	0													
Electricity Generation															
Grid electricity	MWh	0													
Voluntary purchase of renewable electricity	MWh	0													
Voluntary purchase of RECs	MWh	0													
Transportation															
Transportation Fuel Use Breakdown															
Biodiesel use - Personnel Transport	gal	0													
Biodiesel use - Personnel Transport - User Defined	gal	0													
Biodiesel use - Equipment Transport	gal	0													
Biodiesel use - Equipment Transport - User Defined	gal	0													
Biodiesel use - Material Transport	gal	0													
Biodiesel use - Material Transport - User Defined	gal	0													
Biodiesel use - Waste Transport	gal	0													
Biodiesel use - Waste Transport - User Defined	gal	0													
Diesel use - Personnel Transport - other vehicles	gal	51.9													
Diesel use - Personnel Transport - car	gal	0													
Diesel use - Personnel Transport - passenger truck	gal	0													
Diesel use - Personnel Transport - User Defined	gal	0													
Diesel use - Equipment Transport	gal	49													
Diesel use - Equipment Transport - User Defined	gal	0													
Diesel use - Material Transport	gal	91.667													
Diesel use - Material Transport - User Defined	gal	0													
Diesel use - Waste Transport	gal	0													
Diesel use - Waste Transport - User Defined	gal	0													
Gasoline use - Personnel Transport - other vehicles	gal	0													
Gasoline use - Personnel Transport - car	gal	2													
Gasoline use - Personnel Transport - passenger truck	gal	58													
Gasoline use - Personnel Transport - User Defined	gal	0													
Gasoline use - Equipment Transport	gal	0													
Gasoline use - Equipment Transport - User Defined	gal	0													
Natural Gas use - Personnel Transport	ccf	0													
Natural Gas use - Personnel Transport - User Defined	ccf	0													
Natural Gas use - Equipment Transport	ccf	0													

Item	Remedy Component Subtotals 1	2	3	4	5	6	Total
On-Site							
On-site Renewable Energy							
Renewable electricity generated on-site	0	0	0	0	0	0	0
Landfill gas combusted on-site for energy use	0	0	0	0	0	0	0
On-site biodiesel use	0	0	0	0	0	0	0
On-site biodiesel use - Other	0	0	0	0	0	0	0
User-defined on-site renewable energy use #1	0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	0	0	0	0	0	0	0
On-Site Conventional Energy							
Grid electricity	0	0	0	0	0	0	0
On-site diesel use - Other	64.8	0	0	0	0	0	64.8
On-site diesel use <75 hp	0	0	0	0	0	0	0
On-site diesel use 75<hp<750	0	0	0	0	0	0	0
On-site diesel use >750 hp	0	0	0	0	0	0	0
On-site gasoline use - Other	0	0	0	0	0	0	0
On-site gasoline use <25 hp	0	0	0	0	0	0	0
On-site gasoline use >25 hp	0	0	0	0	0	0	0
On-site natural gas use	0	0	0	0	0	0	0
On-site compressed natural gas use - Other	0	0	0	0	0	0	0
On-site compressed natural gas use	0	0	0	0	0	0	0
On-site liquified petroleum gas use - Other	0	0	0	0	0	0	0
On-site liquified petroleum gas use	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #1	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	0	0	0	0	0	0	0
Other On-site Emissions							
On-site HAP process emissions	0	0	0	0	0	0	0
On-site GHG emissions	0	0	0	0	0	0	0
On-site carbon storage	0	0	0	0	0	0	0
GHG avoided by flaring on-site landfill methane	0	0	0	0	0	0	0
Other on-site NOx emissions or reductions	0	0	0	0	0	0	0
Other on-site SOx emissions or reductions	0	0	0	0	0	0	0
Other on-site PM emissions or reductions	0	0	0	0	0	0	0
Electricity Generation							
Grid electricity	0	0	0	0	0	0	0
Voluntary purchase of renewable electricity	0	0	0	0	0	0	0
Voluntary purchase of RECs	0	0	0	0	0	0	0
Transportation							
Transportation Fuel Use Breakdown							
Biodiesel use - Personnel Transport	0	0	0	0	0	0	0
Biodiesel use - Personnel Transport - User Defined	0	0	0	0	0	0	0
Biodiesel use - Equipment Transport	0	0	0	0	0	0	0
Biodiesel use - Equipment Transport - User Defined	0	0	0	0	0	0	0
Biodiesel use - Material Transport	0	0	0	0	0	0	0
Biodiesel use - Material Transport - User Defined	0	0	0	0	0	0	0
Biodiesel use - Waste Transport	0	0	0	0	0	0	0
Biodiesel use - Waste Transport - User Defined	0	0	0	0	0	0	0
Diesel use - Personnel Transport - other vehicles	51.9	0	0	0	0	0	51.9
Diesel use - Personnel Transport - car	0	0	0	0	0	0	0
Diesel use - Personnel Transport - passenger truck	0	0	0	0	0	0	0
Diesel use - Personnel Transport - User Defined	0	0	0	0	0	0	0
Diesel use - Equipment Transport	49	0	0	0	0	0	49
Diesel use - Equipment Transport - User Defined	0	0	0	0	0	0	0
Diesel use - Material Transport	91.667	0	0	0	0	0	91.667
Diesel use - Material Transport - User Defined	0	0	0	0	0	0	0
Diesel use - Waste Transport	0	0	0	0	0	0	0
Diesel use - Waste Transport - User Defined	0	0	0	0	0	0	0
Gasoline use - Personnel Transport - other vehicles	0	0	0	0	0	0	0
Gasoline use - Personnel Transport - car	2	0	0	0	0	0	2
Gasoline use - Personnel Transport - passenger truck	58	0	0	0	0	0	58
Gasoline use - Personnel Transport - User Defined	0	0	0	0	0	0	0
Gasoline use - Equipment Transport	0	0	0	0	0	0	0
Gasoline use - Equipment Transport - User Defined	0	0	0	0	0	0	0
Natural Gas use - Personnel Transport	0	0	0	0	0	0	0
Natural Gas use - Personnel Transport - User Defined	0	0	0	0	0	0	0
Natural Gas use - Equipment Transport	0	0	0	0	0	0	0

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< Site Name > - < Remedy Name >

Input Summary

Remedy Component Number →		1	2	3	4	5	6															
		Column headings in Row 6 must match the name of "Input" tabs in this workbook for Columns C - P in this table to be populated ("0" in Row 4 means "Input" tab is turned Off and will not be grouped to a Remedy Component (Columns Q - V) or used in subsequent calculations)														Remedy Component Subtotals						
Item		Remedial Investigation	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Conventional Energy																						
Transportation diesel use	gal	192.567														192.567	0	0	0	0	0	192.567
Transportation gasoline use	gal	60														60	0	0	0	0	0	60
Transportation natural gas use	ccf	0														0	0	0	0	0	0	0
User-defined conventional energy transportation #1	TBD	10														10	0	0	0	0	0	10
User-defined conventional energy transportation #2	TBD	0														0	0	0	0	0	0	0
Renewable Energy																						
Transportation biodiesel use	gal	0														0	0	0	0	0	0	0
User-defined renewable energy transportation #1	TBD	0														0	0	0	0	0	0	0
User-defined renewable energy transportation #2	TBD	0														0	0	0	0	0	0	0
Off-Site																						
Construction Materials																						
Aluminum, Rolled Sheet	lb	0														0	0	0	0	0	0	0
Asphalt, mastic	lb	0														0	0	0	0	0	0	0
Asphalt, paving-grade	lb	0														0	0	0	0	0	0	0
Ethanol, Corn, 95%	lb	0														0	0	0	0	0	0	0
Ethanol, Corn, 99.7%	lb	0														0	0	0	0	0	0	0
Ethanol, Petroleum, 99.7%	lb	0														0	0	0	0	0	0	0
Gravel/Sand Mix, 65% Gravel	lb	0														0	0	0	0	0	0	0
Gravel/sand/clay	lb	0														0	0	0	0	0	0	0
HDPE	lb	0														0	0	0	0	0	0	0
Photovoltaic system (installed)	W	0														0	0	0	0	0	0	0
PVC	lb	35														35	0	0	0	0	0	35
Portland cement, US average	lb	700																				
Ready-mixed concrete, 20 MPa	ft3	0														0	0	0	0	0	0	0
Round Gravel	lb	0														0	0	0	0	0	0	0
Sand	lb	780														780	0	0	0	0	0	780
Stainless Steel	lb	0														0	0	0	0	0	0	0
Steel	lb	0														0	0	0	0	0	0	0
Other refined construction materials	lb	0														0	0	0	0	0	0	0
Other unrefined construction materials	lb	0														0	0	0	0	0	0	0
Treatment Materials & Chemicals																						
Cheese Whey	lbs	0														0	0	0	0	0	0	0
Emulsified vegetable oil	lbs	0														0	0	0	0	0	0	0
Granular activated carbon, primary	lbs	0														0	0	0	0	0	0	0
Granular activated carbon, regenerated	lbs	0														0	0	0	0	0	0	0
Hydrogen Peroxide, 50% in H2O	lbs	0														0	0	0	0	0	0	0
Iron (II) Sulfate	lbs	0														0	0	0	0	0	0	0
Lime, Hydrated, Packed	lbs	0														0	0	0	0	0	0	0
Molasses	lbs	0														0	0	0	0	0	0	0
Phosphoric Acid, 70% in H2O	lbs	0														0	0	0	0	0	0	0
Potassium Permanganate	lbs	0														0	0	0	0	0	0	0
Sodium Hydroxide, 50% in H2O	lbs	0														0	0	0	0	0	0	0
Other Treatment Chemicals & Materials	lbs	0														0	0	0	0	0	0	0
Material Type																						
Total Virgin Refined Materials	tons	0.4075														0.4075	0	0	0	0	0	0.4075
Total Recycled Refined Materials	tons	0														0	0	0	0	0	0	0
Total Reused Refined Materials	tons	0														0	0	0	0	0	0	0
Total Refined Material	tons	0.4075														0.4075	0	0	0	0	0	0.4075
Total Virgin Unrefined Materials	tons	0														0	0	0	0	0	0	0
Total Recycled Unrefined Materials	tons	0.35														0.35	0	0	0	0	0	0.35
Total Reused Unrefined Materials	tons	0														0	0	0	0	0	0	0
Total Unrefined Material	tons	0.35														0.35	0	0	0	0	0	0.35
Fuel Processing																						
Biodiesel produced	gal	0														0	0	0	0	0	0	0
Diesel produced	gal	257.367														257.367	0	0	0	0	0	257.367
Gasoline produced	gal	60														60	0	0	0	0	0	60
Compressed natural gas produced	ccf	0														0	0	0	0	0	0	0
Liquified petroleum gas produced	gal	0														0	0	0	0	0	0	0
Natural gas produced	ccf	0														0	0	0	0	0	0	0
Water Use																						
Public Water Supply	gal x 1000	0														0	0	0	0	0	0	0
Extracted Groundwater	gal x 1000	0														0	0	0	0	0	0	0
Surface Water	gal x 1000	0														0	0	0	0	0	0	0
Reclaimed Water	gal x 1000	0														0	0	0	0	0	0	0
Collected/Diverted Storm Water	gal x 1000	0														0	0	0	0	0	0	0
User-defined water resource #1	gal x 1000	0														0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0														0	0	0	0	0	0	0

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< Site Name > - < Remedy Name >

Input Summary

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Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
Item		Remedial Investigation	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Waste/Recycle Handling																						
Hazardous waste incineration	lbs	0														0	0	0	0	0	0	0
Off-site waste water treatment (POTW)	gal x 1000	0														0	0	0	0	0	0	0
Off-site non-hazardous waste landfill	tons	0														0	0	0	0	0	0	0
Off-site hazardous waste landfill	tons	0														0	0	0	0	0	0	0
Recycled/Reused On-Site	tons	0														0	0	0	0	0	0	0
Recycled/Reused Off-Site	tons	0														0	0	0	0	0	0	0
Solid Waste Totals																						
Total Non-Hazardous Waste	tons	0														0	0	0	0	0	0	0
Total Hazardous Waste	tons	0														0	0	0	0	0	0	0
Total Recycled/Reused	tons	0														0	0	0	0	0	0	0
Total Waste (all types)	tons	0														0	0	0	0	0	0	0
Lab Services																						
Off-site Laboratory Analysis - Other	sample	7														7	0	0	0	0	0	7
Off-site Laboratory Analysis - Metals	sample	42														42	0	0	0	0	0	42
Off-site Laboratory Analysis - Mercury	sample	0														0	0	0	0	0	0	0
Off-site Laboratory Analysis - Inorganic Anions	sample	0														0	0	0	0	0	0	0
Off-site Laboratory Analysis - Alkalinity	sample	0														0	0	0	0	0	0	0
Off-site Laboratory Analysis - Perchlorate	sample	0														0	0	0	0	0	0	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0														0	0	0	0	0	0	0
Off-site Laboratory Analysis - Sulfate	sample	0														0	0	0	0	0	0	0
Off-site Laboratory Analysis - PCBs	sample	42														42	0	0	0	0	0	42
Off-site Laboratory Analysis - VOCs	sample	42														42	0	0	0	0	0	42
Off-site Laboratory Analysis - SVOCs	sample	42														42	0	0	0	0	0	42
Resource Extraction for Electricity																						
Coal extraction and processing	MWh	0														0	0	0	0	0	0	0
Natural gas extraction and processing	MWh	0														0	0	0	0	0	0	0
Nuclear fuel extraction and processing	MWh	0														0	0	0	0	0	0	0
Oil extraction and processing	MWh	0														0	0	0	0	0	0	0
Other fuel extraction and processing	MWh	0														0	0	0	0	0	0	0
Electricity Transmission																						
Transmission and distribution losses	MWh	0														0	0	0	0	0	0	0

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< Site Name > - < Remedy Name >

Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
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Item		Remedial Investigation	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Other																						
User-defined material #1	TBD	0														0	0	0	0	0	0	0
User-defined material #2	TBD	0														0	0	0	0	0	0	0
User-defined material #3	TBD	0														0	0	0	0	0	0	0
User-defined material #4	TBD	0														0	0	0	0	0	0	0
User-defined material #5	TBD	0														0	0	0	0	0	0	0
User-defined material #6	TBD	0														0	0	0	0	0	0	0
User-defined material #7	TBD	0														0	0	0	0	0	0	0
User-defined material #8	TBD	0														0	0	0	0	0	0	0
User-defined material #9	TBD	0														0	0	0	0	0	0	0
User-defined material #10	TBD	0														0	0	0	0	0	0	0
User-defined material #11	TBD	0														0	0	0	0	0	0	0
User-defined material #12	TBD	0														0	0	0	0	0	0	0
User-defined material #13	TBD	0														0	0	0	0	0	0	0
User-defined material #14	TBD	0														0	0	0	0	0	0	0
User-defined material #15	TBD	0														0	0	0	0	0	0	0
User-defined material #16	TBD	0														0	0	0	0	0	0	0
User-defined material #17	TBD	0														0	0	0	0	0	0	0
User-defined material #18	TBD	0														0	0	0	0	0	0	0
User-defined material #19	TBD	0														0	0	0	0	0	0	0
User-defined material #20	TBD	0														0	0	0	0	0	0	0
User-defined Waste Destinations																						
User-defined recycled/reused on-site #1	TBD	0														0	0	0	0	0	0	0
User-defined recycled/reused on-site #2	TBD	0														0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0														0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0														0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0														0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0														0	0	0	0	0	0	0
User-defined non-hazardous waste destination #1	TBD	0														0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0														0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0														0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0														0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0														0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0														0	0	0	0	0	0	0

Remedial Investigation - On-Site Footprint (Scope 1)

			Energy		GHG		NOx		SOx		PM		HAPs	
Contributors to Footprints	**Units**	**Usage**	**Conv. Factor**	**MMBtus**	**Conv. Factor**	**lbs CO2e**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**
On-Site														
On-site Renewable Energy														
Renewable electricity generated on-site	MWh	0	3.413	0										
Landfill gas combusted on-site for energy use	ccf CH4	0	0.103	0	13.1	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined on-site renewable energy use #1	gal	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
On-site Conventional Energy														
On-site grid electricity	MWh	0	3.413	0										
On-site diesel use - Other	Gal	64.8	0.139	9.0072	22.5	1458	0.17	11.016	0.0054	0.34992	0.0034	0.22032	5.2E-06	0.000337
On-site diesel use <75 hp	Gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	Gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	Gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
On-site gasoline use - Other	Gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
On-site gasoline use <25 hp	Gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	Gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
On-site compressed natural gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed natural gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site liquified petroleum gas use - Other	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Conventional Energy Subtotals				**9**		**1,458**		**11**		**0**		**0**		**0**
Notes:														
Other On-site Emissions														
On-site HAP process emissions	lbs	0											1	0
On-site GHG emissions	lbs CO2e	0			1	0								
On-site carbon storage	lbs CO2e	0			1	0								
GHG avoided by flaring on-site landfill methane	Lbs	0			-262	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
Other on-site NOx emissions or reductions	lbs	0					1	0						
Other on-site SOx emissions or reductions	lbs	0							1	0				
Other on-site PM emissions or reductions	lbs	0									1	0		
User-defined recycled/reused on-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
On-site Totals				**9.01**		**1,458**		**11**		**0**		**0**		**0**

Remedial Investigation - Electricity Generation Footprint (Scope 2)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Electricity Generation														
Grid electricity	MWh	0	6.929	0	1124.3	0	2.2421	0	4.607887	0	0.057518	0	0.210237	0
Voluntary purchase of renewable electricity	MWh	0												
Voluntary purchase of RECs	MWh	0												
Notes:														

Remedial Investigation - Transportation Footprint (Scope 3a)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
Category	**Units**	**Usage**	**Conv. Factor**	**MMBtus**	**Conv. Factor**	**lbs CO2e**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**
Conventional Energy														
Transportation diesel use	gal	192.567	0.139	26.76681	22.5	4332.758	0.17	32.73639	0.0054	1.039862	0.0034	0.654728	5.2E-06	0.001001
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	5.2E-06	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	2	0.124	0.248	19.77	39.54	0.027	0.054	0.00036	0.00072	0.003	0.006	0.0067	0.0134
Transportation gasoline use - passenger truck	gal	58	0.124	7.192	19.79	1147.82	0.035	2.03	0.00036	0.02088	0.003	0.174	0.00661	0.38338
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
User-defined conventional energy transportation #1	TBD	10	0	0	0	0	0	0	0	0	0	0	0	0
User-defined conventional energy transportation #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Conventional Energy Subtotals				**34**		**5,520**		**35**		**1**		**1**		**0**
Notes:														
Renewable Energy														
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined renewable energy transportation #1	TBD	0	Biodiesel		0	0	0	0	0	0	0	0	Ref.	
User-defined renewable energy transportation #2	TBD	0	npg or pmp		0	0	0	0	0	0	0	0	0	0
Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
Transportation Totals				**34**		**5520**		**35**		**1**		**1**		**0**

Remedial Investigation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Construction Materials														
Aluminum, Rolled Sheet	lb	0	0.0633	0	9.15	0	0.0148	0	0.0283	0	0.0088	0	0.00102	0
Asphalt, mastic	lb	0	0.0412	0	0.85	0	0.00271	0	0.00798	0	0.000766	0	0.00107	0
Asphalt, paving-grade	lb	0	0.5	0	8.58	0	0.0299	0	0.0969	0	0.0091	0	0.0133	0
Ethanol, Corn, 95%	lb	0	0.0318	0	-0.0199	0	0.00425	0	0.00303	0	0.000469	0	8.46E-05	0
Ethanol, Corn, 99.7%	lb	0	0.0324	0	0.0591	0	0.00431	0	0.0031	0	0.000472	0	0.000087	0
Ethanol, Petroleum, 99.7%	lb	0	0.0205	0	1.25	0	0.00199	0	0.00214	0	0.000277	0	5.89E-05	0
Gravel/Sand Mix, 65% Gravel	lb	0	2.48E-05	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Gravel/sand/clay	lb	0	0.000028	0	0.00335	0	1.65E-05	0	0.000015	0	0.000002	0	2.05E-10	0
HDPE	lb	0	0.0332	0	1.94	0	0.00325	0	0.00409	0	0.000439	0	6.41E-05	0
Photovoltaic system (installed)	W	0	0.0336	0	4.47	0	0.015	0	0.032	0	0.00063	0	2.9E-06	0
PVC	lb	35	0.0262	0.917	2.02	70.7	0.004	0.14	0.00274	0.0959	0.000372	0.01302	0.000375	0.013125
Portland cement, US average	lb	0	0.0139	0	1.34	0	0.00654	0	0.0104	0	0.00378	0	0.00097	0
Ready-mixed concrete, 20 MPa	ft3	0	0.217	0	19.5	0	0.0975	0	0.154	0	0.057	0	0.0141	0
Round Gravel	lb	0	2.48E-05	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Sand	lb	780	2.48E-05	0.019344	0.0024	1.872	0.000018	0.01404	4.52E-06	0.003526	2.61E-06	0.002036	3.08E-07	0.00024
Stainless Steel	lb	0	0.0116	0	3.4	0	0.0075	0	0.012	0	0.0044	0	0.000144	0
Steel	lb	0	0.0044	0	1.1	0	0.0014	0	0.0017	0	0.00056	0	0.000067	0
Other refined construction materials	lb	0	0.01885	0	2.115	0	0.004038	0	0.005133	0	0.001443	0	0.000163	0
Other unrefined construction materials	lb	0	0.000028	0	0.00335	0	1.65E-05	0	0.000015	0	0.000002	0	2.05E-10	0

Notes:

Remedial Investigation - Off-Site Footprint (Scope 3b)

			Energy		**Greenhouse Gas**		**NOx**		**SOx**		**PM**		**HAPs**	
Category	**Units**	**Usage**	**Conv. Factor**	**MMBtus**	**Conv. Factor**	**lbs CO2e**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**	**Conv. Factor**	**lbs**
Treatment Materials & Chemicals														
Cheese Whey	lbs	0	0.0025	0	0.031	0	0.000062	0	0.000033	0	0.000002	0	NP	
Emulsified vegetable oil	lbs	0	0.0077	0	3.44	0	0.0066	0	0.0019	0	0.000033	0	NP	
Granular activated carbon, primary	lbs	0	0.0356	0	4.82	0	0.0793	0	0.128	0	0.000987	0	0.000657	0
Granular activated carbon, regenerated	lbs	0	0.00873	0	1.7	0	0.00733	0	0.0129	0	0.000886	0	0.000671	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0.00979	0	1.19	0	0.00142	0	0.0024	0	0.000308	0	6.29E-05	0
Iron (II) Sulfate	lbs	0	0.00147	0	0.167	0	0.000316	0	0.000589	0	0.000103	0	0.000023	0
Lime, Hydrated, Packed	lbs	0	0.00206	0	0.762	0	0.000513	0	0.000358	0	0.00013	0	6.57E-06	0
Molasses	lbs	0	0.0044	0	0.48	0	0.0011	0	0.00024	0	4.1E-06	0	NP	
Phosphoric Acid, 70% in H2O	lbs	0	0.0067	0	0.882	0	0.00282	0	0.0294	0	0.00171	0	0.000163	0
Potassium Permanganate	lbs	0	0.00981	0	1.16	0	0.00234	0	0.0032	0	0.000422	0	0.000122	0
Sodium Hydroxide, 50% in H2O	lbs	0	0.00977	0	1.09	0	0.00194	0	0.00352	0	0.000403	0	0.000129	0
Other Treatment Chemicals & Materials	lbs	0	0.015	0	1.67	0	0.003	0	0.0065	0	0.00061	0	0.000016	0
Notes:														
Fuel Processing														
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Diesel produced	gal	257.367	0.017	4.375239	3.02	777.2483	0.0051	1.312572	0.0062	1.595675	0.0017	0.437524	0.0011	0.283104
Gasoline produced	gal	60	0.033	1.98	2.8	168	0.0046	0.276	0.005	0.3	0.0015	0.09	0.001	0.06
Liquefied Petroleum Gas Produced	gal	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Natural Gas - Compressed Produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Natural Gas Produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	6.1E-06	0
Fuel Processing Subtotals				**6.355239**		**945.2483**		**1.588572**		**1.895675**		**0.527524**		**0.343104**
Notes:														
Public water	gal x 1000	0	0.0092	0	5	0	0.0097	0	0.0059	0	0.016	0	0.000015	0
User-defined water resource #1	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														

Remedial Investigation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy Conv. Factor	Energy MMBtus	Greenhouse Gas Conv. Factor	Greenhouse Gas lbs CO2e	NOx Conv. Factor	NOx lbs	SOx Conv. Factor	SOx lbs	PM Conv. Factor	PM lbs	HAPs Conv. Factor	HAPs lbs
Off-Site Services														
Hazardous waste incineration	lb	0	0.00609	0	2.43	0	0.0016	0	0.00167	0	0.000209	0	0.000087	0
Off-site waste water treatment (POTW)	gal x 1000	0	0.015	0	4.4	0	0.016	0	0.015	0	NP		NP	
Off-site non-hazardous waste landfill	ton	0	0.16	0	25	0	0.14	0	0.075	0	0.4	0	0.0014	0
Off-site hazardous waste landfill	ton	0	0.18	0	27.5	0	0.154	0	0.0825	0	0.44	0	0.00154	0
Off-site Laboratory Analysis - Other	sample	7	0.058071	0.406497	6.853438	47.97407	0.131402	0.919814	0.303876	2.12713	0.04557	0.318989	0.033017	0.231116
Off-site Laboratory Analysis - Metals	sample	42	0.212	8.904	27.4693	1153.711	0.6423	26.9766	1.5072	63.3024	0.2264	9.5088	0.1643	6.9006
Off-site Laboratory Analysis - Mercury	sample	0	0.073171	0	9.325458	0	0.212744	0	0.49824	0	0.074736	0	0.054233	0
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0.007402	0	0.645948	0	0.006768	0	0.014793	0	0.002202	0	0.001554	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0.01744	0	1.338192	0	0.007011	0	0.01325	0	0.00194	0	0.001283	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0.023885	0	1.871705	0	0.007981	0	0.014154	0	0.002055	0	0.001287	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0.033648	0	4.29897	0	0.095459	0	0.222665	0	0.03351	0	0.024251	0
Off-site Laboratory Analysis - Sulfate	sample	0	0.014122	0	1.472673	0	0.007981	0	0.013602	0	0.00198	0	0.001202	0
Off-site Laboratory Analysis - PCBs	sample	42	0.051277	2.15363	5.224902	219.4459	0.083334	3.500023	0.190477	8.000052	0.028439	1.194452	0.021208	0.890747
Off-site Laboratory Analysis - VOCs	sample	42	0.076204	3.200588	9.016814	378.7062	0.104498	4.388918	0.227074	9.5371	0.033951	1.425935	0.023589	0.990747
Off-site Laboratory Analysis - SVOCs	sample	42	0.07156	3.005528	7.870422	330.5577	0.145945	6.12967	0.337304	14.16676	0.050485	2.120384	0.037258	1.564825
Notes:														
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0	3.1	0	180.0	0	0.8	0	0.2	0	0.0	0	NP	
Natural gas extraction and processing	MWh	0	1.6	0	270.0	0	0.2	0	13.0	0	0.0	0	NP	
Nuclear fuel extraction and processing	MWh	0	0.2	0	25.0	0	0.2	0	0.5	0	0.0	0	NP	
Oil extraction and processing	MWh	0	2.3	0	270.0	0	1.7	0	0.1	0	0.0	0	NP	
Other fuel extraction and processing	MWh	0	0	0	0	0	0	0	0	0	0	0	0	0
Resource Extraction Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
Electricity Transmission														
Transmission and distribution losses	MWh	0	1.0342	0	112.43	0	0.22421	0	0.460789	0	0.005752	0	0.021024	0
Notes:														

Remedial Investigation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
User-defined Materials														
User-defined material #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #4	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #5	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #6	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #7	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #8	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #9	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #10	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #11	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #12	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #13	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #14	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #15	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #16	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #17	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #18	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #19	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #20	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
User-defined Waste Destinations														
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	y(MMBtu/u		(lbs CO2e/u		Ox(lbs/unit)		Ox(lbs/unit)		M(lbs/unit)		APs(lbs/unit	
User-defined non-hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
Off-site Totals				**24.96183**		**3148.215**		**43.65764**		**99.12854**		**15.11114**		**10.9345**

Remedial Investigation - Intermediate Totals

Category	Units	Usage	Energy Conv. Factor	Energy MMBtus	Greenhouse Gas Conv. Factor	Greenhouse Gas lbs CO2e	NOx Conv. Factor	NOx lbs	SOx Conv. Factor	SOx lbs	PM Conv. Factor	PM lbs	HAPs Conv. Factor	HAPs lbs
Total Grid Electricity Footprint														
On-site grid electricity	MWh	0	3.413	0										
Electricity Generation														
Grid electricity	MWh	0	6.929	0	1124.3	0	2.2421	0	4.607887	0	0.057518	0	0.210237	0
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0	3.1	0	180.0	0	0.8	0	0.2	0	0.0	0	NP	
Natural gas extraction and processing	MWh	0	1.6	0	270.0	0	0.2	0	13.0	0	0.0	0	NP	
Nuclear fuel extraction and processing	MWh	0	0.2	0	25.0	0	0.2	0	0.5	0	0.0	0	NP	
Oil extraction and processing	MWh	0	2.3	0	270.0	0	1.7	0	0.1	0	0.0	0	NP	
Other fuel extraction and processing	MWh	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Electricity Transmission														
Transmission and distribution losses	MWh	0	1.0342	0	112.43	0	0.22421	0	0.460789	0	0.005752	0	0.021024	0
Total Grid Electricity Footprint				**0**		**0**		**0**		**0**		**0**		**0**
Total Fuel Footprints														
Total Gasoline Footprint														
On-site gasoline use - Other	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
On-site gasoline use <25 hp	gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	2	0.124	0.248	19.77	39.54	0.027	0.054	0.00036	0.00072	0.003	0.006	0.0067	0.0134
Transportation gasoline use - passenger truck	gal	58	0.124	7.192	19.79	1147.82	0.035	2.03	0.00036	0.02088	0.003	0.174	0.00661	0.38338
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Gasoline produced	gal	60	0.033	1.98	2.8	168	0.0046	0.276	0.005	0.3	0.0015	0.09	0.001	0.06
Total Gasoline Footprint		**60**		**9.42**		**1355.36**		**2.36**		**0.3216**		**0.27**		**0.45678**
Total Diesel Footprint														
On-site diesel use - Other	gal	64.8	0.139	9.0072	22.5	1458	0.17	11.016	0.0054	0.34992	0.0034	0.22032	5.2E-06	0.000337
On-site diesel use <75 hp	gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
Transportation diesel use	gal	192.567	0.139	26.76681	22.5	4332.758	0.17	32.73639	0.0054	1.039862	0.0034	0.654728	5.2E-06	0.001001
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	5.2E-06	0
Diesel produced	gal	257.367	0.017	4.375239	3.02	777.2483	0.0051	1.312572	0.0062	1.595675	0.0017	0.437524	0.0011	0.283104
Total Diesel Footprint		**257.367**		**40.14925**		**6568.006**		**45.06496**		**2.985457**		**1.312572**		**0.284442**
Total Biodiesel Footprint														
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Total Biodiesel Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Natural Gas Footprint														
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	6.3E-06	0	0.00076	0	8.4E-06	0
Natural gas produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	6.1E-06	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Liquified Petroleum Gas Footprint														
On-site liquified petroleum gas use - Other	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Liquified petroleum gas produced	ccf	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Compressed Gas Footprint														
On-site compressed gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
Compressed gas produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**

Notes:

Note: Please refer to the "Default Conversions" tab for references for the default conversion factors used on this calculation sheet.

Space below available for notes and calculations: