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2 November 2020

Ms. Meghan Medwid
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

Re: 297 Wallabout Street
Site No. C224299
Brooklyn, New York
Remedial Investigation Report Comment Response

Dear Ms. Medwid,

Haley & Aldrich of New York (Haley & Aldrich) is pleased to provide this response to the comments on the Remedial Investigation Report (RIR) for the above referenced Site provided by the New York State Department of Environmental Conservation (NYSDEC) on 27 October 2020.

The comments have been incorporated in the attached RIR and addressed as described below.

Technical Comments

1. Section 8.0 has been renamed to Qualitative Human Health Exposure Assessment (QHHEA).
2. The contents of Section 8.0 QHHEA have been revised to avoid redundancy and articulate relevant information needed to assess and evaluate potential exposures. The Fish and Wildlife Exposure Analysis has been removed from Section 8.0 and placed in Section 9.0.
3. Section 8.0 QHHEA has been revised to articulate the potential for exposure to surface soil at the site.

Please see the attached revised RIR with incorporation of the above comment responses. Should there be any questions please contact me at JBellew@haleyaldrich.com or 646-277-5686.

Sincerely yours,

HALEY & ALDRICH OF NEW YORK

James M. Bellew
Senior Associate

Mari C. Conlon, P.G.
Project Manager

c:

L. Waldman – 295 W Holdings LLC
F. Bifera, Esq. – Barclay Damon
G. Burke – NYSDEC
J. O’Connell – NYSDEC
H. Dudek – NYSDEC
S. McLaughlin – NYSDOH
M. Doroski – NYSDOH

HALEY ALDRICH

SIGNATURE PAGE FOR

REMEDIAL INVESTIGATION REPORT
295-297 WALLABOUT STREET
BROOKLYN, NY
NYSDEC SITE C224299

PREPARED FOR
295 W HOLDINGS LLC

PREPARED BY:

Mari C. Conlon
Project Manager
Haley & Aldrich of New York

REVIEWED AND APPROVED BY:

James M. Bellew
Senior Associate
Haley & Aldrich of New York

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237 West 35th Street
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646.518.7735

2 November 2020
File No. 133156-005

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233

Attention: Ms. Meghan Medwid, Project Manager

Subject: Remedial Investigation Report
295-297 Wallabout Street
Brooklyn, New York
BCP Site C224299

Dear Ms. Medwid:

On behalf of 295 W Holdings LLC, Haley & Aldrich of New York ("Haley & Aldrich") is pleased to submit this Remedial Investigation Report (RIR) for the above referenced subject site ("Site") being remediated pursuant to the Brownfield Cleanup Program (BCP). This document is being submitted pursuant to Brownfield Cleanup Agreement, Index No. C224299-01-20 (BCA), for BCP Site No. #C224299, which BCA was executed on 13 February 2020 between the New York State Department of Environmental Conservation (NYSDEC) and 295 W Holdings LLC.

This report has been developed in accordance with the NYSDEC (6 NYCRR) Part 375 Brownfield Cleanup Regulations dated December 2006, the "Technical Guidance for Site Investigation and Remediation" (DER-10 dated May 2010) and other relevant NYSDEC technical and administrative guidance.

The BCA stated that the NYSDEC had determined that the Site was not eligible for tangible property tax credits because the contamination in the groundwater and soil vapor noted in the BCP Application appeared to be solely emanating from property other than the Site.

But, the BCA further provided at Paragraph II that, should an onsite source of contamination be identified at any time from application until the site receives a certificate of completion, 295 W Holdings could request another eligibility determination.

The activities of the Remedial Investigation (RI) were completed on 11 and 12 June 2020 and were implemented in accordance with the Remedial investigation Work Plan (RIWP) approved by NYSDEC on 7 April 2020. Because the RI has identified an on-site source of contamination, 295 W Holdings hereby, respectfully, requests another eligibility determination for tangible property tax credits.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK

James M. Bellew
Senior Associate

Mari C. Conlon, PG
Project Manager

Enclosures

c: L. Waldman – 295 W Holdings LLC
F. Bifera, Esq. – Barclay Damon
G. Burke – NYSDEC
J. O'Connell – NYSDEC
H. Dudek – NYSDEC
S. McLaughlin – NYSDOH
M. Doroski – NYSDOH

Certification

This report documents remedial investigation activities conducted at BCP Site C224299 located at 295-297 Wallabout Street, Brooklyn, New York.

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 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

2 November 2020

James M. Bellew, Senior Associate | *Date*

[1] Certification applies to remedial investigation activities conducted after the execution of the Brownfield Cleanup Agreement (BCA) dated 13 February 2020.

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List of Acronyms

A

AA	Alternatives Analysis
AAR	Alternatives Analysis Report
ASP	Analytical Services Protocol

B

BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program

C

cis-1,2-DCE	cis-1,2-Dichloroethene
COC	Contaminant of Concern
CP-51	Commissioners Policy-51 *(specifically "October 2010 NYSDEC Commissioners Policy 51")*
CSM	Conceptual Site Model

D

1,1-DCA	1,1-Dichloroethane
DCE	Dichloroethene
DER-10	Division of Environmental Remediation-10 *(specifically "May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation")*
DUSR	Data Usability Summary Report

F

FER	Final Engineering Report
FWRIA	Fish and Wildlife Resources Impact Analysis

M

MS	Matrix Spike
MSD	Matrix Spike Duplicate

N

NYCRR	New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health

P

PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated Biphenyl
PCE	Perchloroethene/Tetrachloroethene
PID	Photoionization Detector

List of Acronyms
(Continued)

Q

QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QHHEA	Qualitative Human Health Exposure Assessment

R

RA	Remedial Action
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RIWP	Remedial Investigation Work Plan

S

SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective
SMP	Site Management Plan
SSDS	Sub-Slab Depressurization System
SVOC	Semi-Volatile Organic Compound

T

TCA	1,1,1-Trichloroethane
TCE	Trichloroethene
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")*
TPH	Total Petroleum Hydrocarbons
trans-1,2-DCE	trans-1,2-Dichloroethene

U

USGS	United States Geologic Survey

V

VOC	Volatile Organic Compound

1. Introduction

This Remedial Investigation Report (RIR) was prepared by Haley & Aldrich of New York (Haley & Aldrich) on behalf of 295 W Holdings LLC (295 W Holdings) for the property located at 295-297 Wallabout Street, Brooklyn, New York (the Site). The Site location is shown in Figure 1.

In October 2019, 295 W Holdings filed an application (BCP Application) with the New York State Department of Environmental Conservation (NYSDEC), to admit the Site into the New York State Brownfield Cleanup Program (BCP). A revised BCP Application was submitted in November 2019 and the application was deemed complete by the NYSDEC on 27 November 2019. The Site (Site No. C224239) was subsequently accepted into the BCP with 295 W Holdings classified as a "Volunteer." The Brownfield Cleanup Agreement (BCA) was executed by NYSDEC on 13 February 2020.

The activities of the Remedial Investigation (RI) were completed on 11 and 12 June 2020 and were implemented in accordance with the Remedial investigation Work Plan (RIWP) approved by NYSDEC on 7 April 2020 and provided in Appendix A.

1.1 PURPOSE AND OBJECTIVES

A Phase II/Remedial Investigation (Phase II) characterized the Site for the New York City Office of Environmental Remediation (NYC OER) E-Designation program in March 2019. The Phase II detected volatile organic compounds (VOCs), semi-volatile organic compound (SVOCs), pesticides and metals at the Site.

Upon review of the analytical results of the Phase II, NYC OER referred the project to the NYSDEC due to, among other things, the presence of chlorinated VOCs in soil vapor at the Site. The Phase II site characterization for NYC OER did not identify a source of contamination on the Site. Nor did the Phase II analyze the environmental media at the Site for the full target compound list of contaminants.

Therefore, additional soil, groundwater and soil vapor sampling was required as part of the BCP process. This RI Report set forth the results of the additional sample analyses, which results confirm and expand upon the results of the previous site characterization activities, potentially identify an on-site source of contamination, and can be used to determine a course for remedial action.

2. Site Background

2.1 SITE LOCATION AND DESCRIPTION

The Site, identified as Block 2250 Lot 45 on the New York City tax map, is 6,300-square feet and is bounded by a residential apartment building to the north, a warehouse to the south, Wallabout Street to the east, and a warehouse to the west. The Site location is shown on Figure 1. Existing Site features are shown on Figure 2. The Site is currently a vacant unpaved open lot and the land is currently zoned as R7A for "medium-density apartment house districts" which allows for residential use. The Site is located in an urban area surrounded by commercial and residential properties served by municipal water. 295 W Holdings plans to continue Site use for restricted residential purposes consistent with current zoning.

2.2 GEOLOGY AND HYDROGEOLOGY

Elevation of the property ranges from 13 to 14 feet above sea level. Depth to bedrock at the Site is greater than 100 feet. The stratigraphy of the Site, from the surface down, consists of historic fill material to depths as great as 1 foot below ground surface (ft bgs), underlain by 4-6 ft bgs of brown medium to fine sand with trace silt, underlain by 3-5 ft bgs of firm light brown to tan silty clay below which stratigraphy returns to a medium to coarse brown sand layer reaching extending to at least 12 ft bgs. Depth to groundwater ranges from 8-9 ft bgs and groundwater flow beneath the site is generally from southwest to northeast. A groundwater contour map is provided in Figure 4.

2.3 SITE HISTORY

The Site was developed with a three-story dwelling/store from at least the late 1880s through the 1940s. By the late 1940s, the dwelling was demolished and a rectangular building encompassing the Site and adjoining lots was constructed. The Site operated as a manufacturing facility used for woodworking and plastics product manufacturing from the 1960s through 2007. By 2012, the manufacturing facility was demolished, and the Site remains vacant. A. Holding LLC sold the Site to Middleton Developers LLC in February 2013 before 295 W Holdings purchased the Site from Middleton Developers LLC in May 2019.

The area surrounding the Site was historically used for dwellings, light manufacturing, warehousing and auto works from the late 1800s through the mid-1970s. From the mid to late-1970s, the area was primarily used for commercial/residential purposes and warehouses.

2.4 REDEVELOPMENT PLANS

The proposed development plan includes development of a new seven-story residential apartment building. The building will encompass the entire lot footprint, will include 11 residential units and be equipped with a full cellar to be used for mechanical equipment, refuse and bicycle storage only.

3. Summary of Previous Investigations

A Phase II performed by Haley & Aldrich on 18 March 2019 on behalf of 295 W Holdings for the NYC OER E-Designation program, included the following scope of work:

1. Conducted a Site inspection to identify areas of concern (AOC) and physical obstructions (i.e. structures, buildings, etc.);
2. Installed five (5) soil borings across the entire project Site, and collected ten (10) soil samples and one duplicate for chemical analysis from the soil borings to evaluate soil quality;
3. Installed three (3) groundwater monitoring wells throughout the Site to establish groundwater flow and collected three (3) groundwater samples for chemical analysis to evaluate groundwater quality;
4. Installed four (4) soil vapor probes around Site perimeter and collected four (4) samples for chemical analysis to evaluate the potential for vapor intrusion.

A summary of environmental findings of the Phase II include the following:

1. Elevation of the property ranges from 13 to 14 feet above mean sea level (amsl).
2. Depth to groundwater ranged from 8.10 to 8.35 ft bgs at the Site.
3. Groundwater flow was observed generally from northwest to southeast beneath the Site.[2]
4. Depth to bedrock at the Site is greater than 100 ft bgs.
5. The stratigraphy of the Site, from the surface down, consists of historic fill material to depths up to 1 ft bgs, underlain by 4-6 ft bgs of brown medium to fine sand with trace silt. This layer is underlain by 3-5 ft bgs of firm light brown to tan silty clay below which stratigraphy returns to a medium to coarse brown sand layer extending to at least 12 ft bgs below existing grade.
6. Soil/fill samples were compared to NYSDEC 6NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Restricted Residential Use Soil Cleanup Objectives (RRSCOs). Soil/fill samples collected during the Phase II showed:
    - The VOC acetone was detected at 59 µg/kg, i.e., above the UUSCO of 50 µg/kg, in the 0-2 foot interval at SB-1. In addition, the chlorinated VOC trichloroethene (max of 220 µg/kg) was detected in 0-2 foot interval at SB-3, but well below the UUSCO of 470 µg/kg.
    - Five SVOCs: benz(a)anthracene (2,000 µg/kg), benzo(a)pyrene (1,900 µg/kg), benzo(b)fluoranthene (1,800 µg/kg), dibenz(a,h)anthracene (420 µg/kg) and indeno(1,2,3-cd)pyrene (1,200 µg/kg), were detected above the RRSCOs and two SVOCs: benzo(k)fluoranthene (1,700 µg/kg) and chrysene (2,400 µg/kg), were detected above the UUSCOs in the 0-2 ft bgs interval at SB-5. SVOCs were not detected above the UUSCOs in any other sample.

[2] Groundwater flow direction observed during the March 2019 Ph II was determined from temporary wells not surveyed by a licensed New York Land Surveyor.

- No polychlorinated biphenyls (PCBs) were detected at concentrations exceeding the UUSCOs
- Five metals: barium (maximum 373 mg/kg), chromium (maximum 62.3 mg/kg), copper (maximum 90.1 mg/kg), nickel (maximum 159 mg/kg) and zinc (maximum 848 mg/kg), were detected above UUSCOs in four of five 0-2 ft bgs interval samples. Two metals: lead (maximum of 796 mg/kg) and mercury (maximum of 1.19 mg/kg), were detected above RRSCOs in the 0-2 ft bgs interval at SB-5.
- Four pesticides: 4,4'-DDD (maximum 33 µg/kg), 4,4'-DDE (maximum 12 µg/kg), 4,4'-DDT (maximum 60 µg/kg) and dieldrin (maximum 14 µg/kg), were detected above UUSCOs in three of the five 0-2 ft bgs interval samples. No pesticides were detected above UUSCOs in the development depth samples.

7. Groundwater analytical results were compared to New York State Department of Environmental Conservation 6NYCRR Part 703.5 Class GA groundwater standards (GWQS) and NYSDEC guidance set forth in 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") (TOGS 1.1.1). Groundwater samples collected during the Phase 2 showed:

- Two VOCs: cis-1,2-Dichloroethene (cis-1,2-DCE)(maximum 11 µg/L) and vinyl chloride (maximum 6.2 µg/L) were detected above the GWQS in TW-2 and TW-3. A third VOC: trichloroethene (TCE), was detected above the GWQS at 6.5 µg/L in TW-2 only.
- Three SVOCs: benz(a)anthracene (0.03 µg/L), benzo(b)fluoranthene (0.02 µg/L), and chrysene (0.03 µg/L), were detected above the GWQS in TW-1.
- No PCBs or pesticides were detected in any groundwater samples.
- Five metals (undissolved: aluminum (maximum 12 µg/L), antimony (maximum 0.011 µg/L), iron (maximum 35.6 µg/L), manganese (maximum of 2.67 µg/L) and sodium (maximum of 59.5 µg/L), were detected above the GWQS in at least two of the three groundwater samples. Magnesium (undissolved) was detected above the GWQS at 53.5 µg/L in TW-1 only. Two dissolved metals: manganese (maximum of 2.38 µg/L) and sodium (maximum of 65 µg/L), were detected in at least two of the three groundwater samples. Dissolved iron was also detected above the GWQS at 9.72 µg/L in TW-3 only and dissolved magnesium at 52.6 µg/L in TW-1 only.
- TW-3 was analyzed for 1,4-dioxane and per- and polyfluoroalkyl substances (collectively, PFAS) target analyte list. Several analytes were detected above the detection limit including perfluorobutanesulfonic acid (2.5 ng/L), perfluorohexanoic acid (6.5 ng/L), perfluoroheptanoic acid (3.2 ng/L), perfluoropentnoic acid (7.4 ng/L), perfluorooctanoic acid (PFOA) (12 ng/L), and perfluorooctanesulfonic acid (PFOS) (6.6 ng/L). The detection of 12 ng/L perfluorooctanoic acid exceeds the 10 ng/L MCL established on July 30, 2020 by the NYS Public Health and Health Planning Council for PFOA. 1,4-dioxane was not detected above the reporting limit of 0.20 µg/L.

8. Soil vapor analytical results were compared to New York State Department of Health (NYSDOH) Final Guidance on Soil Vapor Intrusion (May 2017) Matrix A, B, and C guidance values.

Approximately 24 VOCs were detected above the method detection limits within the four soil vapor samples collected. Based on the VOC concentrations detected and the NYSDOH decision matrices, the concentrations of cis-1,2-DCE, Tetrachloroethene (PCE), TCE and vinyl chloride exceeded the guidance value for no further action and indicate the need for monitoring and/or mitigation if a building were to be built on the Site. Cis-1,2-DCE was detected at 14.2 µg/m^3 in SV-2, 64.2 µg/ m^3 in SV-3 and 33.6 µg/ m^3 in SV-4 exceeding the no further action guidance value of 6 µg/ m^3. PCE was detected at 110 µg/ m^3 in SV-3 exceeding the no further action guidance value of 100 µg/ m^3. TCE was detected at 53.7 µg/ m^3 in SV-1, 96.1 µg/ m^3 in SV-2, 3,350 µg/ m^3 in SV-3 and 2,620 µg/ m^3 in SV-4 exceeding the no further action guidance value of 6 µg/ m^3. Lastly, vinyl chloride was detected at 11.9 µg/ m^3 in SV-2 also exceeding the no further action guidance value of 6 µg/ m^3. Although not regulated in soil vapor, total concentrations of petroleum-related VOCs (BTEX) within the four soil vapor samples ranged from 7.85 µg/m^3 to 210.01 µg/m^3.

4. Remedial Investigation Approach

4.1 PROJECT TEAM

The Haley & Aldrich project team for the Site was created based on qualifications and experience with personnel suited for successful completion of a RI.

James Bellew was selected as 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 requirements outlined in the RI work plan (RIWP) and in accordance with the DER-10 guidance.

Mari Conlon was the Project Manager for this work. In this role, Ms. Conlon managed 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. Conlon was responsible for communications with the NYSDEC Project Manager regarding project status, schedule, issues and updates for project work.

Zachary Simmel was the field engineer responsible for implementing the field effort for this work. Mr. Simmel's responsibilities included implementing the work plan activities and directing the subcontractors to ensure successful completion of all field activities.

The NYSDEC Project Manager was Ms. Meghan Medwid. Ms. Medwid was responsible for overseeing the successful completion of the project work and adherence to the RIWP on behalf of NYSDEC.

The drilling subcontractor was Coastal Environmental Solutions, Inc. (Coastal). Coastal provided a geoprobe operator to implement the scope of work of the approved RIWP.

The analytical laboratory was Alpha Analytical of Westborough, MA, a New York Environmental Laboratory Approval Program (ELAP) certified laboratory. Alpha Analytical was responsible for analyzing samples as per the analyses and methods identified in the approved RIWP.

4.2 SOIL BORING INSTALLATION AND SOIL SAMPLING

Eight soil borings were installed to 10 ft bgs by a track-mounted direct push drill rig (Geoprobe®) operated by Coastal. 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.

Soils were logged continuously by an engineer using the Unified Soil Classification System. The presence of staining, odors, and photoionization detector (PID) response was noted. Sampling methods are described in the Field Sampling Plan (FSP) provided in the RIWP in Appendix A. Laboratory data were reported in ASP Category B deliverable format and are available in Appendix H to this RI Report.

Samples were collected from the surface at 0-2 inches bgs and from 8-10 ft bgs and additional samples were collected from any interval exhibiting elevated PID readings and/or visual and olfactory impacts. Soil samples were analyzed for:

- Target Compound List (TCL) VOCs using EPA method 8260B
- TCL SVOCs using EPA method 8270C
- Total Analyte List (TAL) Metals using EPA method 6010
- PCBs using EPA method 8082

Samples from soil borings B-5 and B-6 were sampled VOCs only.

As per NYSDEC DER-10 requirements, soil samples were collected for emerging contaminants. Soil collected from 8-10 ft bgs in soil borings B-3 and B-7 was analyzed for:

- Per- and polyfluoroalkyl substances (PFAS) by EPA Method 537.1
- 1,4-dioxane by EPA Method 8270 SIM

Samples analyzed for PFAS and 1,4-dioxane were collected and analyzed in accordance with the NYSDEC issued January 2020 "Guidelines for sampling and Analysis of PFAS" and the June 2019 Sampling for "1,4-dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DECs Part 375 Remedial Programs," respectively.

4.3 PERMANENT MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING

Five two-inch permanent monitoring wells were installed to 15 ft bgs. Monitoring wells have a 2-inch annular space and were installed using certified clean sand fill. Wells were screened from 5-15 ft bgs. Groundwater was encountered at approximately 8-9.5 ft bgs. 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 (NTU) or less, or 10 well volumes are removed, if possible. Well development logs are provided in Appendix D to this RI Report. The well casings were surveyed by a New York State licensed surveyor on 23 July 2020. During surveying, Haley & Aldrich performed a synoptic monitoring well gauging event. A groundwater contour map is provided in Figure 4.

Monitoring wells MW-1, MW-2, MW-3, MW-4 and MW-5 were sampled and analyzed for:

- TCL VOCs using EPA method 8260B;
- TCL SVOCs using EPA method 8270C;
- Total Metals using EPA methods 6010/7471;
- PFAS using EPA method 537; and
- 1,4-Dioxane using EPA method 8260B.

Samples analyzed for PFAS and 1,4-dioxane were collected and analyzed in accordance with the NYSDEC issued January 2020 "Guidelines for sampling and Analysis of PFAS" and the June 2019 Sampling for "1,4-dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DECs Part 375 Remedial Programs," respectively.

Groundwater wells were sampled using low-flow sampling methods as described in the FSP provided in the RIWP in Appendix A. Groundwater purge logs are provided in Appendix E to this RI Report.

The FSP details the field procedures and protocols that were followed during field activities. The Quality Assurance Project Plan (QAPP) presented in the RIWP in Appendix A details the analytical methods and procedures that were used to analyze samples collected during field activities.

4.4 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 October 2006). Six soil vapor probes were installed to approximately 7 ft bgs. The vapor implants were installed with a direct-push drilling rig (e.g., Geoprobe®) 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 quality assurance/quality control (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 (2) 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 exceed 0.2 L/min. Additional details regarding the sampling methods are described in the FSP provided in the RIWP in Appendix A.

4.5 QUALITY ASSURANCE/QUALITY CONTROL

4.6 REPORTING

Daily reports were provided to NYSDEC, including a summary of site activities, investigation progress updates and photographs of field work. The submitted daily reports are included in Appendix B to this RI Report.

4.7 INVESTIGATION DERIVED WASTE

Following sample collection, the boreholes that were not converted to monitoring wells were backfilled with soil cutting and an upper bentonite plug. Boreholes were restored to grade with surrounding area. Grossly contaminated soil was not identified during the investigation.

Soil cuttings from monitoring well installation and groundwater purged from the monitoring wells during development and sample collection were placed into a DOT approved 55-gallon drum pending offsite disposal.

5. Health and Safety

The work outlined above was completed under a site-specific Health and Safety Plan (HASP) (Appendix A) in accordance with OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations. Work was completed in Modified Level D personal protective equipment (PPE); however, workers were prepared to elevate to more protective PPE based on the conditions encountered during field activities.

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 (as a proxy for the potentially applicable Protection of Groundwater SCOs and the Protection of Ecological Resources SCOs) and RRSCOs.

Groundwater analytical results were compared to NYSDEC's GWQS and TOGS 1.1.1 guidance values.

Soil vapor analytical results were compared to NYSDOH Final Guidance on Soil Vapor Intrusion (May 2017) Matrix A, B, and C guidance values.

6.2 SOIL SAMPLING RESULTS

Table 1 provides a summary of the analytical results from the soil sampling event. Figure 5 provides the soil boring locations as well as a summary of soil data from the sampling event. Details of the soil boring logs are provided in Appendix G to this RI Report.

TCE and PCE were detected at concentrations, 150 mg/kg and 20 mg/kg, respectively, above their applicable RRSCOs, in the soil sample collected from boring B2 at 8-10 ft bgs. Cis-1,2 DCE was also detected in boring B2 at 8-10 ft bgs at 1.5 mg/kg which is above its UUSCO of 0.25 mg/kg. VOCs were not detected in remaining soil samples above the UUSCOs or RRSCOs with the exception of acetone detected in boring B-1 at 2.6 mg/kg from 0-2 ft bgs and 0.005 mg/kg from 8-10 ft bgs.

Elevated SVOC polycyclic aromatic hydrocarbons (PAHs) were detected in sample B-2 (8-10 ft bgs), including benzo(a)anthracene which was detected at 2.8 mg/kg, above the applicable RRSCO, and chrysene which was detected at 3.5 mg/kg, above the applicable UUSCO. No other SVOCs were detected in remaining soil samples above their respective UUSCOs or RRSCOs.

One pesticide, 4,4'-DDT, was detected above the UUSCO in three shallow samples from 0-2 inches at borings B-3, B-7 and B-8. Concentrations ranged from 0.00822 mg/kg to 0.012 mg/kg. Pesticides were not detected in remaining soil samples above the UUSCOs or RRSCOs.

Polychlorinated biphenyls were not detected in soil samples above the UUSCOs or RRSCOs.

Several metals were detected above the UUSCOs and RRSCOs in four soil samples collected from borings B-3, B-7 and B-8. Lead was detected in B-3(0-2") and B-8(0-2") at 120 mg/kg and 191 mg/kg, respectively, above its UUSCO of 63 mg/kg. Nickel was detected in B-3(0-2"), B-7 (0-2"), B-8 (0-2") and B-8 (8-10') ranging from 35.6 mg/kg to 65.9 mg/kg, above its UUSCO of 30 mg/kg. Mercury (0.214 mg/kg), copper (718 mg/kg) and zinc (144 mg/kg) were also detected above their respective UUSCOs in B-8(0-2"). Metals were not detected in remaining soil samples above the UUSCOs or RRSCOs.

PFOA/PFAS were not detected above the laboratory detection limits in soil samples with the exception of three estimated results. An estimated concentration of Perfluorohexanoic Acid (PFHxA) measured

0.000059 mg/kg in B-3(8-10'). An estimated concentration of Perfluorooctanoic Acid (PFOA) measured 0.000065 mg/kg in B-7(8-10').

1,4-dioxane was not detected at concentrations above the laboratory detection limit in any soil sample.

6.3 GROUNDWATER SAMPLING RESULTS

Table 2 provides a summary of the analytical results from the groundwater sampling event. Figure 6 provides the groundwater monitoring well locations as well as a summary of the groundwater data from the sampling event. Sample logs are provided in Appendix E to this RI Report.

VOCs, including PCE, TCE, cis-1,2-DCE and vinyl chloride, were detected above the NYSDEC GWQS in multiple groundwater samples collected during the RI. PCE was detected above the GWQS of 5 ug/L in MW-1, MW-2 and MW-3 at concentrations ranging from 8.6 µg/L to 150 µg/L (detected in MW-2). TCE was detected above the GWQS of 5 ug/L in all groundwater samples at concentrations ranging from 9.2 µg/L to 3,300 µg/L (detected in MW-2). Cis-1,2-DCE was detected above the GWQS of 5 ug/L in all groundwater samples, with the exception of MW-4, at concentrations ranging from 10 µg/L to 390 µg/L (detected in MW-2). Vinyl chloride was detected above the GWQS of 2 ug/L in MW-5 at 6.7 µg/L. No other VOCs were detected in remaining groundwater samples above their applicable GWQS.

Multiple SVOCs were detected above the GWQS in groundwater samples collected from 3 of the 5 wells during the RI. Bis(2-ethylhexyl)phthalate, was detected above the GWQS of 5 ug/L in MW-4 at 6.9 µg/L. Hexachlorobutadiene was detected above the GWQS of 0.5 ug/L in MW-2 at 1.1 µg/L. Estimated concentrations of benzo(b)fluoranthene and indeno(1,2,3-cd)pyrene were detected above their GWQS of 0.002 ug/L in MW-5 at 0.01 µg/L. No other SVOCs were detected in remaining groundwater samples above the GWQS.

Multiple total metals were detected above the GWQS in multiple groundwater samples collected during the RI. Manganese was detected above the GWQS of 300 ug/L in all groundwater samples at concentrations ranging from 332.4 µg/L to 6,773 µg/L. Similarly, sodium was detected above the GWQS of 20,000 ug/L in all groundwater samples at concentrations ranging from 27,100 µg/L to 93,100 µg/L. Iron was detected above the GWQS of 300 ug/L in all groundwater samples, with the exception of MW-3, at concentrations ranging from 351 µg/L to 4,240 µg/L. Selenium was detected above the GWQS of 10 ug/L in MW-2 and MW-5 at a concentration of 19.6 µg/L and 15.4 µg/L, respectively. Nickel was detected above the GWQS of 100 ug/L in MW-5 at a concentration of 144.4 µg/L. Magnesium was detected above the GWQS of 35,000 ug/L in MW-2 at a concentration of 51,100 µg/L.

PFAS were detected slightly above the laboratory detection limits in all groundwater samples. Total PFOA/PFOS concentrations ranged from 36.3 ng/L to 13.1 ng/L. PFOA and PFOS were detected above the recently established MCL of 10 ng/L in groundwater samples. There were exceedances of PFOA in the samples collected from MW-1, MW-3 and MW-5 (13.6 ng/L, 14.9 ng/L and 15.9 ng/L, respectively). There was an exceedance of PFOS in the sample collected from MW-5 of 20.4 ng/L.

1,4-dioxane was not detected at concentrations above the laboratory detection limit in the any groundwater samples with the exception of MW-1 and MW-5 which reported an estimated concentration of 0.121 µg/L and 0.101 µg/L, respectively, below the GWQS of 1.0 ug/L.

6.4 SOIL VAPOR SAMPLING RESULTS

Table 3 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 the soil vapor data from the sampling event. Sample logs are provided in Appendix F of this RI Report.

Elevated TCE was detected in all soil vapor samples collected at the Site with a maximum concentration of 74,700 $\mu g/m^3$ in SG-2 (co-located with B-2/MW-2). Elevated PCE was detected in SG-2 as well at 620 $\mu g/m^3$. Vinyl chloride was detected in SG-1, SG-4 and SG-5 with concentrations ranging from 8.8 $\mu g/m^3$ to 15.4 $\mu g/m^3$ (detected in SG-5). When compared to the NYSDOH Soil Vapor Intrusion (May 2017) guidance values, the matrices recommended: “mitigate” and/or “monitor soil vapor/indoor air,” regardless of what the paired indoor air concentration might be.

7. Conceptual Site Model

7.1 POTENTIAL ON-SITE SOURCES

VOC contamination at the Site consists of chlorinated contaminants, with the most elevated concentrations exhibited in groundwater, soil vapor and soil at sampling location B-2/MW-2/SG-2. The co-location of the highest groundwater, soil vapor and soil concentrations at B-2/MW-2/SG-2 is indicative of an on-site source area. This on-site source area designation is confirmed by the dissipating concentrations of the chlorinated VOCs, including TCE, PCE and cis-1,2-DCE, at the surrounding sampling locations.

The origin of the source area is unknown but likely attributable to historic manufacturing operations formerly conducted in that area of the Site. However, based on the vertical distribution of contamination with the highest concentrations in soil at 8-10 ft bgs in B-2, until excavation proves otherwise, it would appear that the impact is greatest at the groundwater interface zone (with groundwater encountered at 8-9.5 ft bgs). The same chlorinated VOCs are also partitioned to the vapor phase from impacted soil and groundwater with the highest concentrations of PCE, TCE, and vinyl chloride detected in soil vapor at SG-2. A TCE plume map is provided in Figure 8.

7.2 CONSIDERATIONS REGARDING OFFSITE SOURCES

While an on-site source area was identified through the RI activities, it should be noted that the surrounding area was formerly used for manufacturing such that there could be additional source areas with migrating impacts. Groundwater flows to the northeast. The property to the east has been a multifamily residential apartment building since 2017. The property to the north has been used as a warehouse since 1959.

8. Qualitative Human Health Exposure Assessment

8.1 HUMAN HEALTH EXPOSURE EVALUATION

A qualitative exposure assessment consists of characterizing the exposure setting (including the physical environment and potentially exposed human and ecological resource populations), identifying exposure pathways, and evaluating chemical fate and transport. An exposure pathway describes the means by which an individual or ecological resource 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
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 or ecological resources who are or may be exposed to contaminants at a point of exposure. The identification of potential receptors is based on the characteristics of the site, the surrounding land uses, and the probable future land uses. The Site is currently vacant and undeveloped. Therefore, individual receptors would only include construction/maintenance workers that may be employed to perform work on the property and exposure routes on a vacant and undeveloped site would include direct contact activities, although soil vapor and groundwater contamination may impact off-site properties. The reasonably anticipated future use of the Site is for residential purposes which is consistent with surrounding property use and zoning. At full development, the Site will be completely covered by a building with a full basement such that no ecological resources will foreseeably be exposed to any contaminants remaining at the Site. Therefore, exposed receptors under the future use scenario will be comprised of individual residents, indoor workers, outdoor workers (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 residents and employees but at a lesser frequency and duration. In addition, residents or employees in off-Site adjoining buildings may 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, soil vapor, groundwater) at the point of exposure. Sections 4.0 and 5.0 discuss the COCs present in the Site media at elevated concentrations. In general, these are primarily chlorinated VOCs.

8.1.3 Exposure 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 the chlorinated VOCs in soil and exceedance of GWQS for chlorinated VOCs in groundwater, the point of exposure is defined as the whole site.

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

<u>Current Use Scenario:</u> The Site is currently an unpaved lot with a partial gravel cap of unknown thickness. Exposure to contaminated surface soil and contaminated groundwater is possible during subsurface investigations. Release and transport mechanisms include contaminated surface soil transported as dust, contaminated groundwater flow and volatilization of contaminates from soil and/or groundwater into vapor phase.

- Occupant/Employee/Visitor – skin contact, inhalation, and incidental ingestion
- Construction/Utility Worker –skin contact, inhalation, and incidental ingestion

<u>Construction/Remediation Scenario:</u> In the continued 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, potential localized dewatering of impacted groundwater to facilitate the construction of the foundation elements. Release and transport mechanisms include disturbed and exposed soil during excavation, contaminated soil transported as dust, contaminated groundwater flow (localized dewatering), inhalation of dust from contaminated soil, and volatilization of contaminates from soil and/or groundwater into vapor phase.

- Construction/Utility Worker –skin contact, inhalation, and incidental ingestion

<u>Future Use Scenario:</u> The anticipated remedial approach includes excavation of contaminated soil, localized dewatering in the source area, treatment of in place groundwater and installation a composite cover system. In the absence of engineering and institutional controls, release and transport mechanisms include contaminated groundwater and volatilization of contaminates from soil and/or groundwater into vapor phase. Routes of exposure include cracks in the foundation or slab or emergency repairs to the foundation walls or slab.

- Construction/Utility Worker –skin contact, inhalation, and incidental ingestion
- Occupant/Employee/Visitor – inhalation
- Public Adjacent to the 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 the chlorinated VOCs present in soil and groundwater, the potential exists for exposure through pathways associated with soil vapor migration. This would include the indoor vapor intrusion pathway also referred to as "soil vapor intrusion"). Additional pathways could include skin contact, inhalation, and incidental ingestion of VOCs present in soil and groundwater when and where construction workers are involved in subsurface activities where volatiles are present at elevated concentrations.

Concerning the indoor air pathway, the NYSDOH has issued a guidance document for assessing potential impacts to indoor air via soil vapor intrusion. The sub-slab vapor and indoor air samples collected during the Soil Vapor Intrusion Study by Laurel (2015) and Supplemental Remedial Investigation performed by EBC (May 2016) were assessed by the NYSDOH Soil Vapor Intrusion Guidance matrices. Based on the concentrations of PCE, TCE, and cis-1,2-DCE in the soil vapor on the Site (the absence of a site structure prevents the collection of paired indoor air samples), the matrices recommended: "mitigate" and "monitor soil vapor/indoor air," respectively, based on the soil vapor concentrations alone. As such, under the current and future use scenario, soil vapor intrusion is a relevant transport mechanism. 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 concentration.

8.1.4 Exposure Assessment

Based on the above, the above, we determine the following QHHEA conclusions for current conditions, construction/remediation conditions and future use conditions as listed below.

Current Use Scenario

Site contamination includes VOCs (notably chlorinated VOCs), SVOC's and metals in soil related to historic fill and the historic 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 Kings 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 Health and Safety Plan and 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 Health and Safety Plan, 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 Remedial Action Work Plan which 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 contaminates.

Future Use Scenario

Under the proposed future condition (after construction/remediation), residual contaminants may remain on-site depending on the remedy. 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 soil vapor mitigation measures, site capping system (foundation and foundation elements) and implementation of a Site Management Plan to manage institutional and engineering control.

9. Fish and Wildlife impact Analysis

NYSDEC DER-10 requires an on-site and off-site Fish and Wildlife Resource Impact Analysis if the stipulated criteria are met. The Site is a former woodworking and plastics product manufacturing facility from the 1960s through 2007 located within a developed commercial/residential area of Brooklyn, 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 future use is a residential redevelopment. As such, no unacceptable ecological risks are expected under the current and future use scenarios.

10. Conclusions and Recommendations

In accordance with the NYSDEC BCA for the Site,

10.1 CONCLUSIONS

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

1. COCs at the site are primarily chlorinated VOCs, including TCE, PCE and cis-1,2-DCE, which impacts on-site soil, groundwater and soil vapor.
2. There is a source area of chlorinated VOC contamination located on the northern-central portion of the Site at B-2/MW-2/SG-2.
3. The origin of the source area contaminants is unknown but likely attributable to historic manufacturing operations formerly conducted on and around the Site.
4. The on-site chlorinated VOC contamination in soil has been horizontally delineated.

10.2 RECOMMENDATIONS

Based on the results of RI investigations, the on-site source area has been identified at B-2/MW-2/SG-2 with soil concentrations exceeding RRSCOs, groundwater concentrations exceeding GWQS and soil vapor concentrations indicative of mitigation. Vertical delineation CVOC impact to soils below 10 ft bgs is required in order to determine the source boundaries. Additional sampling, which could be done concurrently with remedial design, in the source area below 10 ft bgs would be required to achieve vertical delineation.

References

1. Remedial Investigation Work Plan. 295-297 Wallabout Street, Brooklyn, New York. Prepared by Haley & Aldrich of New York, prepared for 295 W Holdings LLC and the New York State Department of Environmental Conservation, March 2020.

2. Brownfield Cleanup Program Application. 297 Wallabout Street, Brooklyn, New York. Prepared by 295 W Holdings LLC & Haley & Aldrich of New York, prepared for the New York State Department of Environmental Conservation. Submitted October 2019 and accepted as complete 27 November 2019.

3. Phase II/Remedial Investigation Report. 297 Wallabout Street, Brooklyn, New York. Prepared by Haley & Aldrich of New York, prepared for the New York City Office of Environmental Remediation, April 2019.

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

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TABLES

Table 1a. Volatile Organic Compound Analytical Results in Soil

297 Wallabout Street, Brooklyn, NY

NYSDEC Site C224299

SAMPLE ID:			B-1 (0-2")				B-1 (8-10')				B-2 (0-2")				B-2 (8-10')				B-2 (8-10')			
LAB ID:			L2024526-01				L2024526-02				L2024526-03				L2024526-04				L2024526-04 R1			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES																				
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY EPA 5035																						
Methylene chloride	100	0.05	ND		0.0025	0.0011	ND		0.0028	0.0013	ND		0.0029	0.0013	ND		1.5	0.68	-		-	-
1,1-Dichloroethane	26	0.27	ND		0.0005	0.00007	ND		0.00056	0.00008	ND		0.00058	0.00008	ND		0.3	0.043	-		-	-
Chloroform	49	0.37	ND		0.00075	0.00007	ND		0.00084	0.00008	ND		0.00087	0.00008	ND		0.44	0.041	-		-	-
Carbon tetrachloride	2.4	0.76	ND		0.0005	0.00012	ND		0.00056	0.00013	ND		0.00058	0.00013	ND		0.3	0.068	-		-	-
1,2-Dichloropropane			ND		0.0005	0.00006	ND		0.00056	0.00007	ND		0.00058	0.00007	ND		0.3	0.037	-		-	-
Dibromochloromethane			ND		0.0005	0.00007	ND		0.00056	0.00008	ND		0.00058	0.00008	ND		0.3	0.041	-		-	-
1,1,2-Trichloroethane			ND		0.0005	0.00013	ND		0.00056	0.00015	ND		0.00058	0.00015	ND		0.3	0.079	-		-	-
Tetrachloroethene	19	1.3	ND		0.00025	0.0001	ND		0.00028	0.00011	ND		0.00029	0.00011	20		0.15	0.058	-		-	-
Chlorobenzene	100	1.1	ND		0.00025	0.00006	ND		0.00028	0.00007	ND		0.00029	0.00007	ND		0.15	0.038	-		-	-
Trichlorofluoromethane			ND		0.002	0.00035	ND		0.0022	0.00039	ND		0.0023	0.0004	ND		1.2	0.2	-		-	-
1,2-Dichloroethane	3.1	0.02	ND		0.0005	0.00013	ND		0.00056	0.00014	ND		0.00058	0.00015	ND		0.3	0.076	-		-	-
1,1,1-Trichloroethane	100	0.68	ND		0.00025	0.00008	ND		0.00028	0.00009	ND		0.00029	0.0001	ND		0.15	0.049	-		-	-
Bromodichloromethane			ND		0.00025	0.00005	ND		0.00028	0.00006	ND		0.00029	0.00006	ND		0.15	0.032	-		-	-
trans-1,3-Dichloropropene			ND		0.0005	0.00014	ND		0.00056	0.00015	ND		0.00058	0.00016	ND		0.3	0.081	-		-	-
cis-1,3-Dichloropropene			ND		0.00025	0.00008	ND		0.00028	0.00009	ND		0.00029	0.00009	ND		0.15	0.047	-		-	-
1,3-Dichloropropene, Total			ND		0.00025	0.00008	ND		0.00028	0.00009	ND		0.00029	0.00009	ND		0.15	0.047	-		-	-
1,1-Dichloropropene			ND		0.00025	0.00008	ND		0.00028	0.00009	ND		0.00029	0.00009	ND		0.15	0.047	-		-	-
Bromoform			ND		0.002	0.00012	ND		0.0022	0.00014	ND		0.0023	0.00014	ND		1.2	0.073	-		-	-
1,1,2,2-Tetrachloroethane			ND		0.00025	0.00008	ND		0.00028	0.00009	ND		0.00029	0.0001	ND		0.15	0.049	-		-	-
Benzene	4.8	0.06	ND		0.00025	0.00008	ND		0.00028	0.00009	ND		0.00029	0.0001	ND		0.15	0.049	-		-	-
Toluene	100	0.7	0.00044	J	0.0005	0.00027	ND		0.00056	0.0003	ND		0.00058	0.00031	ND		0.3	0.16	-		-	-
Ethylbenzene	41	1	0.011		0.0005	0.00007	ND		0.00056	0.00008	ND		0.00058	0.00008	ND		0.3	0.042	-		-	-
Chloromethane			ND		0.002	0.00047	ND		0.0022	0.00052	ND		0.0023	0.00054	ND		1.2	0.28	-		-	-
Bromomethane			ND		0.001	0.00029	ND		0.0011	0.00032	ND		0.0012	0.00034	ND		0.59	0.17	-		-	-
Vinyl chloride	0.9	0.02	ND		0.0005	0.00017	0.00034	J	0.00056	0.00019	ND		0.00058	0.00019	ND		0.3	0.099	-		-	-
Chloroethane			ND		0.001	0.00023	ND		0.0011	0.00025	ND		0.0012	0.00026	ND		0.59	0.13	-		-	-
1,1-Dichloroethene	100	0.33	ND		0.0005	0.00012	ND		0.00056	0.00013	ND		0.00058	0.00014	ND		0.3	0.07	-		-	-
trans-1,2-Dichloroethene	100	0.19	ND		0.00075	0.00007	ND		0.00084	0.00008	ND		0.00087	0.00008	ND		0.44	0.04	-		-	-
Trichloroethene	21	0.47	ND		0.00025	0.00007	0.0014		0.00028	0.00008	ND		0.00029	0.00008	150		0.74	0.2	180	E	0.15	0.04
1,2-Dichlorobenzene	100	1.1	ND		0.001	0.00007	ND		0.0011	0.00008	ND		0.0012	0.00008	ND		0.59	0.043	-		-	-
1,3-Dichlorobenzene	49	2.4	ND		0.001	0.00007	ND		0.0011	0.00008	ND		0.0012	0.00009	ND		0.59	0.044	-		-	-
1,4-Dichlorobenzene	13	1.8	ND		0.001	0.00009	ND		0.0011	0.0001	ND		0.0012	0.0001	ND		0.59	0.05	-		-	-
Methyl tert butyl ether	100	0.93	ND		0.001	0.0001	ND		0.0011	0.00011	ND		0.0012	0.00012	ND		0.59	0.059	-		-	-
p/m-Xylene			0.056		0.001	0.00028	ND		0.0011	0.00031	ND		0.0012	0.00032	ND		0.59	0.16	-		-	-
o-Xylene			0.021		0.0005	0.00014	ND		0.00056	0.00016	ND		0.00058	0.00017	ND		0.3	0.086	-		-	-
Xylenes, Total	100	0.26	0.077		0.0005	0.00014	ND		0.00056	0.00016	ND		0.00058	0.00017	ND		0.3	0.086	-		-	-
cis-1,2-Dichloroethene	100	0.25	ND		0.0005	0.00009	0.0019		0.00056	0.0001	ND		0.00058	0.0001	1.5		0.3	0.052	-		-	-
1,2-Dichloroethene, Total			ND		0.0005	0.00007	0.0019		0.00056	0.00008	ND		0.00058	0.00008	1.5		0.3	0.04	-		-	-
Dibromomethane			ND		0.001	0.00012	ND		0.0011	0.00013	ND		0.0012	0.00014	ND		0.59	0.07	-		-	-
Styrene			0.00098		0.0005	0.0001	ND		0.00056	0.00011	ND		0.00058	0.00011	ND		0.3	0.058	-		-	-
Dichlorodifluoromethane			ND		0.005	0.00046	ND		0.0056	0.00051	ND		0.0058	0.00053	ND		3	0.27	-		-	-
Acetone	100	0.05	2.6	E	0.005	0.0024	0.05		0.0056	0.0027	0.029		0.0058	0.0028	ND		3	1.4	-		-	-
Carbon disulfide			ND		0.005	0.0023	ND		0.0056	0.0025	ND		0.0058	0.0026	ND		3	1.3	-		-	-
2-Butanone	100	0.12	0.0066		0.005	0.0011	ND		0.0056	0.0012	ND		0.0058	0.0013	ND		3	0.66	-		-	-
Vinyl acetate			ND		0.005	0.0011	ND		0.0056	0.0012	ND		0.0058	0.0012	ND		3	0.64	-		-	-
4-Methyl-2-pentanone			ND		0.005	0.00064	ND		0.0056	0.00071	ND		0.0058	0.00074	ND		3	0.38	-		-	-
1,2,3-Trichloropropane			ND		0.001	0.00006	ND		0.0011	0.00007	ND		0.0012	0.00007	ND		0.59	0.038	-		-	-
2-Hexanone			ND		0.005	0.00059	ND		0.0056	0.00066	ND		0.0058	0.00068	ND		3	0.35	-		-	-
Bromochloromethane			ND		0.001	0.0001	ND		0.0011	0.00011	ND		0.0012	0.00012	ND		0.59	0.061	-		-	-
2,2-Dichloropropane			ND		0.001	0.0001	ND		0.0011	0.00011	ND		0.0012	0.00012	ND		0.59	0.06	-		-	-
1,2-Dibromoethane			ND		0.0005	0.00014	ND		0.00056	0.00016	ND		0.00058	0.00016	ND		0.3	0.082	-		-	-
1,3-Dichloropropane			ND		0.001	0.00008	ND		0.0011	0.00009	ND		0.0012	0.0001	ND		0.59	0.049	-		-	-
1,1,1,2-Tetrachloroethane			ND		0.00025	0.00007	ND		0.00028	0.00007	ND		0.00029	0.00008	ND		0.15	0.039	-		-	-
Bromobenzene			ND		0.001	0.00007	ND		0.0011	0.00008	ND		0.0012	0.00008	ND		0.59	0.043	-		-	-
n-Butylbenzene	100	12	0.00013	J	0.0005	0.00008	ND		0.00056	0.00009	ND		0.00058	0.0001	ND		0.3	0.049	-		-	-
sec-Butylbenzene	100	11	0.00025	J	0.0005	0.00007	ND		0.00056	0.00008	ND		0.00058	0.00009	ND		0.3	0.043	-		-	-
tert-Butylbenzene	100	5.9	ND		0.001	0.00006	ND		0.0011	0.00007	ND		0.0012	0.00007	ND		0.59	0.035	-		-	-
o-Chlorotoluene			ND		0.001	0.0001	ND		0.0011	0.00011	ND		0.0012	0.00011	ND		0.59	0.056	-		-	-
p-Chlorotoluene			ND		0.001	0.00005	ND		0.0011	0.00006	ND		0.0012	0.00006	ND		0.59	0.032	-		-	-
1,2-Dibromo-3-chloropropane			ND		0.0015	0.0005	ND		0.0017	0.00056	ND		0.0017	0.00058	ND		0.89	0.3	-		-	-
Hexachlorobutadiene			ND		0.002	0.00009	ND		0.0022	0.00009	ND		0.0023	0.0001	ND		1.2	0.05	-		-	-
Isopropylbenzene			0.0015		0.0005	0.00005	ND		0.00056	0.00006	ND		0.00058	0.00006	ND		0.3	0.032	-		-	-
p-Isopropyltoluene			0.00016	J	0.0005	0.00005	ND		0.00056	0.00006	0.00018	J	0.00058	0.00006	ND		0.3	0.032	-		-	-
Naphthalene	100	12	ND		0.002	0.00032	ND		0.0022	0.00036	ND		0.0023	0.00038	ND		1.2	0.19	-		-	-
Acrylonitrile			ND		0.002	0.00058	ND		0.0022	0.00064	ND		0.0023	0.00067	ND		1.2	0.34	-		-	-
n-Propylbenzene	100	3.9	0.0045		0.0005	0.00009	ND		0.00056	0.0001	ND		0.00058	0.0001	ND		0.3	0.05	-		-	-
1,2,3-Trichlorobenzene			ND		0.001	0.00016	ND		0.0011	0.00018	ND		0.0012	0.00019	ND		0.59	0.095	-		-	-
1,2,4-Trichlorobenzene			ND		0.001	0.00014	ND		0.0011	0.00015	ND		0.0012	0.00016	ND		0.59	0.08	-		-	-
1,3,5-Trimethylbenzene	52	8.4	0.011		0.001	0.0001	ND		0.0011	0.00011	ND		0.0012	0.00011	ND		0.59	0.057	-		-	-
1,2,4-Trimethylbenzene	52	3.6	0.063		0.001	0.00017	ND		0.0011	0.00019	ND		0.0012	0.00019	ND		0.59	0.099	-		-	-
1,4-Dioxane	13	0.1	ND		0.04	0.018	ND		0.045	0.02	ND		0.046	0.02	ND		24	10	-		-	-
p-Diethylbenzene			0.0028		0.001	0.00009	ND		0.0011	0.0001	ND		0.0012	0.0001	ND		0.59	0.052	-		-	-
p-Ethyltoluene			0.034		0.001	0.00019	ND		0.0011	0.00021	ND		0.0012	0.00022	ND		0.59	0.11	-		-	-
1,2,4,5-Tetramethylbenzene			0.00042	J	0.001	0.0001	ND		0.0011	0.00011	ND		0.0012	0.00011	ND		0.59	0.056	-		-	-
Ethyl ether			ND		0.001	0.00017	ND		0.0011	0.00019	ND		0.0012	0.0002	ND		0.59	0.1	-		-	-
trans-1,4-Dichloro-2-butene			ND		0.0025	0.00071	ND		0.0028	0.00079	ND		0.0029	0.00082	ND		1.5	0.42	-		-	-
Total VOCs			2.81378	-	-	-	0.05364	-	-	-	0.02918	-	-	-	150	-	-	-	201.5	-	-	-
GENERAL CHEMISTRY																						
Solids, Total			96.3		0.1	NA	85.3		0.1	NA	96.5		0.1	NA	90.5		0.1	NA	-		-	-

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1a. Volatile Organic Compound Analytical Results in Soil

297 Wallabout Street, Brooklyn, NY

NYSDEC Site C224299

SAMPLE ID:			B-3 (0-2")				B-3 (8-10')				B-4 (0-2")				B-4 (8-10')				B-5 (0-2")			
LAB ID:			L2024526-05				L2024526-06				L2024526-07				L2024526-08				L2024526-09			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES																				
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY EPA 5035																						
Methylene chloride	100	0.05	ND		0.0031	0.0014	ND		0.0021	0.00096	ND		0.0021	0.00095	ND		0.0023	0.001	ND		0.0024	0.0011
1,1-Dichloroethane	26	0.27	ND		0.00062	0.00009	ND		0.00042	0.00006	ND		0.00042	0.00006	ND		0.00046	0.00007	ND		0.00049	0.00007
Chloroform	49	0.37	ND		0.00092	0.00009	0.00009	J	0.00063	0.00006	ND		0.00062	0.00006	ND		0.00069	0.00006	ND		0.00074	0.00007
Carbon tetrachloride	2.4	0.76	ND		0.00062	0.00014	ND		0.00042	0.0001	ND		0.00042	0.0001	ND		0.00046	0.0001	ND		0.00049	0.00011
1,2-Dichloropropane			ND		0.00062	0.00008	ND		0.00042	0.00005	ND		0.00042	0.00005	ND		0.00046	0.00006	ND		0.00049	0.00006
Dibromochloromethane			ND		0.00062	0.00009	ND		0.00042	0.00006	ND		0.00042	0.00006	ND		0.00046	0.00006	ND		0.00049	0.00007
1,1,2-Trichloroethane			ND		0.00062	0.00016	ND		0.00042	0.00011	ND		0.00042	0.00011	ND		0.00046	0.00012	ND		0.00049	0.00013
Tetrachloroethene	19	1.3	ND		0.00031	0.00012	ND		0.00021	0.00008	ND		0.00021	0.00008	ND		0.00023	0.00009	ND		0.00024	0.0001
Chlorobenzene	100	1.1	ND		0.00031	0.00008	ND		0.00021	0.00005	ND		0.00021	0.00005	ND		0.00023	0.00006	ND		0.00024	0.00006
Trichlorofluoromethane			ND		0.0025	0.00043	ND		0.0017	0.00029	ND		0.0017	0.00029	ND		0.0018	0.00032	ND		0.002	0.00034
1,2-Dichloroethane	3.1	0.02	ND		0.00062	0.00016	ND		0.00042	0.00011	ND		0.00042	0.00011	ND		0.00046	0.00012	ND		0.00049	0.00013
1,1,1-Trichloroethane	100	0.68	ND		0.00031	0.0001	ND		0.00021	0.00007	ND		0.00021	0.00007	ND		0.00023	0.00008	ND		0.00024	0.00008
Bromodichloromethane			ND		0.00031	0.00007	ND		0.00021	0.00005	ND		0.00021	0.00005	ND		0.00023	0.00005	ND		0.00024	0.00005
trans-1,3-Dichloropropene			ND		0.00062	0.00017	ND		0.00042	0.00011	ND		0.00042	0.00011	ND		0.00046	0.00012	ND		0.00049	0.00013
cis-1,3-Dichloropropene			ND		0.00031	0.0001	ND		0.00021	0.00007	ND		0.00021	0.00007	ND		0.00023	0.00007	ND		0.00024	0.00008
1,3-Dichloropropene, Total			ND		0.00031	0.0001	ND		0.00021	0.00007	ND		0.00021	0.00007	ND		0.00023	0.00007	ND		0.00024	0.00008
1,1-Dichloropropene			ND		0.00031	0.0001	ND		0.00021	0.00007	ND		0.00021	0.00007	ND		0.00023	0.00007	ND		0.00024	0.00008
Bromoform			ND		0.0025	0.00015	ND		0.0017	0.0001	ND		0.0017	0.0001	ND		0.0018	0.00011	ND		0.002	0.00012
1,1,2,2-Tetrachloroethane			ND		0.00031	0.0001	ND		0.00021	0.00007	ND		0.00021	0.00007	ND		0.00023	0.00008	ND		0.00024	0.00008
Benzene	4.8	0.06	ND		0.00031	0.0001	ND		0.00021	0.00007	ND		0.00021	0.00007	ND		0.00023	0.00008	ND		0.00024	0.00008
Toluene	100	0.7	ND		0.00062	0.00034	ND		0.00042	0.00023	ND		0.00042	0.00023	ND		0.00046	0.00025	ND		0.00049	0.00027
Ethylbenzene	41	1	ND		0.00062	0.00009	ND		0.00042	0.00006	ND		0.00042	0.00006	ND		0.00046	0.00007	ND		0.00049	0.00007
Chloromethane			ND		0.0025	0.00058	ND		0.0017	0.00039	ND		0.0017	0.00039	ND		0.0018	0.00043	ND		0.002	0.00046
Bromomethane			ND		0.0012	0.00036	ND		0.00084	0.00024	ND		0.00083	0.00024	ND		0.00092	0.00027	ND		0.00098	0.00028
Vinyl chloride	0.9	0.02	ND		0.00062	0.00021	ND		0.00042	0.00014	ND		0.00042	0.00014	ND		0.00046	0.00015	ND		0.00049	0.00016
Chloroethane			ND		0.0012	0.00028	ND		0.00084	0.00019	ND		0.00083	0.00019	ND		0.00092	0.00021	ND		0.00098	0.00022
1,1-Dichloroethene	100	0.33	ND		0.00062	0.00015	ND		0.00042	0.0001	ND		0.00042	0.0001	ND		0.00046	0.00011	ND		0.00049	0.00012
trans-1,2-Dichloroethene	100	0.19	ND		0.00092	0.00008	ND		0.00063	0.00006	ND		0.00062	0.00006	ND		0.00069	0.00006	ND		0.00074	0.00007
Trichloroethene	21	0.47	0.00034		0.00031	0.00008	0.0011		0.00021	0.00006	ND		0.00021	0.00006	0.00057		0.00023	0.00006	0.00014	J	0.00024	0.00007
1,2-Dichlorobenzene	100	1.1	ND		0.0012	0.00009	ND		0.00084	0.00006	ND		0.00083	0.00006	ND		0.00092	0.00007	ND		0.00098	0.00007
1,3-Dichlorobenzene	49	2.4	ND		0.0012	0.00009	ND		0.00084	0.00006	ND		0.00083	0.00006	ND		0.00092	0.00007	ND		0.00098	0.00007
1,4-Dichlorobenzene	13	1.8	ND		0.0012	0.0001	ND		0.00084	0.00007	ND		0.00083	0.00007	ND		0.00092	0.00008	ND		0.00098	0.00008
Methyl tert butyl ether	100	0.93	ND		0.0012	0.00012	ND		0.00084	0.00008	ND		0.00083	0.00008	ND		0.00092	0.00009	ND		0.00098	0.0001
p/m-Xylene			ND		0.0012	0.00034	ND		0.00084	0.00024	ND		0.00083	0.00023	ND		0.00092	0.00026	ND		0.00098	0.00028
o-Xylene			ND		0.00062	0.00018	ND		0.00042	0.00012	ND		0.00042	0.00012	ND		0.00046	0.00013	ND		0.00049	0.00014
Xylenes, Total	100	0.26	ND		0.00062	0.00018	ND		0.00042	0.00012	ND		0.00042	0.00012	ND		0.00046	0.00013	ND		0.00049	0.00014
cis-1,2-Dichloroethene	100	0.25	ND		0.00062	0.00011	ND		0.00042	0.00007	ND		0.00042	0.00007	ND		0.00046	0.00008	ND		0.00049	0.00009
1,2-Dichloroethene, Total			ND		0.00062	0.00008	ND		0.00042	0.00006	ND		0.00042	0.00006	ND		0.00046	0.00006	ND		0.00049	0.00007
Dibromomethane			ND		0.0012	0.00015	ND		0.00084	0.0001	ND		0.00083	0.0001	ND		0.00092	0.00011	ND		0.00098	0.00012
Styrene			ND		0.00062	0.00012	ND		0.00042	0.00008	ND		0.00042	0.00008	ND		0.00046	0.00009	ND		0.00049	0.0001
Dichlorodifluoromethane			ND		0.0062	0.00056	ND		0.0042	0.00038	ND		0.0042	0.00038	ND		0.0046	0.00042	ND		0.0049	0.00045
Acetone	100	0.05	0.032		0.0062	0.003	0.021		0.0042	0.002	0.029		0.0042	0.002	0.014		0.0046	0.0022	ND		0.0049	0.0024
Carbon disulfide			ND		0.0062	0.0028	ND		0.0042	0.0019	ND		0.0042	0.0019	ND		0.0046	0.0021	ND		0.0049	0.0022
2-Butanone	100	0.12	ND		0.0062	0.0014	ND		0.0042	0.00093	ND		0.0042	0.00092	ND		0.0046	0.001	ND		0.0049	0.0011
Vinyl acetate			ND		0.0062	0.0013	ND		0.0042	0.0009	ND		0.0042	0.0009	ND		0.0046	0.00099	ND		0.0049	0.001
4-Methyl-2-pentanone			ND		0.0062	0.00079	ND		0.0042	0.00054	ND		0.0042	0.00053	ND		0.0046	0.00059	ND		0.0049	0.00063
1,2,3-Trichloropropane			ND		0.0012	0.00008	ND		0.00084	0.00005	ND		0.00083	0.00005	ND		0.00092	0.00006	ND		0.00098	0.00006
2-Hexanone			ND		0.0062	0.00073	ND		0.0042	0.0005	ND		0.0042	0.00049	ND		0.0046	0.00054	ND		0.0049	0.00058
Bromochloromethane			ND		0.0012	0.00013	ND		0.00084	0.00009	ND		0.00083	0.00009	ND		0.00092	0.00009	ND		0.00098	0.0001
2,2-Dichloropropane			ND		0.0012	0.00012	ND		0.00084	0.00009	ND		0.00083	0.00008	ND		0.00092	0.00009	ND		0.00098	0.0001
1,2-Dibromoethane			ND		0.00062	0.00017	ND		0.00042	0.00012	ND		0.00042	0.00012	ND		0.00046	0.00013	ND		0.00049	0.00014
1,3-Dichloropropane			ND		0.0012	0.0001	ND		0.00084	0.00007	ND		0.00083	0.00007	ND		0.00092	0.00008	ND		0.00098	0.00008
1,1,1,2-Tetrachloroethane			ND		0.00031	0.00008	ND		0.00021	0.00006	ND		0.00021	0.00006	ND		0.00023	0.00006	ND		0.00024	0.00007
Bromobenzene			ND		0.0012	0.00009	ND		0.00084	0.00006	ND		0.00083	0.00006	ND		0.00092	0.00007	ND		0.00098	0.00007
n-Butylbenzene	100	12	ND		0.00062	0.0001	ND		0.00042	0.00007	ND		0.00042	0.00007	ND		0.00046	0.00008	ND		0.00049	0.00008
sec-Butylbenzene	100	11	ND		0.00062	0.00009	ND		0.00042	0.00006	ND		0.00042	0.00006	ND		0.00046	0.00007	ND		0.00049	0.00007
tert-Butylbenzene	100	5.9	ND		0.0012	0.00007	ND		0.00084	0.00005	ND		0.00083	0.00005	ND		0.00092	0.00005	ND		0.00098	0.00006
o-Chlorotoluene			ND		0.0012	0.00012	ND		0.00084	0.00008	ND		0.00083	0.00008	ND		0.00092	0.00009	ND		0.00098	0.00009
p-Chlorotoluene			ND		0.0012	0.00007	ND		0.00084	0.00005	ND		0.00083	0.00005	ND		0.00092	0.00005	ND		0.00098	0.00005
1,2-Dibromo-3-chloropropane			ND		0.0018	0.00062	ND		0.0013	0.00042	ND		0.0012	0.00042	ND		0.0014	0.00046	ND		0.0015	0.00049
Hexachlorobutadiene			ND		0.0025	0.0001	ND		0.0017	0.00007	ND		0.0017	0.00007	ND		0.0018	0.00008	ND		0.002	0.00008
Isopropylbenzene			ND		0.00062	0.00007	ND		0.00042	0.00005	ND		0.00042	0.00005	ND		0.00046	0.00005	ND		0.00049	0.00005
p-Isopropyltoluene			ND		0.00062	0.00007	ND		0.00042	0.00005	0.0001	J	0.00042	0.00005	ND		0.00046	0.00005	ND		0.00049	0.00005
Naphthalene	100	12	ND		0.0025	0.0004	ND		0.0017	0.00027	ND		0.0017	0.00027	ND		0.0018	0.0003	ND		0.002	0.00032
Acrylonitrile			ND		0.0025	0.00071	ND		0.0017	0.00048	ND		0.0017	0.00048	ND		0.0018	0.00053	ND		0.002	0.00056
n-Propylbenzene	100	3.9	ND		0.00062	0.0001	ND		0.00042	0.00007	ND		0.00042	0.00007	ND		0.00046	0.00008	ND		0.00049	0.00008
1,2,3-Trichlorobenzene			ND		0.0012	0.0002	ND		0.00084	0.00014	ND		0.00083	0.00013	ND		0.00092	0.00015	ND		0.00098	0.00016
1,2,4-Trichlorobenzene			ND		0.0012	0.00017	ND		0.00084	0.00011	ND		0.00083	0.00011	ND		0.00092	0.00012	ND		0.00098	0.00013
1,3,5-Trimethylbenzene	52	8.4	ND		0.0012	0.00012	ND		0.00084	0.00008	ND		0.00083	0.00008	ND		0.00092	0.00009	ND		0.00098	0.0001
1,2,4-Trimethylbenzene	52	3.6	ND		0.0012	0.00021	ND		0.00084	0.00014	ND		0.00083	0.00014	ND		0.00092	0.00015	ND		0.00098	0.00016
1,4-Dioxane	13	0.1	ND		0.049	0.022	ND		0.034	0.015	ND		0.033	0.015	ND		0.037	0.016	ND		0.039	0.017
p-Diethylbenzene			ND		0.0012	0.00011	ND		0.00084	0.00007	ND		0.00083	0.00007	ND		0.00092	0.00008	ND		0.00098	0.00009
p-Ethyltoluene			ND		0.0012	0.00024	ND		0.00084	0.00016	ND		0.00083	0.00016	ND		0.00092	0.00018	ND		0.00098	0.00019
1,2,4,5-Tetramethylbenzene			ND		0.0012	0.00012	ND		0.00084	0.00008	ND		0.00083	0.00008	ND		0.00092	0.00009	ND		0.00098	0.00009
Ethyl ether			ND		0.0012	0.00021	ND		0.00084	0.00014	ND		0.00083	0.00014	ND		0.00092	0.00016	ND		0.00098	0.00017
trans-1,4-Dichloro-2-butene			ND		0.0031	0.00088	ND		0.0021	0.0006	ND		0.0021	0.00059	ND		0.0023	0.00065	ND		0.0024	0.0007
Total VOCs			0.03234	-	-	-	0.02219	-	-	-	0.0291	-	-	-	0.01457	-	-	-	0.00014	-	-	-
GENERAL CHEMISTRY																						
Solids, Total			93.9		0.1	NA	87.9		0.1	NA	95		0.1	NA	86.7		0.1	NA	97.8		0.1	NA

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1a. Volatile Organic Compound Analytical Results in Soil

297 Wallabout Street, Brooklyn, NY

NYSDEC Site C224299

SAMPLE ID:			B-5 (8-10')				B-6 (0-2")				B-6 (8-10')				B-7 (0-2")				B-7 (8-10')			
LAB ID:			L2024526-10				L2024526-11				L2024526-12				L2024526-13				L2024526-14			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES																				
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY EPA 5035																						
Methylene chloride	100	0.05	ND		0.0022	0.00099	ND		0.0028	0.0013	ND		0.0032	0.0014	ND		0.0025	0.0012	ND		0.0022	0.001
1,1-Dichloroethane	26	0.27	ND		0.00043	0.00006	ND		0.00057	0.00008	ND		0.00063	0.00009	ND		0.0005	0.00007	ND		0.00045	0.00007
Chloroform	49	0.37	ND		0.00065	0.00006	ND		0.00085	0.00008	ND		0.00095	0.00009	ND		0.00076	0.00007	ND		0.00068	0.00006
Carbon tetrachloride	2.4	0.76	ND		0.00043	0.0001	ND		0.00057	0.00013	ND		0.00063	0.00014	ND		0.0005	0.00012	ND		0.00045	0.0001
1,2-Dichloropropane			ND		0.00043	0.00005	ND		0.00057	0.00007	ND		0.00063	0.00008	ND		0.0005	0.00006	ND		0.00045	0.00006
Dibromochloromethane			ND		0.00043	0.00006	ND		0.00057	0.00008	ND		0.00063	0.00009	ND		0.0005	0.00007	ND		0.00045	0.00006
1,1,2-Trichloroethane			ND		0.00043	0.00012	ND		0.00057	0.00015	ND		0.00063	0.00017	ND		0.0005	0.00013	ND		0.00045	0.00012
Tetrachloroethene	19	1.3	ND		0.00022	0.00009	ND		0.00028	0.00011	ND		0.00032	0.00012	ND		0.00025	0.0001	ND		0.00022	0.00009
Chlorobenzene	100	1.1	ND		0.00022	0.00006	ND		0.00028	0.00007	ND		0.00032	0.00008	ND		0.00025	0.00006	ND		0.00022	0.00006
Trichlorofluoromethane			ND		0.0017	0.0003	ND		0.0023	0.00039	ND		0.0025	0.00044	ND		0.002	0.00035	ND		0.0018	0.00031
1,2-Dichloroethane	3.1	0.02	ND		0.00043	0.00011	ND		0.00057	0.00014	ND		0.00063	0.00016	ND		0.0005	0.00013	ND		0.00045	0.00012
1,1,1-Trichloroethane	100	0.68	ND		0.00022	0.00007	ND		0.00028	0.00009	ND		0.00032	0.0001	ND		0.00025	0.00008	ND		0.00022	0.00008
Bromodichloromethane			ND		0.00022	0.00005	ND		0.00028	0.00006	ND		0.00032	0.00007	ND		0.00025	0.00006	ND		0.00022	0.00005
trans-1,3-Dichloropropene			ND		0.00043	0.00012	ND		0.00057	0.00015	ND		0.00063	0.00017	ND		0.0005	0.00014	ND		0.00045	0.00012
cis-1,3-Dichloropropene			ND		0.00022	0.00007	ND		0.00028	0.00009	ND		0.00032	0.0001	ND		0.00025	0.00008	ND		0.00022	0.00007
1,3-Dichloropropene, Total			ND		0.00022	0.00007	ND		0.00028	0.00009	ND		0.00032	0.0001	ND		0.00025	0.00008	ND		0.00022	0.00007
1,1-Dichloropropene			ND		0.00022	0.00007	ND		0.00028	0.00009	ND		0.00032	0.0001	ND		0.00025	0.00008	ND		0.00022	0.00007
Bromoform			ND		0.0017	0.00011	ND		0.0023	0.00014	ND		0.0025	0.00016	ND		0.002	0.00012	ND		0.0018	0.00011
1,1,2,2-Tetrachloroethane			ND		0.00022	0.00007	ND		0.00028	0.00009	ND		0.00032	0.0001	ND		0.00025	0.00008	ND		0.00022	0.00008
Benzene	4.8	0.06	ND		0.00022	0.00007	ND		0.00028	0.00009	ND		0.00032	0.0001	ND		0.00025	0.00008	ND		0.00022	0.00008
Toluene	100	0.7	ND		0.00043	0.00023	ND		0.00057	0.00031	ND		0.00063	0.00034	ND		0.0005	0.00027	ND		0.00045	0.00024
Ethylbenzene	41	1	ND		0.00043	0.00006	ND		0.00057	0.00008	ND		0.00063	0.00009	ND		0.0005	0.00007	ND		0.00045	0.00006
Chloromethane			ND		0.0017	0.0004	ND		0.0023	0.00053	ND		0.0025	0.00059	ND		0.002	0.00047	ND		0.0018	0.00042
Bromomethane			ND		0.00086	0.00025	ND		0.0011	0.00033	ND		0.0013	0.00037	ND		0.001	0.00029	ND		0.0009	0.00026
Vinyl chloride	0.9	0.02	ND		0.00043	0.00014	ND		0.00057	0.00019	ND		0.00063	0.00021	ND		0.0005	0.00017	ND		0.00045	0.00015
Chloroethane			ND		0.00086	0.0002	ND		0.0011	0.00026	ND		0.0013	0.00029	ND		0.001	0.00023	ND		0.0009	0.0002
1,1-Dichloroethene	100	0.33	ND		0.00043	0.0001	ND		0.00057	0.00013	ND		0.00063	0.00015	ND		0.0005	0.00012	ND		0.00045	0.00011
trans-1,2-Dichloroethene	100	0.19	ND		0.00065	0.00006	ND		0.00085	0.00008	ND		0.00095	0.00009	ND		0.00076	0.00007	ND		0.00068	0.00006
Trichloroethene	21	0.47	0.0011		0.00022	0.00006	ND		0.00028	0.00008	ND		0.00032	0.00009	ND		0.00025	0.00007	0.0024		0.00022	0.00006
1,2-Dichlorobenzene	100	1.1	ND		0.00086	0.00006	ND		0.0011	0.00008	ND		0.0013	0.00009	ND		0.001	0.00007	ND		0.0009	0.00007
1,3-Dichlorobenzene	49	2.4	ND		0.00086	0.00006	ND		0.0011	0.00008	ND		0.0013	0.00009	ND		0.001	0.00008	ND		0.0009	0.00007
1,4-Dichlorobenzene	13	1.8	ND		0.00086	0.00007	ND		0.0011	0.0001	ND		0.0013	0.00011	ND		0.001	0.00009	ND		0.0009	0.00008
Methyl tert butyl ether	100	0.93	ND		0.00086	0.00009	ND		0.0011	0.00011	ND		0.0013	0.00013	ND		0.001	0.0001	ND		0.0009	0.00009
p/m-Xylene			ND		0.00086	0.00024	ND		0.0011	0.00032	ND		0.0013	0.00035	ND		0.001	0.00028	ND		0.0009	0.00025
o-Xylene			ND		0.00043	0.00012	ND		0.00057	0.00016	ND		0.00063	0.00018	ND		0.0005	0.00015	ND		0.00045	0.00013
Xylenes, Total	100	0.26	ND		0.00043	0.00012	ND		0.00057	0.00016	ND		0.00063	0.00018	ND		0.0005	0.00015	ND		0.00045	0.00013
cis-1,2-Dichloroethene	100	0.25	ND		0.00043	0.00008	ND		0.00057	0.0001	ND		0.00063	0.00011	ND		0.0005	0.00009	ND		0.00045	0.00008
1,2-Dichloroethene, Total			ND		0.00043	0.00006	ND		0.00057	0.00008	ND		0.00063	0.00009	ND		0.0005	0.00007	ND		0.00045	0.00006
Dibromomethane			ND		0.00086	0.0001	ND		0.0011	0.00013	ND		0.0013	0.00015	ND		0.001	0.00012	ND		0.0009	0.00011
Styrene			ND		0.00043	0.00009	ND		0.00057	0.00011	ND		0.00063	0.00012	ND		0.0005	0.0001	ND		0.00045	0.00009
Dichlorodifluoromethane			ND		0.0043	0.0004	ND		0.0057	0.00052	ND		0.0063	0.00058	ND		0.005	0.00046	ND		0.0045	0.00041
Acetone	100	0.05	0.015		0.0043	0.0021	0.038		0.0057	0.0027	0.019		0.0063	0.003	0.031		0.005	0.0024	0.0064		0.0045	0.0022
Carbon disulfide			ND		0.0043	0.002	ND		0.0057	0.0026	ND		0.0063	0.0029	ND		0.005	0.0023	ND		0.0045	0.002
2-Butanone	100	0.12	ND		0.0043	0.00096	ND		0.0057	0.0012	ND		0.0063	0.0014	ND		0.005	0.0011	ND		0.0045	0.001
Vinyl acetate			ND		0.0043	0.00093	ND		0.0057	0.0012	ND		0.0063	0.0014	ND		0.005	0.0011	ND		0.0045	0.00097
4-Methyl-2-pentanone			ND		0.0043	0.00055	ND		0.0057	0.00072	ND		0.0063	0.00081	ND		0.005	0.00064	ND		0.0045	0.00058
1,2,3-Trichloropropane			ND		0.00086	0.00006	ND		0.0011	0.00007	ND		0.0013	0.00008	ND		0.001	0.00006	ND		0.0009	0.00006
2-Hexanone			ND		0.0043	0.00051	ND		0.0057	0.00067	ND		0.0063	0.00075	ND		0.005	0.00059	ND		0.0045	0.00053
Bromochloromethane			ND		0.00086	0.00009	ND		0.0011	0.00012	ND		0.0013	0.00013	ND		0.001	0.0001	ND		0.0009	0.00009
2,2-Dichloropropane			ND		0.00086	0.00009	ND		0.0011	0.00011	ND		0.0013	0.00013	ND		0.001	0.0001	ND		0.0009	0.00009
1,2-Dibromoethane			ND		0.00043	0.00012	ND		0.00057	0.00016	ND		0.00063	0.00018	ND		0.0005	0.00014	ND		0.00045	0.00012
1,3-Dichloropropane			ND		0.00086	0.00007	ND		0.0011	0.00009	ND		0.0013	0.0001	ND		0.001	0.00008	ND		0.0009	0.00008
1,1,1,2-Tetrachloroethane			ND		0.00022	0.00006	ND		0.00028	0.00008	ND		0.00032	0.00008	ND		0.00025	0.00007	ND		0.00022	0.00006
Bromobenzene			ND		0.00086	0.00006	ND		0.0011	0.00008	ND		0.0013	0.00009	ND		0.001	0.00007	ND		0.0009	0.00007
n-Butylbenzene	100	12	ND		0.00043	0.00007	ND		0.00057	0.00009	ND		0.00063	0.0001	ND		0.0005	0.00008	ND		0.00045	0.00008
sec-Butylbenzene	100	11	ND		0.00043	0.00006	ND		0.00057	0.00008	ND		0.00063	0.00009	ND		0.0005	0.00007	ND		0.00045	0.00007
tert-Butylbenzene	100	5.9	ND		0.00086	0.00005	ND		0.0011	0.00007	ND		0.0013	0.00008	ND		0.001	0.00006	ND		0.0009	0.00005
o-Chlorotoluene			ND		0.00086	0.00008	ND		0.0011	0.00011	ND		0.0013	0.00012	ND		0.001	0.0001	ND		0.0009	0.00009
p-Chlorotoluene			ND		0.00086	0.00005	ND		0.0011	0.00006	ND		0.0013	0.00007	ND		0.001	0.00005	ND		0.0009	0.00005
1,2-Dibromo-3-chloropropane			ND		0.0013	0.00043	ND		0.0017	0.00056	ND		0.0019	0.00063	ND		0.0015	0.0005	ND		0.0014	0.00045
Hexachlorobutadiene			ND		0.0017	0.00007	ND		0.0023	0.0001	ND		0.0025	0.00011	ND		0.002	0.00009	ND		0.0018	0.00008
Isopropylbenzene			ND		0.00043	0.00005	ND		0.00057	0.00006	ND		0.00063	0.00007	ND		0.0005	0.00006	ND		0.00045	0.00005
p-Isopropyltoluene			ND		0.00043	0.00005	ND		0.00057	0.00006	ND		0.00063	0.00007	ND		0.0005	0.00006	ND		0.00045	0.00005
Naphthalene	100	12	ND		0.0017	0.00028	ND		0.0023	0.00037	ND		0.0025	0.00041	ND		0.002	0.00033	ND		0.0018	0.00029
Acrylonitrile			ND		0.0017	0.0005	ND		0.0023	0.00065	ND		0.0025	0.00073	ND		0.002	0.00058	ND		0.0018	0.00052
n-Propylbenzene	100	3.9	ND		0.00043	0.00007	ND		0.00057	0.0001	ND		0.00063	0.00011	ND		0.0005	0.00009	ND		0.00045	0.00008
1,2,3-Trichlorobenzene			ND		0.00086	0.00014	ND		0.0011	0.00018	ND		0.0013	0.0002	ND		0.001	0.00016	ND		0.0009	0.00014
1,2,4-Trichlorobenzene			ND		0.00086	0.00012	ND		0.0011	0.00015	ND		0.0013	0.00017	ND		0.001	0.00014	ND		0.0009	0.00012
1,3,5-Trimethylbenzene	52	8.4	ND		0.00086	0.00008	ND		0.0011	0.00011	ND		0.0013	0.00012	ND		0.001	0.0001	ND		0.0009	0.00009
1,2,4-Trimethylbenzene	52	3.6	ND		0.00086	0.00014	ND		0.0011	0.00019	ND		0.0013	0.00021	ND		0.001	0.00017	ND		0.0009	0.00015
1,4-Dioxane	13	0.1	ND		0.034	0.015	ND		0.045	0.02	ND		0.051	0.022	ND		0.04	0.018	ND		0.036	0.016
p-Diethylbenzene			ND		0.00086	0.00008	ND		0.0011	0.0001	ND		0.0013	0.00011	ND		0.001	0.00009	ND		0.0009	0.00008
p-Ethyltoluene			ND		0.00086	0.00016	ND		0.0011	0.00022	ND		0.0013	0.00024	ND		0.001	0.00019	ND		0.0009	0.00017
1,2,4,5-Tetramethylbenzene			ND		0.00086	0.00008	ND		0.0011	0.00011	ND		0.0013	0.00012	ND		0.001	0.0001	ND		0.0009	0.00009
Ethyl ether			ND		0.00086	0.00015	ND		0.0011	0.00019	ND		0.0013	0.00022	ND		0.001	0.00017	ND		0.0009	0.00015
trans-1,4-Dichloro-2-butene			ND		0.0022	0.00061	ND		0.0028	0.0008	ND		0.0032	0.0009	ND		0.0025	0.00072	ND		0.0022	0.00064
Total VOCs			0.0161	-	-	-	0.038	-	-	-	0.019	-	-	-	0.031	-	-	-	0.0088	-	-	-
GENERAL CHEMISTRY																						
Solids, Total			85.8		0.1	NA	88.9		0.1	NA	87.4		0.1	NA	94.9		0.1	NA	86.1		0.1	NA

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1a. Volatile Organic Compound Analytical Results in Soil

297 Wallabout Street, Brooklyn, NY

NYSDEC Site C224299

SAMPLE ID:			B-8 (0-2")				B-8 (8-10')				DUP-061120			
LAB ID:			L2024526-15				L2024526-16				L2024526-17			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES												
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY EPA 5035														
Methylene chloride	100	0.05	ND		0.0027	0.0012	ND		0.0025	0.0011	ND		0.0023	0.0011
1,1-Dichloroethane	26	0.27	ND		0.00054	0.00008	ND		0.0005	0.00007	ND		0.00047	0.00007
Chloroform	49	0.37	ND		0.00081	0.00008	ND		0.00075	0.00007	ND		0.0007	0.00007
Carbon tetrachloride	2.4	0.76	ND		0.00054	0.00012	ND		0.0005	0.00011	ND		0.00047	0.00011
1,2-Dichloropropane			ND		0.00054	0.00007	ND		0.0005	0.00006	ND		0.00047	0.00006
Dibromochloromethane			ND		0.00054	0.00008	ND		0.0005	0.00007	ND		0.00047	0.00007
1,1,2-Trichloroethane			ND		0.00054	0.00014	ND		0.0005	0.00013	ND		0.00047	0.00012
Tetrachloroethene	19	1.3	ND		0.00027	0.0001	ND		0.00025	0.0001	ND		0.00023	0.00009
Chlorobenzene	100	1.1	ND		0.00027	0.00007	ND		0.00025	0.00006	ND		0.00023	0.00006
Trichlorofluoromethane			ND		0.0022	0.00038	ND		0.002	0.00035	ND		0.0019	0.00032
1,2-Dichloroethane	3.1	0.02	ND		0.00054	0.00014	ND		0.0005	0.00013	ND		0.00047	0.00012
1,1,1-Trichloroethane	100	0.68	ND		0.00027	0.00009	ND		0.00025	0.00008	ND		0.00023	0.00008
Bromodichloromethane			ND		0.00027	0.00006	ND		0.00025	0.00005	ND		0.00023	0.00005
trans-1,3-Dichloropropene			ND		0.00054	0.00015	ND		0.0005	0.00014	ND		0.00047	0.00013
cis-1,3-Dichloropropene			ND		0.00027	0.00009	ND		0.00025	0.00008	ND		0.00023	0.00007
1,3-Dichloropropene, Total			ND		0.00027	0.00009	ND		0.00025	0.00008	ND		0.00023	0.00007
1,1-Dichloropropene			ND		0.00027	0.00009	ND		0.00025	0.00008	ND		0.00023	0.00007
Bromoform			ND		0.0022	0.00013	ND		0.002	0.00012	ND		0.0019	0.00011
1,1,2,2-Tetrachloroethane			ND		0.00027	0.00009	ND		0.00025	0.00008	ND		0.00023	0.00008
Benzene	4.8	0.06	ND		0.00027	0.00009	ND		0.00025	0.00008	ND		0.00023	0.00008
Toluene	100	0.7	ND		0.00054	0.00029	ND		0.0005	0.00027	ND		0.00047	0.00025
Ethylbenzene	41	1	ND		0.00054	0.00008	ND		0.0005	0.00007	ND		0.00047	0.00007
Chloromethane			ND		0.0022	0.0005	ND		0.002	0.00046	ND		0.0019	0.00043
Bromomethane			ND		0.0011	0.00031	ND		0.001	0.00029	ND		0.00093	0.00027
Vinyl chloride	0.9	0.02	ND		0.00054	0.00018	ND		0.0005	0.00017	ND		0.00047	0.00016
Chloroethane			ND		0.0011	0.00024	ND		0.001	0.00022	ND		0.00093	0.00021
1,1-Dichloroethene	100	0.33	ND		0.00054	0.00013	ND		0.0005	0.00012	ND		0.00047	0.00011
trans-1,2-Dichloroethene	100	0.19	ND		0.00081	0.00007	ND		0.00075	0.00007	ND		0.0007	0.00006
Trichloroethene	21	0.47	ND		0.00027	0.00007	0.00042		0.00025	0.00007	ND		0.00023	0.00006
1,2-Dichlorobenzene	100	1.1	ND		0.0011	0.00008	ND		0.001	0.00007	ND		0.00093	0.00007
1,3-Dichlorobenzene	49	2.4	ND		0.0011	0.00008	ND		0.001	0.00007	ND		0.00093	0.00007
1,4-Dichlorobenzene	13	1.8	ND		0.0011	0.00009	ND		0.001	0.00009	ND		0.00093	0.00008
Methyl tert butyl ether	100	0.93	ND		0.0011	0.00011	ND		0.001	0.0001	ND		0.00093	0.00009
p/m-Xylene			0.00039	J	0.0011	0.0003	ND		0.001	0.00028	ND		0.00093	0.00026
o-Xylene			0.00021	J	0.00054	0.00016	ND		0.0005	0.00014	ND		0.00047	0.00014
Xylenes, Total	100	0.26	0.0006	J	0.00054	0.00016	ND		0.0005	0.00014	ND		0.00047	0.00014
cis-1,2-Dichloroethene	100	0.25	ND		0.00054	0.00009	ND		0.0005	0.00009	ND		0.00047	0.00008
1,2-Dichloroethene, Total			ND		0.00054	0.00007	ND		0.0005	0.00007	ND		0.00047	0.00006
Dibromomethane			ND		0.0011	0.00013	ND		0.001	0.00012	ND		0.00093	0.00011
Styrene			ND		0.00054	0.0001	ND		0.0005	0.0001	ND		0.00047	0.00009
Dichlorodifluoromethane			ND		0.0054	0.00049	ND		0.005	0.00046	ND		0.0047	0.00043
Acetone	100	0.05	0.014		0.0054	0.0026	0.027		0.005	0.0024	0.024		0.0047	0.0022
Carbon disulfide			ND		0.0054	0.0024	ND		0.005	0.0023	ND		0.0047	0.0021
2-Butanone	100	0.12	ND		0.0054	0.0012	ND		0.005	0.0011	ND		0.0047	0.001
Vinyl acetate			ND		0.0054	0.0012	ND		0.005	0.0011	ND		0.0047	0.001
4-Methyl-2-pentanone			ND		0.0054	0.00069	ND		0.005	0.00064	ND		0.0047	0.0006
1,2,3-Trichloropropane			ND		0.0011	0.00007	ND		0.001	0.00006	ND		0.00093	0.00006
2-Hexanone			ND		0.0054	0.00064	ND		0.005	0.00059	ND		0.0047	0.00055
Bromochloromethane			ND		0.0011	0.00011	ND		0.001	0.0001	ND		0.00093	0.0001
2,2-Dichloropropane			ND		0.0011	0.00011	ND		0.001	0.0001	ND		0.00093	0.00009
1,2-Dibromoethane			ND		0.00054	0.00015	ND		0.0005	0.00014	ND		0.00047	0.00013
1,3-Dichloropropane			ND		0.0011	0.00009	ND		0.001	0.00008	ND		0.00093	0.00008
1,1,1,2-Tetrachloroethane			ND		0.00027	0.00007	ND		0.00025	0.00007	ND		0.00023	0.00006
Bromobenzene			ND		0.0011	0.00008	ND		0.001	0.00007	ND		0.00093	0.00007
n-Butylbenzene	100	12	ND		0.00054	0.00009	ND		0.0005	0.00008	ND		0.00047	0.00008
sec-Butylbenzene	100	11	ND		0.00054	0.00008	ND		0.0005	0.00007	ND		0.00047	0.00007
tert-Butylbenzene	100	5.9	ND		0.0011	0.00006	ND		0.001	0.00006	ND		0.00093	0.00006
o-Chlorotoluene			ND		0.0011	0.0001	ND		0.001	0.0001	ND		0.00093	0.00009
p-Chlorotoluene			ND		0.0011	0.00006	ND		0.001	0.00005	ND		0.00093	0.00005
1,2-Dibromo-3-chloropropane			ND		0.0016	0.00054	ND		0.0015	0.0005	ND		0.0014	0.00046
Hexachlorobutadiene			ND		0.0022	0.00009	ND		0.002	0.00008	ND		0.0019	0.00008
Isopropylbenzene			ND		0.00054	0.00006	ND		0.0005	0.00005	ND		0.00047	0.00005
p-Isopropyltoluene			ND		0.00054	0.00006	ND		0.0005	0.00005	ND		0.00047	0.00005
Naphthalene	100	12	ND		0.0022	0.00035	ND		0.002	0.00032	ND		0.0019	0.0003
Acrylonitrile			ND		0.0022	0.00062	ND		0.002	0.00057	ND		0.0019	0.00054
n-Propylbenzene	100	3.9	ND		0.00054	0.00009	ND		0.0005	0.00009	ND		0.00047	0.00008
1,2,3-Trichlorobenzene			ND		0.0011	0.00017	ND		0.001	0.00016	ND		0.00093	0.00015
1,2,4-Trichlorobenzene			ND		0.0011	0.00015	ND		0.001	0.00014	ND		0.00093	0.00013
1,3,5-Trimethylbenzene	52	8.4	ND		0.0011	0.0001	ND		0.001	0.0001	ND		0.00093	0.00009
1,2,4-Trimethylbenzene	52	3.6	0.00027	J	0.0011	0.00018	ND		0.001	0.00017	ND		0.00093	0.00016
1,4-Dioxane	13	0.1	ND		0.043	0.019	ND		0.04	0.017	ND		0.037	0.016
p-Diethylbenzene			ND		0.0011	0.0001	ND		0.001	0.00009	ND		0.00093	0.00008
p-Ethyltoluene			ND		0.0011	0.00021	ND		0.001	0.00019	ND		0.00093	0.00018
1,2,4,5-Tetramethylbenzene			ND		0.0011	0.0001	ND		0.001	0.0001	ND		0.00093	0.00009
Ethyl ether			ND		0.0011	0.00018	ND		0.001	0.00017	ND		0.00093	0.00016
trans-1,4-Dichloro-2-butene			ND		0.0027	0.00077	ND		0.0025	0.00071	ND		0.0023	0.00066
Total VOCs			0.01487	-	-	-	0.02742	-	-	-	0.024	-	-	-
GENERAL CHEMISTRY														
Solids, Total			96.6		0.1	NA	85.1		0.1	NA	90.1		0.1	NA

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1b. Semi-volatile Organic Compound Analytical Results in Soil
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:			B-1 (0-2")				B-1 (8-10')				B-2 (0-2")				B-2 (8-10")				B-3 (0-2")				B-3 (8-10')			
LAB ID:			L2024526-01				L2024526-02				L2024526-03				L2024526-04				L2024526-05				L2024526-06			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES																								
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
SEMIVOLATILE ORGANICS BY GC/MS																										
Acenaphthene	100	20	ND		0.13	0.017	ND		0.15	0.02	ND		0.14	0.018	ND		1.4	0.19	ND		0.14	0.018	ND		0.15	0.019
1,2,4-Trichlorobenzene			ND		0.17	0.019	ND		0.19	0.022	ND		0.17	0.019	ND		1.8	0.21	ND		0.17	0.02	ND		0.19	0.021
Hexachlorobenzene	1.2	0.33	ND		0.1	0.019	ND		0.12	0.022	ND		0.1	0.019	ND		1.1	0.2	ND		0.1	0.019	ND		0.11	0.021
Bis(2-chloroethyl)ether			ND		0.15	0.023	ND		0.17	0.026	ND		0.15	0.023	ND		1.6	0.24	ND		0.16	0.023	ND		0.17	0.025
2-Chloronaphthalene			ND		0.17	0.017	ND		0.19	0.019	ND		0.17	0.017	ND		1.8	0.18	ND		0.17	0.017	ND		0.19	0.018
1,2-Dichlorobenzene	100	1.1	ND		0.17	0.03	ND		0.19	0.034	ND		0.17	0.03	ND		1.8	0.32	ND		0.17	0.031	ND		0.19	0.033
1,3-Dichlorobenzene	49	2.4	ND		0.17	0.029	ND		0.19	0.033	ND		0.17	0.029	ND		1.8	0.31	ND		0.17	0.03	ND		0.19	0.032
1,4-Dichlorobenzene	13	1.8	ND		0.17	0.029	ND		0.19	0.034	ND		0.17	0.03	ND		1.8	0.32	ND		0.17	0.03	ND		0.19	0.032
3,3'-Dichlorobenzidine			ND		0.17	0.045	ND		0.19	0.051	ND		0.17	0.045	ND		1.8	0.48	ND		0.17	0.046	ND		0.19	0.05
2,4-Dinitrotoluene			ND		0.17	0.034	ND		0.19	0.038	ND		0.17	0.034	ND		1.8	0.36	ND		0.17	0.034	ND		0.19	0.037
2,6-Dinitrotoluene			ND		0.17	0.029	ND		0.19	0.033	ND		0.17	0.029	ND		1.8	0.31	ND		0.17	0.03	ND		0.19	0.032
Fluoranthene	100	100	0.068	J	0.1	0.019	ND		0.12	0.022	0.043	J	0.1	0.019	0.56	J	1.1	0.21	0.36		0.1	0.02	ND		0.11	0.021
4-Chlorophenyl phenyl ether			ND		0.17	0.018	ND		0.19	0.02	ND		0.17	0.018	ND		1.8	0.19	ND		0.17	0.018	ND		0.19	0.02
4-Bromophenyl phenyl ether			ND		0.17	0.026	ND		0.19	0.029	ND		0.17	0.026	ND		1.8	0.28	ND		0.17	0.026	ND		0.19	0.028
Bis(2-chloroisopropyl)ether			ND		0.2	0.029	ND		0.23	0.033	ND		0.2	0.029	ND		2.2	0.31	ND		0.21	0.029	ND		0.22	0.032
Bis(2-chloroethoxy)methane			ND		0.18	0.017	ND		0.21	0.019	ND		0.18	0.017	ND		2	0.18	ND		0.19	0.017	ND		0.2	0.019
Hexachlorobutadiene			ND		0.17	0.025	ND		0.19	0.028	ND		0.17	0.025	ND		1.8	0.26	ND		0.17	0.025	ND		0.19	0.027
Hexachlorocyclopentadiene			ND		0.48	0.15	ND		0.55	0.17	ND		0.48	0.15	ND		5.2	1.6	ND		0.49	0.16	ND		0.53	0.17
Hexachloroethane			ND		0.13	0.027	ND		0.15	0.031	ND		0.14	0.027	ND		1.4	0.29	ND		0.14	0.028	ND		0.15	0.03
Isophorone			ND		0.15	0.022	ND		0.17	0.025	ND		0.15	0.022	ND		1.6	0.23	ND		0.16	0.022	ND		0.17	0.024
Naphthalene	100	12	ND		0.17	0.02	ND		0.19	0.023	ND		0.17	0.02	ND		1.8	0.22	ND		0.17	0.021	ND		0.19	0.023
Nitrobenzene			ND		0.15	0.025	ND		0.17	0.028	ND		0.15	0.025	ND		1.6	0.27	ND		0.16	0.025	ND		0.17	0.028
NDPA/DPA			ND		0.13	0.019	ND		0.15	0.022	ND		0.14	0.019	ND		1.4	0.2	ND		0.14	0.02	ND		0.15	0.021
n-Nitrosodi-n-propylamine			ND		0.17	0.026	ND		0.19	0.03	ND		0.17	0.026	ND		1.8	0.28	ND		0.17	0.026	ND		0.19	0.029
Bis(2-ethylhexyl)phthalate			ND		0.17	0.058	ND		0.19	0.066	ND		0.17	0.058	ND		1.8	0.62	ND		0.17	0.06	ND		0.19	0.064
Butyl benzyl phthalate			ND		0.17	0.042	ND		0.19	0.048	ND		0.17	0.043	ND		1.8	0.46	ND		0.17	0.043	ND		0.19	0.047
Di-n-butylphthalate			ND		0.17	0.032	ND		0.19	0.036	ND		0.17	0.032	ND		1.8	0.34	ND		0.17	0.033	ND		0.19	0.035
Di-n-octylphthalate			ND		0.17	0.057	ND		0.19	0.065	ND		0.17	0.057	ND		1.8	0.61	ND		0.17	0.058	ND		0.19	0.063
Diethyl phthalate			ND		0.17	0.016	ND		0.19	0.018	ND		0.17	0.016	ND		1.8	0.17	ND		0.17	0.016	ND		0.19	0.017
Dimethyl phthalate			ND		0.17	0.035	ND		0.19	0.04	ND		0.17	0.036	ND		1.8	0.38	ND		0.17	0.036	ND		0.19	0.039
Benzo(a)anthracene	1	1	0.035	J	0.1	0.019	ND		0.12	0.022	0.026	J	0.1	0.019	2.8		1.1	0.2	0.18		0.1	0.019	ND		0.11	0.021
Benzo(a)pyrene	1	1	ND		0.13	0.041	ND		0.15	0.047	ND		0.14	0.041	ND		1.4	0.44	0.16		0.14	0.042	ND		0.15	0.045
Benzo(b)fluoranthene	1	1	0.037	J	0.1	0.028	ND		0.12	0.032	ND		0.1	0.028	ND		1.1	0.3	0.19		0.1	0.029	ND		0.11	0.031
Benzo(k)fluoranthene	3.9	0.8	ND		0.1	0.027	ND		0.12	0.031	ND		0.1	0.027	ND		1.1	0.29	0.085	J	0.1	0.028	ND		0.11	0.03
Chrysene	3.9	1	0.032	J	0.1	0.018	ND		0.12	0.02	0.023	J	0.1	0.018	3.5		1.1	0.19	0.2		0.1	0.018	ND		0.11	0.019
Acenaphthylene	100	100	ND		0.13	0.026	ND		0.15	0.03	ND		0.14	0.026	ND		1.4	0.28	0.059	J	0.14	0.026	ND		0.15	0.029
Anthracene	100	100	ND		0.1	0.033	ND		0.12	0.037	ND		0.1	0.033	ND		1.1	0.35	0.053	J	0.1	0.034	ND		0.11	0.036
Benzo(ghi)perylene	100	100	0.02	J	0.13	0.02	ND		0.15	0.022	ND		0.14	0.02	ND		1.4	0.21	0.11	J	0.14	0.02	ND		0.15	0.022
Fluorene	100	30	ND		0.17	0.016	ND		0.19	0.019	ND		0.17	0.016	ND		1.8	0.18	0.018	J	0.17	0.017	ND		0.19	0.018
Phenanthrene	100	100	0.048	J	0.1	0.02	ND		0.12	0.023	0.029	J	0.1	0.02	0.41	J	1.1	0.22	0.25		0.1	0.021	ND		0.11	0.023
Dibenzo(a,h)anthracene	0.33	0.33	ND		0.1	0.02	ND		0.12	0.022	ND		0.1	0.02	ND		1.1	0.21	0.026	J	0.1	0.02	ND		0.11	0.022
Indeno(1,2,3-cd)pyrene	0.5	0.5	ND		0.13	0.024	ND		0.15	0.027	ND		0.14	0.024	ND		1.4	0.25	0.1	J	0.14	0.024	ND		0.15	0.026
Pyrene	100	100	0.073	J	0.1	0.017	ND		0.12	0.019	0.045	J	0.1	0.017	1.1		1.1	0.18	0.4		0.1	0.017	ND		0.11	0.018
Biphenyl			ND		0.38	0.039	ND		0.44	0.044	ND		0.38	0.039	ND		4.1	0.42	ND		0.39	0.04	ND		0.42	0.043
4-Chloroaniline			ND		0.17	0.031	ND		0.19	0.035	ND		0.17	0.031	ND		1.8	0.33	ND		0.17	0.031	ND		0.19	0.034
2-Nitroaniline			ND		0.17	0.032	ND		0.19	0.037	ND		0.17	0.033	ND		1.8	0.35	ND		0.17	0.033	ND		0.19	0.036
3-Nitroaniline			ND		0.17	0.032	ND		0.19	0.036	ND		0.17	0.032	ND		1.8	0.34	ND		0.17	0.032	ND		0.19	0.035
4-Nitroaniline			ND		0.17	0.07	ND		0.19	0.08	ND		0.17	0.07	ND		1.8	0.75	ND		0.17	0.071	ND		0.19	0.077
Dibenzofuran	59	7	ND		0.17	0.016	ND		0.19	0.018	ND		0.17	0.016	ND		1.8	0.17	ND		0.17	0.016	ND		0.19	0.018
2-Methylnaphthalene			ND		0.2	0.02	ND		0.23	0.023	ND		0.2	0.02	ND		2.2	0.22	ND		0.21	0.021	ND		0.22	0.022
1,2,4,5-Tetrachlorobenzene			ND		0.17	0.018	ND		0.19	0.02	ND		0.17	0.018	ND		1.8	0.19	ND		0.17	0.018	ND		0.19	0.019
Acetophenone			ND		0.17	0.021	ND		0.19	0.024	ND		0.17	0.021	ND		1.8	0.22	ND		0.17	0.021	ND		0.19	0.023
2,4,6-Trichlorophenol			ND		0.1	0.032	ND		0.12	0.036	ND		0.1	0.032	ND		1.1	0.34	ND		0.1	0.033	ND		0.11	0.035
p-Chloro-m-cresol			ND		0.17	0.025	ND		0.19	0.029	ND		0.17	0.025	ND		1.8	0.27	ND		0.17	0.026	ND		0.19	0.028
2-Chlorophenol			ND		0.17	0.02	ND		0.19	0.023	ND		0.17	0.02	ND		1.8	0.21	ND		0.17	0.02	ND		0.19	0.022
2,4-Dichlorophenol			ND		0.15	0.027	ND		0.17	0.031	ND		0.15	0.027	ND		1.6	0.29	ND		0.16	0.028	ND		0.17	0.03
2,4-Dimethylphenol			ND		0.17	0.056	ND		0.19	0.063	ND		0.17	0.056	ND		1.8	0.6	ND		0.17	0.057	ND		0.19	0.061
2-Nitrophenol			ND		0.36	0.063	ND		0.41	0.072	ND		0.36	0.064	ND		3.9	0.68	ND		0.37	0.065	ND		0.4	0.07
4-Nitrophenol			ND		0.24	0.069	ND		0.27	0.078	ND		0.24	0.069	ND		2.5	0.74	ND		0.24	0.07	ND		0.26	0.076
2,4-Dinitrophenol			ND		0.81	0.079	ND		0.92	0.089	ND		0.81	0.079	ND		8.7	0.84	ND		0.83	0.08	ND		0.89	0.087
4,6-Dinitro-o-cresol			ND		0.44	0.081	ND		0.5	0.092	ND		0.44	0.081	ND		4.7	0.87	ND		0.45	0.083	ND		0.48	0.089
Pentachlorophenol	6.7	0.8	ND		0.13	0.037	ND		0.15	0.042	ND		0.14	0.037	ND		1.4	0.4	ND		0.14	0.038	ND		0.15	0.041
Phenol	100	0.33	ND		0.17	0.025	ND		0.19	0.029	ND		0.17	0.026	ND		1.8	0.27	ND		0.17	0.026	ND		0.19	0.028
2-Methylphenol	100	0.33	ND		0.17	0.026	ND		0.19	0.03	ND		0.17	0.026	ND		1.8	0.28	ND		0.17	0.027	ND		0.19	0.029
3-Methylphenol/4-Methylphenol	100	0.33	ND		0.24	0.026	ND		0.28	0.03	ND		0.24	0.026	ND		2.6	0.28	ND		0.25	0.027	ND		0.27	0.029
2,4,5-Trichlorophenol			ND		0.17	0.032	ND		0.19	0.037	ND		0.17	0.032	ND		1.8	0.35	ND		0.17	0.033	ND		0.19	0.036
Benzoic Acid			ND		0.55	0.17	ND		0.62	0.19	ND		0.55	0.17	ND		5.8	1.8	ND		0.56	0.17	ND		0.6	0.19
Benzyl Alcohol			ND		0.17	0.052	ND		0.19	0.059	ND		0.17	0.052	ND		1.8	0.55	ND		0.17	0.053	ND		0.19	0.057
Carbazole			ND		0.17	0.016	ND		0.19	0.019	ND		0.17	0.016	ND		1.8	0.18	0.022	J	0.17	0.017	ND		0.19	0.018
1,4-Dioxane	13	0.1	ND		0.025	0.0078	ND		0.029	0.0088	ND		0.025	0.0078	ND		0.27	0.083	ND		0.026	0.0079	ND		0.028	0.0086
Total SVOCs			0.313	-	-	-	-	-	-	-	0.166	-	-	-	8.37	-	-	-	2.213	-	-	-	-	-	-	-

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1b. Semi-volatile Organic Compound Analytical Results in Soil
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:			B-4 (0-2")				B-4 (8-10')				B-7 (0-2")				B-7 (8-10')				B-8 (0-2")				B-8 (8-10')			
LAB ID:			L2024526-07				L2024526-08				L2024526-13				L2024526-14				L2024526-15				L2024526-16			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES																								
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
SEMIVOLATILE ORGANICS BY GC/MS																										
Acenaphthene	100	20	ND		0.14	0.018	ND		0.15	0.02	ND		0.14	0.018	ND		0.15	0.019	0.02	J	0.14	0.018	ND		0.15	0.02
1,2,4-Trichlorobenzene			ND		0.17	0.02	ND		0.19	0.022	ND		0.17	0.02	ND		0.19	0.021	ND		0.17	0.019	ND		0.19	0.022
Hexachlorobenzene	1.2	0.33	ND		0.1	0.019	ND		0.11	0.021	ND		0.1	0.019	ND		0.11	0.021	ND		0.1	0.019	ND		0.12	0.022
Bis(2-chloroethyl)ether			ND		0.15	0.023	ND		0.17	0.026	ND		0.16	0.023	ND		0.17	0.025	ND		0.15	0.023	ND		0.17	0.026
2-Chloronaphthalene			ND		0.17	0.017	ND		0.19	0.019	ND		0.17	0.017	ND		0.19	0.019	ND		0.17	0.017	ND		0.19	0.019
1,2-Dichlorobenzene	100	1.1	ND		0.17	0.031	ND		0.19	0.034	ND		0.17	0.031	ND		0.19	0.034	ND		0.17	0.03	ND		0.19	0.035
1,3-Dichlorobenzene	49	2.4	ND		0.17	0.03	ND		0.19	0.032	ND		0.17	0.03	ND		0.19	0.032	ND		0.17	0.029	ND		0.19	0.033
1,4-Dichlorobenzene	13	1.8	ND		0.17	0.03	ND		0.19	0.033	ND		0.17	0.03	ND		0.19	0.033	ND		0.17	0.03	ND		0.19	0.034
3,3'-Dichlorobenzidine			ND		0.17	0.046	ND		0.19	0.05	ND		0.17	0.046	ND		0.19	0.05	ND		0.17	0.045	ND		0.19	0.051
2,4-Dinitrotoluene			ND		0.17	0.034	ND		0.19	0.038	ND		0.17	0.034	ND		0.19	0.038	ND		0.17	0.034	ND		0.19	0.038
2,6-Dinitrotoluene			ND		0.17	0.029	ND		0.19	0.032	ND		0.17	0.03	ND		0.19	0.032	ND		0.17	0.029	ND		0.19	0.033
Fluoranthene	100	100	0.1		0.1	0.02	ND		0.11	0.022	0.094	J	0.1	0.02	ND		0.11	0.022	0.27		0.1	0.019	ND		0.12	0.022
4-Chlorophenyl phenyl ether			ND		0.17	0.018	ND		0.19	0.02	ND		0.17	0.018	ND		0.19	0.02	ND		0.17	0.018	ND		0.19	0.021
4-Bromophenyl phenyl ether			ND		0.17	0.026	ND		0.19	0.029	ND		0.17	0.026	ND		0.19	0.029	ND		0.17	0.026	ND		0.19	0.029
Bis(2-chloroisopropyl)ether			ND		0.2	0.029	ND		0.23	0.032	ND		0.21	0.029	ND		0.22	0.032	ND		0.2	0.029	ND		0.23	0.033
Bis(2-chloroethoxy)methane			ND		0.18	0.017	ND		0.2	0.019	ND		0.19	0.017	ND		0.2	0.019	ND		0.18	0.017	ND		0.21	0.019
Hexachlorobutadiene			ND		0.17	0.025	ND		0.19	0.028	ND		0.17	0.025	ND		0.19	0.028	ND		0.17	0.025	ND		0.19	0.028
Hexachlorocyclopentadiene			ND		0.49	0.16	ND		0.54	0.17	ND		0.49	0.16	ND		0.54	0.17	ND		0.48	0.15	ND		0.55	0.17
Hexachloroethane			ND		0.14	0.028	ND		0.15	0.031	ND		0.14	0.028	ND		0.15	0.03	ND		0.14	0.027	ND		0.15	0.031
Isophorone			ND		0.15	0.022	ND		0.17	0.024	ND		0.16	0.022	ND		0.17	0.024	ND		0.15	0.022	ND		0.17	0.025
Naphthalene	100	12	ND		0.17	0.021	ND		0.19	0.023	ND		0.17	0.021	ND		0.19	0.023	ND		0.17	0.021	ND		0.19	0.023
Nitrobenzene			ND		0.15	0.025	ND		0.17	0.028	ND		0.16	0.026	ND		0.17	0.028	ND		0.15	0.025	ND		0.17	0.028
NDPA/DPA			ND		0.14	0.02	ND		0.15	0.022	ND		0.14	0.02	ND		0.15	0.021	ND		0.14	0.019	ND		0.15	0.022
n-Nitrosodi-n-propylamine			ND		0.17	0.026	ND		0.19	0.029	ND		0.17	0.027	ND		0.19	0.029	ND		0.17	0.026	ND		0.19	0.03
Bis(2-ethylhexyl)phthalate			0.18		0.17	0.059	ND		0.19	0.065	0.22		0.17	0.06	ND		0.19	0.065	ND		0.17	0.059	ND		0.19	0.067
Butyl benzyl phthalate			ND		0.17	0.043	ND		0.19	0.048	ND		0.17	0.043	ND		0.19	0.047	ND		0.17	0.043	ND		0.19	0.048
Di-n-butylphthalate			ND		0.17	0.032	ND		0.19	0.036	0.07	J	0.17	0.033	ND		0.19	0.036	ND		0.17	0.032	ND		0.19	0.036
Di-n-octylphthalate			ND		0.17	0.058	ND		0.19	0.064	ND		0.17	0.059	ND		0.19	0.064	ND		0.17	0.058	ND		0.19	0.066
Diethyl phthalate			ND		0.17	0.016	ND		0.19	0.018	ND		0.17	0.016	ND		0.19	0.017	ND		0.17	0.016	ND		0.19	0.018
Dimethyl phthalate			ND		0.17	0.036	ND		0.19	0.04	ND		0.17	0.036	ND		0.19	0.039	ND		0.17	0.036	ND		0.19	0.04
Benzo(a)anthracene	1	1	0.061	J	0.1	0.019	ND		0.11	0.021	0.052	J	0.1	0.019	ND		0.11	0.021	0.14		0.1	0.019	ND		0.12	0.022
Benzo(a)pyrene	1	1	0.098	J	0.14	0.042	ND		0.15	0.046	0.052	J	0.14	0.042	ND		0.15	0.046	0.12	J	0.14	0.041	ND		0.15	0.047
Benzo(b)fluoranthene	1	1	0.15		0.1	0.029	ND		0.11	0.032	0.07	J	0.1	0.029	ND		0.11	0.032	0.15		0.1	0.028	ND		0.12	0.032
Benzo(k)fluoranthene	3.9	0.8	0.049	J	0.1	0.027	ND		0.11	0.03	ND		0.1	0.028	ND		0.11	0.03	0.052	J	0.1	0.027	ND		0.12	0.031
Chrysene	3.9	1	0.079	J	0.1	0.018	ND		0.11	0.02	0.054	J	0.1	0.018	ND		0.11	0.02	0.14		0.1	0.018	ND		0.12	0.02
Acenaphthylene	100	100	ND		0.14	0.026	ND		0.15	0.029	ND		0.14	0.027	ND		0.15	0.029	0.038	J	0.14	0.026	ND		0.15	0.03
Anthracene	100	100	ND		0.1	0.033	ND		0.11	0.037	ND		0.1	0.034	ND		0.11	0.037	0.044	J	0.1	0.033	ND		0.12	0.038
Benzo(ghi)perylene	100	100	0.083	J	0.14	0.02	ND		0.15	0.022	0.033	J	0.14	0.02	ND		0.15	0.022	0.085	J	0.14	0.02	ND		0.15	0.023
Fluorene	100	30	ND		0.17	0.017	ND		0.19	0.018	ND		0.17	0.017	ND		0.19	0.018	0.017	J	0.17	0.016	ND		0.19	0.019
Phenanthrene	100	100	ND		0.1	0.021	ND		0.11	0.023	0.061	J	0.1	0.021	ND		0.11	0.023	0.2		0.1	0.021	ND		0.12	0.023
Dibenzo(a,h)anthracene	0.33	0.33	0.021	J	0.1	0.02	ND		0.11	0.022	ND		0.1	0.02	ND		0.11	0.022	ND		0.1	0.02	ND		0.12	0.022
Indeno(1,2,3-cd)pyrene	0.5	0.5	0.082	J	0.14	0.024	ND		0.15	0.026	0.033	J	0.14	0.024	ND		0.15	0.026	0.085	J	0.14	0.024	ND		0.15	0.027
Pyrene	100	100	0.2		0.1	0.017	ND		0.11	0.019	0.096	J	0.1	0.017	ND		0.11	0.019	0.29		0.1	0.017	ND		0.12	0.019
Biphenyl			ND		0.39	0.04	ND		0.43	0.044	ND		0.39	0.04	ND		0.43	0.044	ND		0.39	0.039	ND		0.44	0.045
4-Chloroaniline			ND		0.17	0.031	ND		0.19	0.034	ND		0.17	0.031	ND		0.19	0.034	ND		0.17	0.031	ND		0.19	0.035
2-Nitroaniline			ND		0.17	0.033	ND		0.19	0.036	ND		0.17	0.033	ND		0.19	0.036	ND		0.17	0.033	ND		0.19	0.037
3-Nitroaniline			ND		0.17	0.032	ND		0.19	0.036	ND		0.17	0.032	ND		0.19	0.035	ND		0.17	0.032	ND		0.19	0.036
4-Nitroaniline			ND		0.17	0.071	ND		0.19	0.078	ND		0.17	0.071	ND		0.19	0.078	ND		0.17	0.07	ND		0.19	0.08
Dibenzofuran	59	7	ND		0.17	0.016	ND		0.19	0.018	ND		0.17	0.016	ND		0.19	0.018	ND		0.17	0.016	ND		0.19	0.018
2-Methylnaphthalene			ND		0.2	0.021	ND		0.23	0.023	ND		0.21	0.021	ND		0.22	0.023	ND		0.2	0.02	ND		0.23	0.023
1,2,4,5-Tetrachlorobenzene			ND		0.17	0.018	ND		0.19	0.02	ND		0.17	0.018	ND		0.19	0.02	ND		0.17	0.018	ND		0.19	0.02
Acetophenone			ND		0.17	0.021	ND		0.19	0.023	ND		0.17	0.021	ND		0.19	0.023	ND		0.17	0.021	ND		0.19	0.024
2,4,6-Trichlorophenol			ND		0.1	0.032	ND		0.11	0.036	ND		0.1	0.033	ND		0.11	0.036	ND		0.1	0.032	ND		0.12	0.036
p-Chloro-m-cresol			ND		0.17	0.026	ND		0.19	0.028	ND		0.17	0.026	ND		0.19	0.028	ND		0.17	0.025	ND		0.19	0.029
2-Chlorophenol			ND		0.17	0.02	ND		0.19	0.022	ND		0.17	0.02	ND		0.19	0.022	ND		0.17	0.02	ND		0.19	0.023
2,4-Dichlorophenol			ND		0.15	0.028	ND		0.17	0.03	ND		0.16	0.028	ND		0.17	0.03	ND		0.15	0.027	ND		0.17	0.031
2,4-Dimethylphenol			ND		0.17	0.057	ND		0.19	0.062	ND		0.17	0.057	ND		0.19	0.062	ND		0.17	0.056	ND		0.19	0.064
2-Nitrophenol			ND		0.37	0.064	ND		0.41	0.071	ND		0.37	0.065	ND		0.4	0.071	ND		0.37	0.064	ND		0.42	0.072
4-Nitrophenol			ND		0.24	0.07	ND		0.26	0.077	ND		0.24	0.07	ND		0.26	0.077	ND		0.24	0.069	ND		0.27	0.079
2,4-Dinitrophenol			ND		0.82	0.08	ND		0.91	0.088	ND		0.83	0.08	ND		0.9	0.088	ND		0.82	0.079	ND		0.92	0.09
4,6-Dinitro-o-cresol			ND		0.45	0.082	ND		0.49	0.091	ND		0.45	0.083	ND		0.49	0.09	ND		0.44	0.082	ND		0.5	0.092
Pentachlorophenol	6.7	0.8	ND		0.14	0.038	ND		0.15	0.042	ND		0.14	0.038	ND		0.15	0.041	ND		0.14	0.037	ND		0.15	0.042
Phenol	100	0.33	ND		0.17	0.026	ND		0.19	0.028	ND		0.17	0.026	ND		0.19	0.028	ND		0.17	0.026	ND		0.19	0.029
2-Methylphenol	100	0.33	ND		0.17	0.027	ND		0.19	0.029	ND		0.17	0.027	ND		0.19	0.029	ND		0.17	0.026	ND		0.19	0.03
3-Methylphenol/4-Methylphenol	100	0.33	ND		0.25	0.027	ND		0.27	0.03	ND		0.25	0.027	ND		0.27	0.029	ND		0.24	0.026	ND		0.28	0.03
2,4,5-Trichlorophenol			ND		0.17	0.033	ND		0.19	0.036	ND		0.17	0.033	ND		0.19	0.036	ND		0.17	0.032	ND		0.19	0.037
Benzoic Acid			ND		0.56	0.17	ND		0.61	0.19	ND		0.56	0.17	ND		0.61	0.19	ND		0.55	0.17	ND		0.62	0.2
Benzyl Alcohol			ND		0.17	0.052	ND		0.19	0.058	ND		0.17	0.053	ND		0.19	0.057	ND		0.17	0.052	ND		0.19	0.059
Carbazole			ND		0.17	0.017	ND		0.19	0.018	ND		0.17	0.017	ND		0.19	0.018	0.022	J	0.17	0.016	ND		0.19	0.019
1,4-Dioxane	13	0.1	ND		0.026	0.0079	ND		0.028	0.0087	ND		0.026	0.0079	ND		0.028	0.0086	ND		0.025	0.0078	ND		0.029	0.0089
Total SVOCs			1.103	-	-	-	-	-	-	-	0.835	-	-	-	-	-	-	-	1.673	-	-	-	-	-	-	-

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1c. Pesticides, Polychlorinated Biphenyls and Metals Analytical Results in Soil
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:			B-1 (0-2")				B-1 (8-10')				B-2 (0-2")				B-2 (8-10')				B-3 (0-2")				B-3 (8-10')			
LAB ID:			L2024526-01				L2024526-02				L2024526-03				L2024526-04				L2024526-05				L2024526-06			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES																								
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
ORGANOCHLORINE PESTICIDES BY GC																										
Delta-BHC	100	0.04	ND		0.0016	0.000314	ND		0.00179	0.000351	ND		0.00163	0.000319	ND		0.00174	0.00034	ND		0.00165	0.000323	ND		0.00174	0.00034
Lindane	1.3	0.1	ND		0.000667	0.000298	ND		0.000746	0.000334	ND		0.000679	0.000303	ND		0.000723	0.000323	ND		0.000687	0.000307	ND		0.000723	0.000323
Alpha-BHC	0.48	0.02	ND		0.000667	0.00019	ND		0.000746	0.000212	ND		0.000679	0.000193	ND		0.000723	0.000205	ND		0.000687	0.000195	ND		0.000723	0.000205
Beta-BHC	0.36	0.036	ND		0.0016	0.000607	ND		0.00179	0.000679	ND		0.00163	0.000618	ND		0.00174	0.000658	ND		0.00165	0.000625	ND		0.00174	0.000658
Heptachlor	2.1	0.042	ND		0.000801	0.000359	ND		0.000895	0.000401	ND		0.000814	0.000365	ND		0.000868	0.000389	ND		0.000824	0.000369	ND		0.000868	0.000389
Aldrin	0.097	0.005	ND		0.0016	0.000564	ND		0.00179	0.00063	ND		0.00163	0.000573	ND		0.00174	0.000611	ND		0.00165	0.00058	ND		0.00174	0.000611
Heptachlor epoxide			ND		0.003	0.000901	ND		0.00336	0.00101	ND		0.00305	0.000916	ND		0.00325	0.000976	ND		0.00309	0.000927	ND		0.00325	0.000976
Endrin	11	0.014	ND		0.000667	0.000274	ND		0.000746	0.000306	ND		0.000679	0.000278	ND		0.000723	0.000296	ND		0.000687	0.000282	ND		0.000723	0.000296
Endrin aldehyde			ND		0.002	0.000701	ND		0.00224	0.000784	ND		0.00204	0.000712	ND		0.00217	0.000759	ND		0.00206	0.000721	ND		0.00217	0.000759
Endrin ketone			ND		0.0016	0.000412	ND		0.00179	0.000461	ND		0.00163	0.000419	ND		0.00174	0.000447	ND		0.00165	0.000424	ND		0.00174	0.000447
Dieldrin	0.2	0.005	ND		0.001	0.0005	ND		0.00112	0.00056	ND		0.00102	0.000509	ND		0.00108	0.000542	ND		0.00103	0.000515	ND		0.00108	0.000542
4,4'-DDE	8.9	0.0033	ND		0.0016	0.00037	ND		0.00179	0.000414	ND		0.00163	0.000377	ND		0.00174	0.000401	0.00177		0.00165	0.000381	ND		0.00174	0.000401
4,4'-DDD	13	0.0033	ND		0.0016	0.000571	ND		0.00179	0.000639	ND		0.00163	0.000581	ND		0.00174	0.000619	0.00186	P	0.00165	0.000588	ND		0.00174	0.000619
4,4'-DDT	7.9	0.0033	0.00262	J	0.003	0.00129	ND		0.00336	0.00144	0.00144	J	0.00305	0.00131	ND		0.00325	0.0014	0.00822		0.00309	0.00132	ND		0.00325	0.0014
Endosulfan I	24	2.4	ND		0.0016	0.000378	ND		0.00179	0.000423	ND		0.00163	0.000385	ND		0.00174	0.00041	ND		0.00165	0.000389	ND		0.00174	0.00041
Endosulfan II	24	2.4	ND		0.0016	0.000535	ND		0.00179	0.000598	ND		0.00163	0.000544	ND		0.00174	0.00058	ND		0.00165	0.000551	ND		0.00174	0.00058
Endosulfan sulfate	24	2.4	ND		0.000667	0.000318	ND		0.000746	0.000355	ND		0.000679	0.000323	ND		0.000723	0.000344	ND		0.000687	0.000327	ND		0.000723	0.000344
Methoxychlor			ND		0.003	0.000934	ND		0.00336	0.00104	ND		0.00305	0.00095	ND		0.00325	0.00101	ND		0.00309	0.000961	ND		0.00325	0.00101
Toxaphene			ND		0.03	0.00841	ND		0.0336	0.0094	ND		0.0305	0.00855	ND		0.0325	0.00911	ND		0.0309	0.00865	ND		0.0325	0.00911
cis-Chlordane	4.2	0.094	ND		0.002	0.000558	ND		0.00224	0.000624	ND		0.00204	0.000567	ND		0.00217	0.000604	0.00122	J	0.00206	0.000574	ND		0.00217	0.000605
trans-Chlordane			ND		0.002	0.000528	ND		0.00224	0.000591	0.00067	JIP	0.00204	0.000537	ND		0.00217	0.000573	0.0015	JIP	0.00206	0.000544	ND		0.00217	0.000573
Chlordane			ND		0.0133	0.0053	ND		0.0149	0.00593	ND		0.0136	0.0054	ND		0.0145	0.00575	ND		0.0137	0.00546	ND		0.0145	0.00575
POLYCHLORINATED BIPHENYLS BY GC																										
Aroclor 1016	1	0.1	ND		0.0341	0.00302	ND		0.0375	0.00333	ND		0.0331	0.00294	ND		0.0355	0.00315	ND		0.0338	0.003	ND		0.0367	0.00326
Aroclor 1221	1	0.1	ND		0.0341	0.00341	ND		0.0375	0.00376	ND		0.0331	0.00331	ND		0.0355	0.00356	ND		0.0338	0.00339	ND		0.0367	0.00368
Aroclor 1232	1	0.1	ND		0.0341	0.00722	ND		0.0375	0.00796	ND		0.0331	0.00701	ND		0.0355	0.00752	ND		0.0338	0.00717	ND		0.0367	0.00778
Aroclor 1242	1	0.1	ND		0.0341	0.00459	ND		0.0375	0.00506	ND		0.0331	0.00446	ND		0.0355	0.00478	ND		0.0338	0.00456	ND		0.0367	0.00495
Aroclor 1248	1	0.1	ND		0.0341	0.00511	ND		0.0375	0.00563	ND		0.0331	0.00496	ND		0.0355	0.00532	ND		0.0338	0.00507	ND		0.0367	0.0055
Aroclor 1254	1	0.1	ND		0.0341	0.00373	ND		0.0375	0.0041	ND		0.0331	0.00362	ND		0.0355	0.00388	ND		0.0338	0.0037	ND		0.0367	0.00401
Aroclor 1260	1	0.1	ND		0.0341	0.0063	ND		0.0375	0.00693	ND		0.0331	0.00611	ND		0.0355	0.00656	ND		0.0338	0.00625	ND		0.0367	0.00678
Aroclor 1262	1	0.1	ND		0.0341	0.00433	ND		0.0375	0.00476	ND		0.0331	0.0042	ND		0.0355	0.00451	ND		0.0338	0.00429	ND		0.0367	0.00466
Aroclor 1268	1	0.1	ND		0.0341	0.00353	ND		0.0375	0.00389	ND		0.0331	0.00342	ND		0.0355	0.00368	ND		0.0338	0.0035	ND		0.0367	0.0038
PCBs, Total	1	0.1	ND		0.0341	0.00302	ND		0.0375	0.00333	ND		0.0331	0.00294	ND		0.0355	0.00315	ND		0.0338	0.003	ND		0.0367	0.00326
TOTAL METALS																										
Aluminum, Total			5490		8.17	2.2	3920		9.27	2.5	4570		7.76	2.1	3290		8.54	2.3	5690		8.42	2.27	5800		8.66	2.34
Antimony, Total			ND		4.08	0.31	ND		4.63	0.352	ND		3.88	0.295	ND		4.27	0.324	ND		4.21	0.32	ND		4.33	0.329
Arsenic, Total	16	13	2.1		0.817	0.17	1.23		0.927	0.193	2.38		0.776	0.161	0.623	J	0.854	0.178	2.95		0.842	0.175	1.75		0.866	0.18
Barium, Total	400	350	46.3		0.817	0.142	11.3		0.927	0.161	47.7		0.776	0.135	8.31		0.854	0.148	75.8		0.842	0.146	21.3		0.866	0.151
Beryllium, Total	72	7.2	0.343	J	0.408	0.027	0.148	J	0.463	0.031	0.295	J	0.388	0.026	0.162	J	0.427	0.028	0.202	J	0.421	0.028	0.156	J	0.433	0.029
Cadmium, Total	4.3	2.5	ND		0.817	0.08	ND		0.927	0.091	ND		0.776	0.076	ND		0.854	0.084	0.252	J	0.842	0.083	ND		0.866	0.085
Calcium, Total			1710		8.17	2.86	344		9.27	3.24	5730		7.76	2.72	246		8.54	2.99	9990		8.42	2.95	479		8.66	3.03
Chromium, Total			18.2		0.817	0.078	7.49		0.927	0.089	16.2		0.776	0.075	10.4		0.854	0.082	51.1		0.842	0.081	15.6		0.866	0.083
Cobalt, Total			7.08		1.63	0.136	2.07		1.85	0.154	6.6		1.55	0.129	2.06		1.71	0.142	7.01		1.68	0.14	4.57		1.73	0.144
Copper, Total	270	50	19.4		0.817	0.211	8.1		0.927	0.239	44.5		0.776	0.2	7.42		0.854	0.22	42.6		0.842	0.217	6.58		0.866	0.224
Iron, Total			19900		4.08	0.738	5030		4.63	0.837	14800		3.88	0.701	5680		4.27	0.771	15800		4.21	0.76	8920		4.33	0.782
Lead, Total	400	63	13.9		4.08	0.219	3.23	J	4.63	0.248	25.9		3.88	0.208	2.17	J	4.27	0.229	120		4.21	0.226	3.98	J	4.33	0.232
Magnesium, Total			2330		8.17	1.26	1010		9.27	1.43	2620		7.76	1.2	1060		8.54	1.32	3210		8.42	1.3	1250		8.66	1.33
Manganese, Total	2000	1600	393		0.817	0.13	27.9		0.927	0.147	344		0.776	0.123	29		0.854	0.136	262		0.842	0.134	52.6		0.866	0.138
Mercury, Total	0.81	0.18	0.046	J	0.07	0.046	0.065	J	0.079	0.052	0.045	J	0.068	0.044	ND		0.072	0.047	0.146		0.072	0.047	ND		0.072	0.047
Nickel, Total	310	30	16.8		2.04	0.198	25.3		2.32	0.224	20.4		1.94	0.188	5.85		2.13	0.207	49.2		2.1	0.204	7.95		2.17	0.21
Potassium, Total			996		204	11.8	223	J	232	13.3	985		194	11.2	241		213	12.3	1240		210	12.1	296		217	12.5
Selenium, Total	180	3.9	ND		1.63	0.211	ND		1.85	0.239	ND		1.55	0.2	ND		1.71	0.22	ND		1.68	0.217	ND		1.73	0.224
Silver, Total	180	2	ND		0.817	0.231	ND		0.927	0.262	ND		0.776	0.22	ND		0.854	0.242	ND		0.842	0.238	ND		0.866	0.245
Sodium, Total			128	J	163	2.57	26.7	J	185	2.92	66.8	J	155	2.44	19	J	171	2.69	108	J	168	2.65	42.9	J	173	2.73
Thallium, Total			0.392	J	1.63	0.257	ND		1.85	0.292	ND		1.55	0.244	ND		1.71	0.269	ND		1.68	0.265	ND		1.73	0.273
Vanadium, Total			30.9		0.817	0.166	8.61		0.927	0.188	24.6		0.776	0.158	10		0.854	0.173	23.9		0.842	0.171	11.5		0.866	0.176
Zinc, Total	10000	109	41.2		4.08	0.239	31.5		4.63	0.272	62.7		3.88	0.227	14.4		4.27	0.25	90.8		4.21	0.247	19.4		4.33	0.254

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1c. Pesticides, Polychlorinated Biphenyls and Metals Analytical Results in Soil

297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:			B-4 (0-2")				B-4 (8-10')				B-7 (0-2")				B-7 (8-10')				B-8 (0-2")				B-8 (8-10')			
LAB ID:			L2024526-07				L2024526-08				L2024526-13				L2024526-14				L2024526-15				L2024526-16			
COLLECTION DATE:			6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL				SOIL				SOIL				SOIL				SOIL			
	NY-RESRR	NY-UNRES																								
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
ORGANOCHLORINE PESTICIDES BY GC																										
Delta-BHC	100	0.04	ND		0.00165	0.000322	ND		0.00175	0.000343	ND		0.00162	0.000318	ND		0.00178	0.000348	ND		0.00158	0.00031	ND		0.00178	0.000348
Lindane	1.3	0.1	ND		0.000686	0.000307	ND		0.000729	0.000326	ND		0.000676	0.000302	ND		0.000742	0.000332	ND		0.00066	0.000295	ND		0.000741	0.000331
Alpha-BHC	0.48	0.02	ND		0.000686	0.000195	ND		0.000729	0.000207	ND		0.000676	0.000192	ND		0.000742	0.000211	ND		0.00066	0.000187	ND		0.000741	0.00021
Beta-BHC	0.36	0.036	ND		0.00165	0.000624	ND		0.00175	0.000663	ND		0.00162	0.000615	ND		0.00178	0.000675	ND		0.00158	0.000601	ND		0.00178	0.000675
Heptachlor	2.1	0.042	ND		0.000823	0.000369	ND		0.000875	0.000392	ND		0.000812	0.000364	ND		0.00089	0.000399	ND		0.000792	0.000355	ND		0.00089	0.000399
Aldrin	0.097	0.005	ND		0.00165	0.00058	ND		0.00175	0.000616	ND		0.00162	0.000572	ND		0.00178	0.000627	ND		0.00158	0.000558	ND		0.00178	0.000626
Heptachlor epoxide			ND		0.00309	0.000926	ND		0.00328	0.000984	ND		0.00304	0.000913	ND		0.00334	0.001	ND		0.00297	0.000891	ND		0.00334	0.001
Endrin	11	0.014	ND		0.000686	0.000281	ND		0.000729	0.000299	ND		0.000676	0.000277	ND		0.000742	0.000304	ND		0.00066	0.000271	ND		0.000741	0.000304
Endrin aldehyde			ND		0.00206	0.00072	ND		0.00219	0.000766	ND		0.00203	0.00071	ND		0.00222	0.000779	ND		0.00198	0.000693	ND		0.00222	0.000778
Endrin ketone			ND		0.00165	0.000424	ND		0.00175	0.00045	ND		0.00162	0.000418	ND		0.00178	0.000458	ND		0.00158	0.000408	ND		0.00178	0.000458
Dieldrin	0.2	0.005	ND		0.00103	0.000515	ND		0.00109	0.000547	ND		0.00101	0.000507	ND		0.00111	0.000556	ND		0.00099	0.000495	ND		0.00111	0.000556
4,4'-DDE	8.9	0.0033	0.000524	J	0.00165	0.000381	ND		0.00175	0.000405	0.000751	J	0.00162	0.000375	ND		0.00178	0.000412	0.00213	P	0.00158	0.000366	ND		0.00178	0.000411
4,4'-DDD	13	0.0033	0.00137	J	0.00165	0.000587	ND		0.00175	0.000624	ND		0.00162	0.000579	ND		0.00178	0.000635	0.00244		0.00158	0.000565	ND		0.00178	0.000635
4,4'-DDT	7.9	0.0033	ND		0.00309	0.00132	ND		0.00328	0.00141	0.00824		0.00304	0.0013	ND		0.00334	0.00143	0.012		0.00297	0.00127	ND		0.00334	0.00143
Endosulfan I	24	2.4	ND		0.00165	0.000389	ND		0.00175	0.000413	ND		0.00162	0.000383	ND		0.00178	0.00042	ND		0.00158	0.000374	ND		0.00178	0.00042
Endosulfan II	24	2.4	ND		0.00165	0.00055	ND		0.00175	0.000585	ND		0.00162	0.000542	ND		0.00178	0.000595	ND		0.00158	0.000529	ND		0.00178	0.000594
Endosulfan sulfate	24	2.4	ND		0.000686	0.000327	ND		0.000729	0.000347	ND		0.000676	0.000322	ND		0.000742	0.000353	ND		0.00066	0.000314	ND		0.000741	0.000353
Methoxychlor			ND		0.00309	0.000961	ND		0.00328	0.00102	ND		0.00304	0.000947	ND		0.00334	0.00104	ND		0.00297	0.000924	ND		0.00334	0.00104
Toxaphene			ND		0.0309	0.00865	ND		0.0328	0.00919	ND		0.0304	0.00852	ND		0.0334	0.00934	ND		0.0297	0.00832	ND		0.0334	0.00934
cis-Chlordane	4.2	0.094	ND		0.00206	0.000574	ND		0.00219	0.00061	0.00106	JP	0.00203	0.000565	ND		0.00222	0.00062	0.00144	J	0.00198	0.000552	ND		0.00222	0.00062
trans-Chlordane			ND		0.00206	0.000543	ND		0.00219	0.000577	0.000864	JIP	0.00203	0.000536	ND		0.00222	0.000587	0.00156	JIP	0.00198	0.000523	ND		0.00222	0.000587
Chlordane			ND		0.0137	0.00546	ND		0.0146	0.0058	ND		0.0135	0.00538	ND		0.0148	0.0059	ND		0.0132	0.00525	ND		0.0148	0.00589
POLYCHLORINATED BIPHENYLS BY GC																										
Aroclor 1016	1	0.1	ND		0.033	0.00293	ND		0.0366	0.00325	ND		0.0341	0.00303	ND		0.0371	0.00329	ND		0.034	0.00302	ND		0.0378	0.00336
Aroclor 1221	1	0.1	ND		0.033	0.00331	ND		0.0366	0.00366	ND		0.0341	0.00342	ND		0.0371	0.00372	ND		0.034	0.00341	ND		0.0378	0.00379
Aroclor 1232	1	0.1	ND		0.033	0.007	ND		0.0366	0.00775	ND		0.0341	0.00723	ND		0.0371	0.00786	ND		0.034	0.00721	ND		0.0378	0.00802
Aroclor 1242	1	0.1	ND		0.033	0.00445	ND		0.0366	0.00493	ND		0.0341	0.0046	ND		0.0371	0.005	ND		0.034	0.00459	ND		0.0378	0.0051
Aroclor 1248	1	0.1	ND		0.033	0.00495	ND		0.0366	0.00548	ND		0.0341	0.00512	ND		0.0371	0.00556	ND		0.034	0.0051	ND		0.0378	0.00567
Aroclor 1254	1	0.1	ND		0.033	0.00361	ND		0.0366	0.004	ND		0.0341	0.00373	ND		0.0371	0.00406	ND		0.034	0.00372	ND		0.0378	0.00414
Aroclor 1260	1	0.1	ND		0.033	0.0061	ND		0.0366	0.00676	ND		0.0341	0.00631	ND		0.0371	0.00685	0.00706	J	0.034	0.00629	ND		0.0378	0.00699
Aroclor 1262	1	0.1	ND		0.033	0.00419	ND		0.0366	0.00464	ND		0.0341	0.00433	ND		0.0371	0.00471	ND		0.034	0.00432	ND		0.0378	0.0048
Aroclor 1268	1	0.1	ND		0.033	0.00342	ND		0.0366	0.00379	ND		0.0341	0.00354	ND		0.0371	0.00384	0.00365	J	0.034	0.00352	ND		0.0378	0.00392
PCBs, Total	1	0.1	ND		0.033	0.00293	ND		0.0366	0.00325	ND		0.0341	0.00303	ND		0.0371	0.00329	0.0107	J	0.034	0.00302	ND		0.0378	0.00336
TOTAL METALS																										
Aluminum, Total			756		8.27	2.23	3900		8.98	2.42	4080		8.31	2.24	3660		8.84	2.39	5310		7.81	2.11	3330		9.12	2.46
Antimony, Total			ND		4.13	0.314	ND		4.49	0.341	ND		4.16	0.316	ND		4.42	0.336	ND		3.9	0.297	ND		4.56	0.346
Arsenic, Total	16	13	0.587	J	0.827	0.172	1.16		0.898	0.187	1.39		0.831	0.173	0.566	J	0.884	0.184	2.86		0.781	0.162	0.574	J	0.912	0.19
Barium, Total	400	350	9.08		0.827	0.144	5.63		0.898	0.156	34.3		0.831	0.144	7.11		0.884	0.154	126		0.781	0.136	8.41		0.912	0.159
Beryllium, Total	72	7.2	0.041	J	0.413	0.027	0.269	J	0.449	0.03	0.199	J	0.416	0.027	0.132	J	0.442	0.029	0.265	J	0.39	0.026	0.128	J	0.456	0.03
Cadmium, Total	4.3	2.5	ND		0.827	0.081	ND		0.898	0.088	ND		0.831	0.081	ND		0.884	0.087	ND		0.781	0.077	ND		0.912	0.089
Calcium, Total			1090		8.27	2.89	309		8.98	3.14	3180		8.31	2.91	381		8.84	3.09	10900		7.81	2.73	289		9.12	3.19
Chromium, Total			4.32		0.827	0.079	8.31		0.898	0.086	36.3		0.831	0.08	8.75		0.884	0.085	53.1		0.781	0.075	44.8		0.912	0.088
Cobalt, Total			0.926	J	1.65	0.137	2.4		1.8	0.149	5.74		1.66	0.138	2.2		1.77	0.147	6.53		1.56	0.13	2.36		1.82	0.151
Copper, Total	270	50	4.22		0.827	0.213	6.09		0.898	0.232	13.5		0.831	0.214	9.1		0.884	0.228	71.8		0.781	0.201	5.95		0.912	0.235
Iron, Total			2310		4.13	0.747	8190		4.49	0.81	10800		4.16	0.75	5060		4.42	0.798	15500		3.9	0.705	6060		4.56	0.823
Lead, Total	400	63	21.9		4.13	0.222	2.94	J	4.49	0.24	21.9		4.16	0.223	2.79	J	4.42	0.237	191		3.9	0.209	2.74	J	4.56	0.244
Magnesium, Total			448		8.27	1.27	927		8.98	1.38	3190		8.31	1.28	999		8.84	1.36	3300		7.81	1.2	1090		9.12	1.4
Manganese, Total	2000	1600	42.7		0.827	0.131	35.3		0.898	0.143	191		0.831	0.132	30.2		0.884	0.14	290		0.781	0.124	36		0.912	0.145
Mercury, Total	0.81	0.18	ND		0.069	0.045	ND		0.078	0.051	ND		0.067	0.043	ND		0.075	0.049	0.214		0.07	0.046	ND		0.081	0.053
Nickel, Total	310	30	3.79		2.07	0.2	5.51		2.24	0.217	65.9		2.08	0.201	5.94		2.21	0.214	35.6		1.95	0.189	48.5		2.28	0.221
Potassium, Total			137	J	207	11.9	213	J	224	12.9	908		208	12	244		221	12.7	1210		195	11.2	258		228	13.1
Selenium, Total	180	3.9	ND		1.65	0.213	ND		1.8	0.232	ND		1.66	0.214	ND		1.77	0.228	0.218	J	1.56	0.201	ND		1.82	0.235
Silver, Total	180	2	ND		0.827	0.234	ND		0.898	0.254	ND		0.831	0.235	ND		0.884	0.25	ND		0.781	0.221	ND		0.912	0.258
Sodium, Total			5.98	J	165	2.6	10.2	J	180	2.83	46.8	J	166	2.62	10.9	J	177	2.78	103	J	156	2.46	20.8	J	182	2.87
Thallium, Total			ND		1.65	0.26	ND		1.8	0.283	ND		1.66	0.262	ND		1.77	0.278	ND		1.56	0.246	ND		1.82	0.287
Vanadium, Total			4.05		0.827	0.168	17.6		0.898	0.182	17.2		0.831	0.169	9.97		0.884	0.179	24.2		0.781	0.158	7.23		0.912	0.185
Zinc, Total	10000	109	20.9		4.13	0.242	14.7		4.49	0.263	36.8		4.16	0.243	14.5		4.42	0.259	144		3.9	0.229	36.2		4.56	0.267

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 1d. Per- and polyfluoroalkyl Substances Analytical Results in Soil
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:			B-3 (8-10')				B-7 (8-10')			
LAB ID:			L2024526-06				L2024526-14			
COLLECTION DATE:			6/11/2020				6/11/2020			
SAMPLE MATRIX:			SOIL				SOIL			
	NY-RESRR	NY-UNRES								
ANALYTE	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL
PERFLUORINATED ALKYL ACIDS BY ISOTOPE DILUTION										
Perfluorobutanoic Acid (PFBA)			ND		0.000555	0.000025	ND		0.000554	0.000025
Perfluoropentanoic Acid (PFPeA)			ND		0.000555	0.000051	ND		0.000554	0.000051
Perfluorobutanesulfonic Acid (PFBS)			ND		0.000555	0.000043	ND		0.000554	0.000043
Perfluorohexanoic Acid (PFHxA)			0.000059	J	0.000555	0.000058	ND		0.000554	0.000058
Perfluoroheptanoic Acid (PFHpA)			ND		0.000555	0.00005	ND		0.000554	0.00005
Perfluorohexanesulfonic Acid (PFHxS)			ND		0.000555	0.000067	ND		0.000554	0.000067
Perfluorooctanoic Acid (PFOA)			ND		0.000555	0.000047	0.000065	J	0.000554	0.000046
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)			ND		0.000555	0.000199	ND		0.000554	0.000199
Perfluoroheptanesulfonic Acid (PFHpS)			ND		0.000555	0.000152	ND		0.000554	0.000151
Perfluorononanoic Acid (PFNA)			ND		0.000555	0.000083	ND		0.000554	0.000083
Perfluorooctanesulfonic Acid (PFOS)			ND		0.000555	0.000144	ND		0.000554	0.000144
Perfluorodecanoic Acid (PFDA)			ND		0.000555	0.000074	ND		0.000554	0.000074
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)			ND		0.000555	0.000318	ND		0.000554	0.000318
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)			ND		0.000555	0.000224	ND		0.000554	0.000223
Perfluoroundecanoic Acid (PFUnA)			ND		0.000555	0.000052	ND		0.000554	0.000052
Perfluorodecanesulfonic Acid (PFDS)			ND		0.000555	0.00017	ND		0.000554	0.00017
Perfluorooctanesulfonamide (FOSA)			ND		0.000555	0.000109	ND		0.000554	0.000109
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)			ND		0.000555	0.000094	ND		0.000554	0.000094
Perfluorododecanoic Acid (PFDoA)			ND		0.000555	0.000078	ND		0.000554	0.000078
Perfluorotridecanoic Acid (PFTrDA)			ND		0.000555	0.000227	ND		0.000554	0.000227
Perfluorotetradecanoic Acid (PFTA)			ND		0.000555	0.00006	ND		0.000554	0.00006
PFOA/PFOS, Total			ND		0.000555	0.000047	0.000065	J	0.000554	0.000046

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 2a. Volatile Organic Compound Analytical Results in Groundwater
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:		MW-1			MW-2			MW-3		
LAB ID:		L2024757-01			L2024757-02			L2024757-03		
COLLECTION DATE:		6/12/2020			6/12/2020			6/12/2020		
SAMPLE MATRIX:		WATER			WATER			WATER		
	NY-AWQS									
ANALYTE	(ug/l)	Conc Q	RL	MDL	Conc Q	RL	MDL	Conc Q	RL	MDL
VOLATILE ORGANICS BY GC/MS										
Methylene chloride	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
1,1-Dichloroethane	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Chloroform	7	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Carbon tetrachloride	5	ND	0.5	0.13	ND	20	5.4	ND	0.5	0.13
1,2-Dichloropropane	1	ND	1	0.14	ND	40	5.5	ND	1	0.14
Dibromochloromethane	50	ND	0.5	0.15	ND	20	6	ND	0.5	0.15
1,1,2-Trichloroethane	1	ND	1.5	0.5	ND	60	20	ND	1.5	0.5
Tetrachloroethene	5	8.6	0.5	0.18	150	20	7.2	11	0.5	0.18
Chlorobenzene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Trichlorofluoromethane	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
1,2-Dichloroethane	0.6	ND	0.5	0.13	ND	20	5.3	ND	0.5	0.13
1,1,1-Trichloroethane	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Bromodichloromethane	50	ND	0.5	0.19	ND	20	7.7	ND	0.5	0.19
trans-1,3-Dichloropropene	0.4	ND	0.5	0.16	ND	20	6.6	ND	0.5	0.16
cis-1,3-Dichloropropene	0.4	ND	0.5	0.14	ND	20	5.8	ND	0.5	0.14
1,3-Dichloropropene, Total		ND	0.5	0.14	ND	20	5.8	ND	0.5	0.14
1,1-Dichloropropene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Bromoform	50	ND	2	0.65	ND	80	26	ND	2	0.65
1,1,2,2-Tetrachloroethane	5	ND	0.5	0.17	ND	20	6.7	ND	0.5	0.17
Benzene	1	ND	0.5	0.16	ND	20	6.4	ND	0.5	0.16
Toluene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Ethylbenzene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Chloromethane		ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Bromomethane	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Vinyl chloride	2	1	1	0.07	ND	40	2.8	1.4	1	0.07
Chloroethane	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
1,1-Dichloroethene	5	0.62	0.5	0.17	ND	20	6.8	ND	0.5	0.17
trans-1,2-Dichloroethene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Trichloroethene	5	150	0.5	0.18	3300	20	7	79	0.5	0.18
1,2-Dichlorobenzene	3	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
1,3-Dichlorobenzene	3	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
1,4-Dichlorobenzene	3	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Methyl tert butyl ether	10	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
p/m-Xylene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
o-Xylene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Xylenes, Total		ND	2.5	0.7	ND	100	28	ND	2.5	0.7
cis-1,2-Dichloroethene	5	35	2.5	0.7	390	100	28	10	2.5	0.7
1,2-Dichloroethene, Total		35	2.5	0.7	390	100	28	10	2.5	0.7
Dibromomethane	5	ND	5	1	ND	200	40	ND	5	1
1,2,3-Trichloropropane	0.04	ND	2.5	0.7	ND	100	28	ND	2.5	0.7
Acrylonitrile	5	ND	5	1.5	ND	200	60	ND	5	1.5
Styrene	5	ND	2.5	0.7	ND	100	28	ND	2.5	0.7

SAMPLE ID:	MW-4			MW-5			FIELD BLANK		
LAB ID:	L2024757-04			L2024757-05			L2024757-06		
COLLECTION DATE:	6/12/2020			6/12/2020			6/12/2020		
SAMPLE MATRIX:	WATER			WATER			Field Blank		
ANALYTE	Conc Q	RL	MDL	Conc Q	RL	MDL	Conc Q	RL	MDL
VOLATILE ORGANICS BY GC/MS									
Methylene chloride	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,1-Dichloroethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Chloroform	0.93 J	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Carbon tetrachloride	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,2-Dichloropropane	ND	1	0.14	ND	1	0.14	ND	1	0.14
Dibromochloromethane	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15
1,1,2-Trichloroethane	ND	1.5	0.5	ND	1.5	0.5	ND	1.5	0.5
Tetrachloroethene	1.1	0.5	0.18	0.57	0.5	0.18	ND	0.5	0.18
Chlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Trichlorofluoromethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,2-Dichloroethane	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,1,1-Trichloroethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Bromodichloromethane	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19
trans-1,3-Dichloropropene	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
cis-1,3-Dichloropropene	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
1,3-Dichloropropene, Total	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
1,1-Dichloropropene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Bromoform	ND	2	0.65	ND	2	0.65	ND	2	0.65
1,1,2,2-Tetrachloroethane	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
Benzene	ND	0.5	0.16	0.2 J	0.5	0.16	ND	0.5	0.16
Toluene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Ethylbenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Chloromethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Bromomethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Vinyl chloride	ND	1	0.07	6.7	1	0.07	ND	1	0.07
Chloroethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,1-Dichloroethene	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
trans-1,2-Dichloroethene	ND	2.5	0.7	0.93 J	2.5	0.7	ND	2.5	0.7
Trichloroethene	34	0.5	0.18	9.2	0.5	0.18	ND	0.5	0.18
1,2-Dichlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,3-Dichlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,4-Dichlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Methyl tert butyl ether	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
p/m-Xylene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
o-Xylene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Xylenes, Total	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
cis-1,2-Dichloroethene	0.8 J	2.5	0.7	12	2.5	0.7	ND	2.5	0.7
1,2-Dichloroethene, Total	0.8 J	2.5	0.7	13 J	2.5	0.7	ND	2.5	0.7
Dibromomethane	ND	5	1	ND	5	1	ND	5	1
1,2,3-Trichloropropane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Acrylonitrile	ND	5	1.5	ND	5	1.5	ND	5	1.5
Styrene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7

SAMPLE ID:	TRIP BLANK			TRIP BLANK			DUP-061220		
LAB ID:	L2024757-07			L2024757-08			L2024757-09		
COLLECTION DATE:	6/10/2020			6/10/2020			6/12/2020		
SAMPLE MATRIX:	Trip Blank (aqueous)			Trip Blank (aqueous)			WATER		
ANALYTE	Conc Q	RL	MDL	Conc Q	RL	MDL	Conc Q	RL	MDL
VOLATILE ORGANICS BY GC/MS									
Methylene chloride	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,1-Dichloroethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Chloroform	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Carbon tetrachloride	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,2-Dichloropropane	ND	1	0.14	ND	1	0.14	ND	1	0.14
Dibromochloromethane	ND	0.5	0.15	ND	0.5	0.15	ND	0.5	0.15
1,1,2-Trichloroethane	ND	1.5	0.5	ND	1.5	0.5	ND	1.5	0.5
Tetrachloroethene	ND	0.5	0.18	ND	0.5	0.18	12	0.5	0.18
Chlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Trichlorofluoromethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,2-Dichloroethane	ND	0.5	0.13	ND	0.5	0.13	ND	0.5	0.13
1,1,1-Trichloroethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Bromodichloromethane	ND	0.5	0.19	ND	0.5	0.19	ND	0.5	0.19
trans-1,3-Dichloropropene	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
cis-1,3-Dichloropropene	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
1,3-Dichloropropene, Total	ND	0.5	0.14	ND	0.5	0.14	ND	0.5	0.14
1,1-Dichloropropene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Bromoform	ND	2	0.65	ND	2	0.65	ND	2	0.65
1,1,2,2-Tetrachloroethane	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
Benzene	ND	0.5	0.16	ND	0.5	0.16	ND	0.5	0.16
Toluene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Ethylbenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Chloromethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Bromomethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Vinyl chloride	ND	1	0.07	ND	1	0.07	1.5	1	0.07
Chloroethane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,1-Dichloroethene	ND	0.5	0.17	ND	0.5	0.17	ND	0.5	0.17
trans-1,2-Dichloroethene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Trichloroethene	ND	0.5	0.18	ND	0.5	0.18	85	0.5	0.18
1,2-Dichlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,3-Dichlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
1,4-Dichlorobenzene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Methyl tert butyl ether	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
p/m-Xylene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
o-Xylene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Xylenes, Total	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
cis-1,2-Dichloroethene	ND	2.5	0.7	ND	2.5	0.7	9.6	2.5	0.7
1,2-Dichloroethene, Total	ND	2.5	0.7	ND	2.5	0.7	9.6	2.5	0.7
Dibromomethane	ND	5	1	ND	5	1	ND	5	1
1,2,3-Trichloropropane	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7
Acrylonitrile	ND	5	1.5	ND	5	1.5	ND	5	1.5
Styrene	ND	2.5	0.7	ND	2.5	0.7	ND	2.5	0.7

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 2a. Volatile Organic Compound Analytical Results in Groundwater
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:		MW-1				MW-2				MW-3				MW-4				MW-5				FIELD BLANK				TRIP BLANK				TRIP BLANK				DUP-061220			
LAB ID:		L2024757-01				L2024757-02				L2024757-03				L2024757-04				L2024757-05				L2024757-06				L2024757-07				L2024757-08				L2024757-09			
COLLECTION DATE:		6/12/2020				6/12/2020				6/12/2020				6/12/2020				6/12/2020				6/12/2020				6/10/2020				6/10/2020				6/12/2020			
SAMPLE MATRIX:		WATER				WATER				WATER				WATER				WATER				Field Blank				Trip Blank (aqueous)				Trip Blank (aqueous)				WATER			
	NY-AWQS																																				
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
VOLATILE ORGANICS BY GC/MS																																					
Dichlorodifluoromethane	5	ND		5	1	ND		200	40	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1
Acetone	50	ND		5	1.5	ND		200	58	ND		5	1.5	ND		5	1.5	2.6	J	5	1.5	ND		5	1.5	ND		5	1.5	ND		5	1.5	2.2	J	5	1.5
Carbon disulfide	60	ND		5	1	ND		200	40	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1
2-Butanone	50	ND		5	1.9	ND		200	78	ND		5	1.9	ND		5	1.9	ND		5	1.9	ND		5	1.9	ND		5	1.9	ND		5	1.9	ND		5	1.9
Vinyl acetate		ND		5	1	ND		200	40	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1
4-Methyl-2-pentanone		ND		5	1	ND		200	40	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1
2-Hexanone	50	ND		5	1	ND		200	40	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1	ND		5	1
Bromochloromethane	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
2,2-Dichloropropane	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2-Dibromoethane	0.0006	ND		2	0.65	ND		80	26	ND		2	0.65	ND		2	0.65	ND		2	0.65	ND		2	0.65	ND		2	0.65	ND		2	0.65	ND		2	0.65
1,3-Dichloropropane	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,1,1,2-Tetrachloroethane	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Bromobenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
n-Butylbenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
sec-Butylbenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
tert-Butylbenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
o-Chlorotoluene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
p-Chlorotoluene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2-Dibromo-3-chloropropane	0.04	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Hexachlorobutadiene	0.5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Isopropylbenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
p-Isopropyltoluene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Naphthalene	10	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
n-Propylbenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2,3-Trichlorobenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2,4-Trichlorobenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,3,5-Trimethylbenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2,4-Trimethylbenzene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,4-Dioxane		ND		250	61	ND		10000	2400	ND		250	61	ND		250	61	ND		250	61	ND		250	61	ND		250	61	ND		250	61	ND		250	61
p-Diethylbenzene		ND		2	0.7	ND		80	28	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7
p-Ethyltoluene		ND		2	0.7	ND		80	28	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7	ND		2	0.7
1,2,4,5-Tetramethylbenzene	5	ND		2	0.54	ND		80	22	ND		2	0.54	ND		2	0.54	ND		2	0.54	ND		2	0.54	ND		2	0.54	ND		2	0.54	ND		2	0.54
Ethyl ether		ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
trans-1,4-Dichloro-2-butene	5	ND		2.5	0.7	ND		100	28	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Total VOCs		195.2	-	-	-	3840	-	-	-	101.4	-	-	-	36.83	-	-	-	32.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110.3	-	-	-

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 2b. Semi-volatile Organic Compound Analytical Results in Groundwater
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:		MW-1				MW-2				MW-3				MW-4				MW-5				DUP-061220				FIELD BLANK			
LAB ID:		L2024757-01				L2024757-02				L2024757-03				L2024757-04				L2024757-05				L2024757-09				L2024757-10			
COLLECTION DATE:		6/12/2020				6/12/2020				6/12/2020				6/12/2020				6/12/2020				6/12/2020				6/22/2020			
SAMPLE MATRIX:		WATER				WATER				WATER				WATER				WATER				WATER				Field Blank			
	NY-AWQS																												
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
SEMIVOLATILE ORGANICS BY GC/MS																													
1,2,4-Trichlorobenzene	5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5
Bis(2-chloroethyl)ether	1	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5
1,2-Dichlorobenzene	3	ND		2	0.45	ND		2	0.45	ND		2	0.45	ND		2	0.45	ND		2	0.45	ND		2	0.45	ND		2	0.45
1,3-Dichlorobenzene	3	ND		2	0.4	ND		2	0.4	ND		2	0.4	ND		2	0.4	ND		2	0.4	ND		2	0.4	ND		2	0.4
1,4-Dichlorobenzene	3	ND		2	0.43	ND		2	0.43	ND		2	0.43	ND		2	0.43	ND		2	0.43	ND		2	0.43	ND		2	0.43
3,3'-Dichlorobenzidine	5	ND		5	1.6	ND		5	1.6	ND		5	1.6	ND		5	1.6	ND		5	1.6	ND		5	1.6	ND		5	1.6
2,4-Dinitrotoluene	5	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2
2,6-Dinitrotoluene	5	ND		5	0.93	ND		5	0.93	ND		5	0.93	ND		5	0.93	ND		5	0.93	ND		5	0.93	ND		5	0.93
4-Chlorophenyl phenyl ether		ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49
4-Bromophenyl phenyl ether		ND		2	0.38	ND		2	0.38	ND		2	0.38	ND		2	0.38	ND		2	0.38	ND		2	0.38	ND		2	0.38
Bis(2-chloroisopropyl)ether	5	ND		2	0.53	ND		2	0.53	ND		2	0.53	ND		2	0.53	ND		2	0.53	ND		2	0.53	ND		2	0.53
Bis(2-chloroethoxy)methane	5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5
Hexachlorocyclopentadiene	5	ND		20	0.69	ND		20	0.69	ND		20	0.69	ND		20	0.69	ND		20	0.69	ND		20	0.69	ND		20	0.69
Isophorone	50	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2
Nitrobenzene	0.4	ND		2	0.77	ND		2	0.77	ND		2	0.77	ND		2	0.77	ND		2	0.77	ND		2	0.77	ND		2	0.77
NDPA/DPA	50	ND		2	0.42	ND		2	0.42	ND		2	0.42	ND		2	0.42	ND		2	0.42	ND		2	0.42	ND		2	0.42
n-Nitrosodi-n-propylamine		ND		5	0.64	ND		5	0.64	ND		5	0.64	ND		5	0.64	ND		5	0.64	ND		5	0.64	ND		5	0.64
Bis(2-ethylhexyl)phthalate	5	2.9	J	3	1.5	2.6	J	3	1.5	2.8	J	3	1.5	6.9		3	1.5	ND		3	1.5	ND		3	1.5	ND		3	1.5
Butyl benzyl phthalate	50	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2	ND		5	1.2
Di-n-butylphthalate	50	ND		5	0.39	ND		5	0.39	ND		5	0.39	ND		5	0.39	ND		5	0.39	ND		5	0.39	ND		5	0.39
Di-n-octylphthalate	50	ND		5	1.3	ND		5	1.3	ND		5	1.3	ND		5	1.3	ND		5	1.3	ND		5	1.3	ND		5	1.3
Diethyl phthalate	50	ND		5	0.38	ND		5	0.38	ND		5	0.38	ND		5	0.38	ND		5	0.38	ND		5	0.38	ND		5	0.38
Dimethyl phthalate	50	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8
Biphenyl		ND		2	0.46	ND		2	0.46	ND		2	0.46	ND		2	0.46	ND		2	0.46	ND		2	0.46	ND		2	0.46
4-Chloroaniline	5	ND		5	1.1	ND		5	1.1	ND		5	1.1	ND		5	1.1	ND		5	1.1	ND		5	1.1	ND		5	1.1
2-Nitroaniline	5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5	ND		5	0.5
3-Nitroaniline	5	ND		5	0.81	ND		5	0.81	ND		5	0.81	ND		5	0.81	ND		5	0.81	ND		5	0.81	ND		5	0.81
4-Nitroaniline	5	ND		5	0.8	ND		5	0.8	ND		5	0.8	ND		5	0.8	ND		5	0.8	ND		5	0.8	ND		5	0.8
Dibenzofuran		ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5	ND		2	0.5
1,2,4,5-Tetrachlorobenzene	5	ND		10	0.44	ND		10	0.44	ND		10	0.44	ND		10	0.44	ND		10	0.44	ND		10	0.44	ND		10	0.44
Acetophenone		ND		5	0.53	ND		5	0.53	ND		5	0.53	ND		5	0.53	ND		5	0.53	ND		5	0.53	ND		5	0.53
2,4,6-Trichlorophenol		ND		5	0.61	ND		5	0.61	ND		5	0.61	ND		5	0.61	ND		5	0.61	ND		5	0.61	ND		5	0.61
p-Chloro-m-cresol		ND		2	0.35	ND		2	0.35	ND		2	0.35	ND		2	0.35	ND		2	0.35	ND		2	0.35	ND		2	0.35
2-Chlorophenol		ND		2	0.48	ND		2	0.48	ND		2	0.48	ND		2	0.48	ND		2	0.48	ND		2	0.48	ND		2	0.48
2,4-Dichlorophenol	1	ND		5	0.41	ND		5	0.41	ND		5	0.41	ND		5	0.41	ND		5	0.41	ND		5	0.41	ND		5	0.41
2,4-Dimethylphenol	50	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8	ND		5	1.8
2-Nitrophenol		ND		10	0.85	ND		10	0.85	ND		10	0.85	ND		10	0.85	ND		10	0.85	ND		10	0.85	ND		10	0.85
4-Nitrophenol		ND		10	0.67	ND		10	0.67	ND		10	0.67	ND		10	0.67	ND		10	0.67	ND		10	0.67	ND		10	0.67
2,4-Dinitrophenol	10	ND		20	6.6	ND		20	6.6	ND		20	6.6	ND		20	6.6	ND		20	6.6	ND		20	6.6	ND		20	6.6
4,6-Dinitro-o-cresol		ND		10	1.8	ND		10	1.8	ND		10	1.8	ND		10	1.8	ND		10	1.8	ND		10	1.8	ND		10	1.8
Phenol	1	ND		5	0.57	ND		5	0.57	ND		5	0.57	ND		5	0.57	ND		5	0.57	ND		5	0.57	ND		5	0.57
2-Methylphenol		ND		5	0.49	ND		5	0.49	ND		5	0.49	ND		5	0.49	ND		5	0.49	ND		5	0.49	ND		5	0.49
3-Methylphenol/4-Methylphenol		ND		5	0.48	ND		5	0.48	ND		5	0.48	ND		5	0.48	ND		5	0.48	ND		5	0.48	ND		5	0.48
2,4,5-Trichlorophenol		ND		5	0.77	ND		5	0.77	ND		5	0.77	ND		5	0.77	ND		5	0.77	ND		5	0.77	ND		5	0.77
Benzoic Acid		ND		50	2.6	9	J	50	2.6	ND		50	2.6	ND		50	2.6	ND		50	2.6	ND		50	2.6	ND		50	2.6
Benzyl Alcohol		ND		2	0.59	ND		2	0.59	ND		2	0.59	ND		2	0.59	ND		2	0.59	ND		2	0.59	ND		2	0.59
Carbazole		ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49	ND		2	0.49
Total SVOCs		2.9	-	-	-	11.6	-	-	-	2.8	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEMIVOLATILE ORGANICS BY GC/MS-SIM																													
Acenaphthene	20	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	0.02	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
2-Chloronaphthalene	10	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02	ND		0.2	0.02
Fluoranthene	50	0.07	J	0.1	0.02	0.05	J	0.1	0.02	ND		0.1	0.02	0.02	J	0.1	0.02	0.02	J	0.1	0.02	ND		0.1	0.02	ND		0.1	0.02
Hexachlorobutadiene	0.5	ND		0.5	0.05	1.1		0.5	0.05	0.11	J	0.5	0.05	ND		0.5	0.05	ND		0.5	0.05	0.1	J	0.5	0.05	ND		0.5	0.05
Naphthalene	10	0.05	JB	0.1	0.05	ND		0.1	0.05	ND		0.1	0.05	ND		0.1	0.05	0.05	JB	0.1	0.05	ND		0.1	0.05	ND		0.1	0.05
Benzo(a)anthracene	0.002	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02
Benzo(a)pyrene	0	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02
Benzo(b)fluoranthene	0.002	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	0.01	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Benzo(k)fluoranthene	0.002	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Chrysene	0.002	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Acenaphthylene		ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Anthracene	50	0.03	J	0.1	0.01	0.04	J	0.1	0.01	0.02	J	0.1	0.01	ND		0.1	0.01	0.03	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Benzo(ghi)perylene		ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Fluorene	50	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Phenanthrene	50	0.21		0.1	0.02	0.05	J	0.1	0.02	0.04	J	0.1	0.02	0.06	J	0.1	0.02	0.04	J	0.1	0.02	0.03	J	0.1	0.02	ND		0.1	0.02
Dibenzo(a,h)anthracene		ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Indeno(1,2,3-cd)pyrene	0.002	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	ND		0.1	0.01	0.01	J	0.1	0.01	ND		0.1	0.01	ND		0.1	0.01
Pyrene	50	0.07	J	0.1	0.02	0.1	J	0.1	0.02	ND		0.1	0.02	0.02	J	0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02
2-Methylnaphthalene		ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02	ND		0.1	0.02
Pentachlorophenol	1	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01
Hexachlorobenzene	0.04	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01	ND		0.8	0.01
Hexachloroethane	5	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06	ND		0.8	0.06
Total SVOCs		0.43	-	-	-	1.34	-	-	-	0.17	-	-	-	0.12	-	-	-	0.16	-	-	-	0.13	-	-	-	-	-	-	-

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 2c. Metals Analytical Results in Groundwater
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:		MW-1				MW-2				MW-3				MW-4			
LAB ID:		L2024757-01				L2024757-02				L2024757-03				L2024757-04			
COLLECTION DATE:		6/12/2020				6/12/2020				6/12/2020				6/12/2020			
SAMPLE MATRIX:		WATER				WATER				WATER				WATER			
	NY-AWQS																
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
TOTAL METALS																	
Aluminum, Total		71.8		10	3.27	226		10	3.27	52.1		10	3.27	234		10	3.27
Antimony, Total	3	ND		4	0.42	0.71	J	4	0.42	ND		4	0.42	ND		4	0.42
Arsenic, Total	25	0.4	J	0.5	0.16	0.72		0.5	0.16	0.45	J	0.5	0.16	0.4	J	0.5	0.16
Barium, Total	1000	70.4		0.5	0.17	65.72		0.5	0.17	71.62		0.5	0.17	91.81		0.5	0.17
Beryllium, Total	3	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1
Cadmium, Total	5	0.2		0.2	0.05	0.11	J	0.2	0.05	0.16	J	0.2	0.05	0.15	J	0.2	0.05
Calcium, Total		204000		100	39.4	291000		100	39.4	256000		100	39.4	117000		100	39.4
Chromium, Total	50	0.39	J	1	0.17	4.32		1	0.17	0.91	J	1	0.17	1.14		1	0.17
Cobalt, Total		7.01		0.5	0.16	2.82		0.5	0.16	4.32		0.5	0.16	3.12		0.5	0.16
Copper, Total	200	5.67		1	0.38	9.18		1	0.38	1.74		1	0.38	4.61		1	0.38
Iron, Total	300	351		50	19.1	650		50	19.1	291		50	19.1	973		50	19.1
Lead, Total	25	0.38	J	1	0.34	1.17		1	0.34	0.42	J	1	0.34	1.55		1	0.34
Magnesium, Total	35000	29100		70	24.2	51100		70	24.2	27900		70	24.2	18400		70	24.2
Manganese, Total	300	2185		1	0.44	378		1	0.44	3794		1	0.44	332.4		1	0.44
Mercury, Total	0.7	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09
Nickel, Total	100	36.47		2	0.55	7.79		2	0.55	44.45		2	0.55	7.58		2	0.55
Potassium, Total		18400		100	30.9	27000		100	30.9	20200		100	30.9	16200		100	30.9
Selenium, Total	10	ND		5	1.73	19.6		5	1.73	3.02	J	5	1.73	15.4		5	1.73
Silver, Total	50	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16
Sodium, Total	20000	56500		250	29.3	49000		250	29.3	69000		250	29.3	27100		250	29.3
Thallium, Total	0.5	ND		0.5	0.14	0.21	J	0.5	0.14	ND		0.5	0.14	ND		0.5	0.14
Vanadium, Total		ND		5	1.57	1.94	J	5	1.57	ND		5	1.57	ND		5	1.57
Zinc, Total	2000	9.6	J	10	3.41	7.25	J	10	3.41	5.22	J	10	3.41	11.05		10	3.41

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 2c. Metals Analytical Results in Groundwater

297 Wallabout Street, Brooklyn, NY

NYSDEC Site C224299

SAMPLE ID:		MW-5				FIELD BLANK				DUP-061220			
LAB ID:		L2024757-05				L2024757-06				L2024757-09			
COLLECTION DATE:		6/12/2020				6/12/2020				6/12/2020			
SAMPLE MATRIX:		WATER				Field Blank				WATER			
	NY-AWQS												
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
TOTAL METALS													
Aluminum, Total		712		10	3.27	ND		10	3.27	56.6		10	3.27
Antimony, Total	3	ND		4	0.42	ND		4	0.42	ND		4	0.42
Arsenic, Total	25	2.03		0.5	0.16	ND		0.5	0.16	0.38	J	0.5	0.16
Barium, Total	1000	119.6		0.5	0.17	0.33	J	0.5	0.17	71.85		0.5	0.17
Beryllium, Total	3	ND		0.5	0.1	ND		0.5	0.1	ND		0.5	0.1
Cadmium, Total	5	ND		0.2	0.05	ND		0.2	0.05	0.17	J	0.2	0.05
Calcium, Total		216000		100	39.4	58.1	J	100	39.4	254000		250	39.4
Chromium, Total	50	15.4		1	0.17	ND		1	0.17	0.94	J	1	0.17
Cobalt, Total		8.36		0.5	0.16	ND		0.5	0.16	4.31		0.5	0.16
Copper, Total	200	3.94		1	0.38	ND		1	0.38	1.59		1	0.38
Iron, Total	300	4240		50	19.1	62.8		50	19.1	271		50	19.1
Lead, Total	25	1.2		1	0.34	ND		1	0.34	0.6	J	1	0.34
Magnesium, Total	35000	16200		70	24.2	ND		70	24.2	27700		70	24.2
Manganese, Total	300	6773		1	0.44	ND		1	0.44	3978		1	0.44
Mercury, Total	0.7	ND		0.2	0.09	ND		0.2	0.09	ND		0.2	0.09
Nickel, Total	100	144.4		2	0.55	ND		2	0.55	45.86		2	0.55
Potassium, Total		18400		100	30.9	48	J	100	30.9	20000		100	30.9
Selenium, Total	10	ND		5	1.73	ND		5	1.73	3.26	J	5	1.73
Silver, Total	50	ND		0.4	0.16	ND		0.4	0.16	ND		0.4	0.16
Sodium, Total	20000	93100		250	29.3	807		250	29.3	67200		100	29.3
Thallium, Total	0.5	ND		0.5	0.14	ND		0.5	0.14	0.2	J	0.5	0.14
Vanadium, Total		3.91	J	5	1.57	ND		5	1.57	ND		5	1.57
Zinc, Total	2000	6.56	J	10	3.41	ND		10	3.41	5	J	10	3.41

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 2d. Per- and polyfluoroalkyl Substances and 1,4-dioxane Analytical Results in Groundwater
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:		MW-1				MW-2				MW-3				
LAB ID:		L2024757-01				L2024757-02				L2024757-03				
COLLECTION DATE:		6/12/2020				6/12/2020				6/12/2020				
SAMPLE MATRIX:		WATER				WATER				WATER				
	NY-AWQS													
ANALYTE	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc
1,4 DIOXANE BY 8270D-SIM														
1,4-Dioxane		0.121	J	0.144	0.0326	ND		0.15	0.0339	ND		0.139	0.0314	ND
PERFLUORINATED ALKYL ACIDS BY ISOTOPE DILUTION														
Perfluorobutanoic Acid (PFBA)		0.00576		0.00178	0.000363	0.00772		0.00182	0.000372	0.00655		0.00179	0.000365	0.00448
Perfluoropentanoic Acid (PFPeA)		0.0036		0.00178	0.000352	0.00563		0.00182	0.00036	0.00713		0.00179	0.000354	0.00568
Perfluorobutanesulfonic Acid (PFBS)		0.00184		0.00178	0.000212	0.00222		0.00182	0.000217	0.00191		0.00179	0.000213	0.00196
Perfluorohexanoic Acid (PFHxA)		0.00642		0.00178	0.000292	0.00905		0.00182	0.000299	0.0094		0.00179	0.000294	0.00529
Perfluoroheptanoic Acid (PFHpA)		0.00376		0.00178	0.0002	0.00298		0.00182	0.000205	0.00359		0.00179	0.000202	0.00231
Perfluorohexanesulfonic Acid (PFHxS)		0.00206		0.00178	0.000335	0.000758	J	0.00182	0.000342	0.00118	J	0.00179	0.000336	0.00104
Perfluorooctanoic Acid (PFOA)		0.0136		0.00178	0.00021	0.00875		0.00182	0.000215	0.0149		0.00179	0.000211	0.00834
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)		ND		0.00178	0.00118	ND		0.00182	0.00121	ND		0.00179	0.00119	ND
Perfluoroheptanesulfonic Acid (PFHpS)		ND		0.00178	0.000612	ND		0.00182	0.000626	ND		0.00179	0.000616	ND
Perfluorononanoic Acid (PFNA)		ND		0.00178	0.000278	ND		0.00182	0.000284	ND		0.00179	0.000279	ND
Perfluorooctanesulfonic Acid (PFOS)		0.00445		0.00178	0.000449	0.00432		0.00182	0.000459	0.00264		0.00179	0.000451	0.00522
Perfluorodecanoic Acid (PFDA)		ND		0.00178	0.000271	ND		0.00182	0.000277	ND		0.00179	0.000272	ND
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)		ND		0.00178	0.00108	ND		0.00182	0.0011	ND		0.00179	0.00108	ND
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)		ND		0.00178	0.000577	ND		0.00182	0.00059	ND		0.00179	0.00058	ND
Perfluoroundecanoic Acid (PFUnA)		ND		0.00178	0.000231	ND		0.00182	0.000237	ND		0.00179	0.000233	ND
Perfluorodecanesulfonic Acid (PFDS)		ND		0.00178	0.000872	ND		0.00182	0.000892	ND		0.00179	0.000877	ND
Perfluorooctanesulfonamide (FOSA)		ND		0.00178	0.000516	ND		0.00182	0.000528	ND		0.00179	0.000519	ND
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)		ND		0.00178	0.000716	ND		0.00182	0.000732	ND		0.00179	0.000719	ND
Perfluorododecanoic Acid (PFDoA)		ND		0.00178	0.000331	ND		0.00182	0.000339	ND		0.00179	0.000333	ND
Perfluorotridecanoic Acid (PFTrDA)		ND		0.00178	0.000291	ND		0.00182	0.000298	ND		0.00179	0.000293	ND
Perfluorotetradecanoic Acid (PFTA)		ND		0.00178	0.000221	ND		0.00182	0.000226	ND		0.00179	0.000222	ND
PFOA/PFOS, Total		0.0181		0.00178	0.00021	0.0131		0.00182	0.000215	0.0175		0.00179	0.000211	0.0136

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 2d. Per- and polyfluoroalkyl Substances and 1,4-dioxane Analytical Results in Groundwater
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

SAMPLE ID:		MW-4			MW-5				FIELD BLANK				DUP-061220			
LAB ID:		L2024757-04			L2024757-05				L2024757-06				L2024757-09			
COLLECTION DATE:		6/12/2020			6/12/2020				6/12/2020				6/12/2020			
SAMPLE MATRIX:		WATER			WATER				Field Blank				WATER			
	NY-AWQS															
ANALYTE	(ug/l)	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
1,4 DIOXANE BY 8270D-SIM																
1,4-Dioxane			0.15	0.0339	0.101	J	0.15	0.0339	ND		0.15	0.0339	ND		0.15	0.0339
PERFLUORINATED ALKYL ACIDS BY ISOTOPE DILUTION																
Perfluorobutanoic Acid (PFBA)			0.0018	0.000367	0.0128		0.00178	0.000362	ND		0.00184	0.000375	0.00631		0.00178	0.000362
Perfluoropentanoic Acid (PFPeA)			0.0018	0.000356	0.0144		0.00178	0.000352	ND		0.00184	0.000364	0.00688		0.00178	0.000352
Perfluorobutanesulfonic Acid (PFBS)			0.0018	0.000214	0.00346		0.00178	0.000211	ND		0.00184	0.000219	0.00184		0.00178	0.000211
Perfluorohexanoic Acid (PFHxA)			0.0018	0.000295	0.0154		0.00178	0.000291	0.000313	J	0.00184	0.000302	0.00951		0.00178	0.000291
Perfluoroheptanoic Acid (PFHpA)			0.0018	0.000202	0.00606		0.00178	0.0002	ND		0.00184	0.000207	0.00347		0.00178	0.0002
Perfluorohexanesulfonic Acid (PFHxS)		J	0.0018	0.000338	0.00266		0.00178	0.000334	ND		0.00184	0.000346	0.00137	J	0.00178	0.000334
Perfluorooctanoic Acid (PFOA)			0.0018	0.000212	0.0159		0.00178	0.00021	ND		0.00184	0.000217	0.0152		0.00178	0.00021
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)			0.0018	0.0012	ND		0.00178	0.00118	ND		0.00184	0.00122	ND		0.00178	0.00118
Perfluoroheptanesulfonic Acid (PFHpS)			0.0018	0.000618	ND		0.00178	0.000611	ND		0.00184	0.000633	ND		0.00178	0.000611
Perfluorononanoic Acid (PFNA)			0.0018	0.00028	0.0011	J	0.00178	0.000277	ND		0.00184	0.000287	0.000416	J	0.00178	0.000277
Perfluorooctanesulfonic Acid (PFOS)			0.0018	0.000453	0.0204		0.00178	0.000448	ND		0.00184	0.000463	0.0021		0.00178	0.000448
Perfluorodecanoic Acid (PFDA)			0.0018	0.000273	0.00157	J	0.00178	0.00027	ND		0.00184	0.00028	ND		0.00178	0.00027
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)			0.0018	0.00109	ND		0.00178	0.00108	ND		0.00184	0.00111	ND		0.00178	0.00108
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)			0.0018	0.000582	ND		0.00178	0.000575	ND		0.00184	0.000596	ND		0.00178	0.000576
Perfluoroundecanoic Acid (PFUnA)			0.0018	0.000234	ND		0.00178	0.000231	ND		0.00184	0.000239	ND		0.00178	0.000231
Perfluorodecanesulfonic Acid (PFDS)			0.0018	0.000881	ND		0.00178	0.00087	ND		0.00184	0.000901	ND		0.00178	0.000871
Perfluorooctanesulfonamide (FOSA)			0.0018	0.000521	ND		0.00178	0.000515	ND		0.00184	0.000533	ND		0.00178	0.000515
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)			0.0018	0.000723	ND		0.00178	0.000714	ND		0.00184	0.000739	ND		0.00178	0.000714
Perfluorododecanoic Acid (PFDoA)			0.0018	0.000334	ND		0.00178	0.00033	ND		0.00184	0.000342	ND		0.00178	0.00033
Perfluorotridecanoic Acid (PFTrDA)			0.0018	0.000294	ND		0.00178	0.00029	ND		0.00184	0.000301	ND		0.00178	0.000291
Perfluorotetradecanoic Acid (PFTA)			0.0018	0.000223	ND		0.00178	0.00022	ND		0.00184	0.000228	ND		0.00178	0.00022
PFOA/PFOS, Total			0.0018	0.000212	0.0363		0.00178	0.00021	ND		0.00184	0.000217	0.0173		0.00178	0.00021

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

Table 3. Volatile Organic Compound Analytical Results in Soil Vapor
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

LOCATION					SG-1		SG-2		SG-3	
SAMPLING DATE					6/12/2020		6/12/2020		6/12/2020	
LAB SAMPLE ID					L2024751-01		L2024751-02		L2024751-03	
SAMPLE TYPE					SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR	
Analyte	NY-SSC-A	NY-SSC-B	NY-SSC-C	Units	Results	Qual	Results	Qual	Results	Qual
Analyte										
VOLATILE ORGANICS BY TO-15										
Trichlorofluoromethane				ug/m3	101		238		115	
Dichlorodifluoromethane				ug/m3	9.89	U	171	U	12.4	U
Chloromethane				ug/m3	4.13	U	71.2	U	5.16	U
Freon-114				ug/m3	14	U	241	U	17.5	U
Vinyl chloride			6	ug/m3	5.11	U	88.2	U	6.39	U
1,3-Butadiene				ug/m3	4.42	U	76.3	U	5.53	U
Bromomethane				ug/m3	7.77	U	134	U	9.71	U
Chloroethane				ug/m3	5.28	U	91	U	6.6	U
Ethanol				ug/m3	94.2	U	1620	U	118	U
Vinyl bromide				ug/m3	8.74	U	151	U	10.9	U
Acetone				ug/m3	25.4		409	U	46.8	
Isopropanol				ug/m3	12.3	U	212	U	15.4	U
1,1-Dichloroethene	6			ug/m3	7.93	U	137	U	9.91	U
Tertiary butyl Alcohol				ug/m3	23		261	U	18.9	U
Methylene chloride		100		ug/m3	17.4	U	299	U	21.7	U
3-Chloropropene				ug/m3	6.26	U	108	U	7.83	U
Carbon disulfide				ug/m3	6.23	U	107	U	7.79	U
Freon-113				ug/m3	15.3	U	264	U	19.2	U
trans-1,2-Dichloroethene				ug/m3	7.93	U	137	U	9.91	U
1,1-Dichloroethane				ug/m3	8.09	U	140	U	10.1	U
Methyl tert butyl ether				ug/m3	7.21	U	124	U	9.01	U
2-Butanone				ug/m3	14.7	U	254	U	18.4	U
cis-1,2-Dichloroethene	6			ug/m3	8.8		137	U	9.91	U
Ethyl Acetate				ug/m3	18	U	311	U	22.5	U
Chloroform				ug/m3	17.5		168	U	24.4	
Tetrahydrofuran				ug/m3	14.7	U	254	U	18.4	U
1,2-Dichloroethane				ug/m3	8.09	U	140	U	10.1	U
n-Hexane				ug/m3	11		122	U	8.81	U
1,1,1-Trichloroethane		100		ug/m3	10.9	U	188	U	13.6	U
Benzene				ug/m3	6.39	U	110	U	7.99	U
Carbon tetrachloride	6			ug/m3	12.6	U	217	U	15.7	U
Cyclohexane				ug/m3	6.88	U	119	U	8.61	U
1,2-Dichloropropane				ug/m3	9.24	U	159	U	11.6	U
Bromodichloromethane				ug/m3	13.4	U	231	U	16.7	U
1,4-Dioxane				ug/m3	7.21	U	124	U	9.01	U
Trichloroethene	6			ug/m3	3850		74700		5040	
2,2,4-Trimethylpentane				ug/m3	9.34	U	161	U	11.7	U
Heptane				ug/m3	9.59		141	U	10.2	U
cis-1,3-Dichloropropene				ug/m3	9.08	U	157	U	11.3	U
4-Methyl-2-pentanone				ug/m3	20.5	U	353	U	25.6	U
trans-1,3-Dichloropropene				ug/m3	9.08	U	157	U	11.3	U
1,1,2-Trichloroethane				ug/m3	10.9	U	188	U	13.6	U
Toluene				ug/m3	61.4		130	U	61.4	
2-Hexanone				ug/m3	8.2	U	141	U	10.2	U
Dibromochloromethane				ug/m3	17	U	294	U	21.3	U
1,2-Dibromoethane				ug/m3	15.4	U	265	U	19.2	U
Tetrachloroethene		100		ug/m3	44.6		620		64.7	
Chlorobenzene				ug/m3	9.21	U	159	U	11.5	U
Ethylbenzene				ug/m3	15.5		150	U	18.5	
p/m-Xylene				ug/m3	63		300	U	76	
Bromoform				ug/m3	20.7	U	357	U	25.8	U
Styrene				ug/m3	8.52	U	147	U	10.6	U
1,1,2,2-Tetrachloroethane				ug/m3	13.7	U	237	U	17.2	U
o-Xylene				ug/m3	21.2		150	U	24.2	
4-Ethyltoluene				ug/m3	9.83	U	170	U	12.3	U
1,3,5-Trimethylbenzene				ug/m3	9.83	U	170	U	12.3	U
1,2,4-Trimethylbenzene				ug/m3	16.5		170	U	15.1	
Benzyl chloride				ug/m3	10.4	U	179	U	12.9	U
1,3-Dichlorobenzene				ug/m3	12	U	207	U	15	U
1,4-Dichlorobenzene				ug/m3	12	U	207	U	15	U
1,2-Dichlorobenzene				ug/m3	12	U	207	U	15	U
1,2,4-Trichlorobenzene				ug/m3	14.8	U	256	U	18.6	U
Hexachlorobutadiene				ug/m3	21.3	U	368	U	26.7	U

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

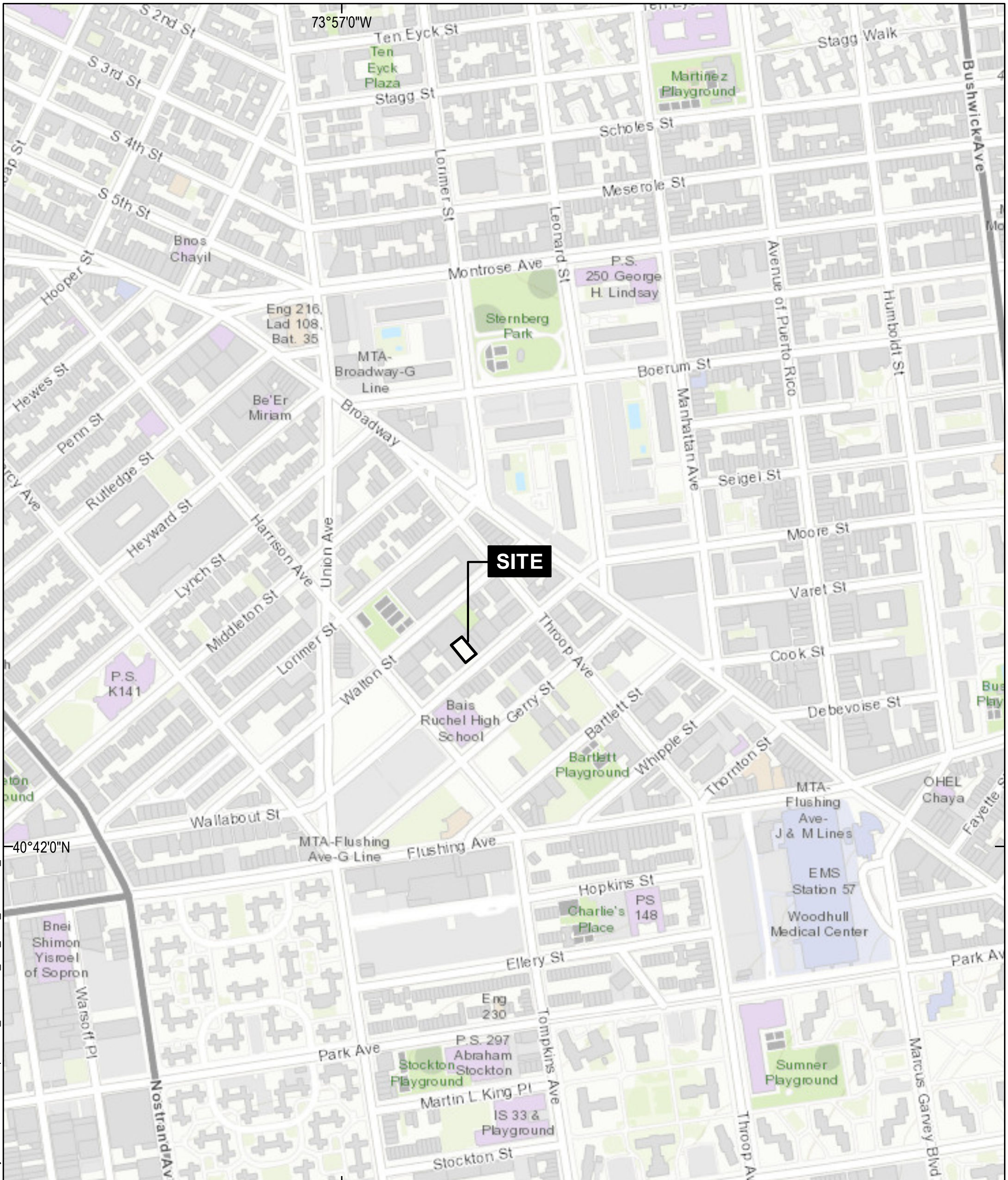
Table 3. Volatile Organic Compound Analytical Results in Soil Vapor
297 Wallabout Street, Brooklyn, NY
NYSDEC Site C224299

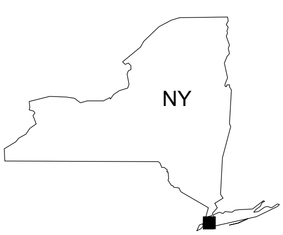
LOCATION					SG-4		SG-4		SG-5		SG-6	
SAMPLING DATE					6/12/2020		6/12/2020		6/12/2020		6/12/2020	
LAB SAMPLE ID					L2024751-04		L2024751-04 R1		L2024751-05		L2024751-06	
SAMPLE TYPE					SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR		SOIL_VAPOR	
Analyte	NY-SSC-A	NY-SSC-B	NY-SSC-C	Units	Results	Qual	Results	Qual	Results	Qual	Results	Qual
Analyte												
VOLATILE ORGANICS BY TO-15												
Trichlorofluoromethane				ug/m3	27		-	-	111		2.92	
Dichlorodifluoromethane				ug/m3	12.4	U	-	-	4.49		3.03	
Chloromethane				ug/m3	5.16	U	-	-	1.15	U	0.413	U
Freon-114				ug/m3	17.5	U	-	-	3.89	U	1.4	U
Vinyl chloride			6	ug/m3	6.39	U	-	-	1.42	U	0.511	U
1,3-Butadiene				ug/m3	5.53	U	-	-	1.23	U	0.442	U
Bromomethane				ug/m3	9.71	U	-	-	2.16	U	0.777	U
Chloroethane				ug/m3	6.6	U	-	-	1.47	U	0.528	U
Ethanol				ug/m3	118	U	-	-	26.2	U	23.4	
Vinyl bromide				ug/m3	10.9	U	-	-	2.43	U	0.874	U
Acetone				ug/m3	226		-	-	87.7		66.5	
Isopropanol				ug/m3	15.4	U	-	-	7.4		5.21	
1,1-Dichloroethene	6			ug/m3	9.91	U	-	-	2.2	U	0.793	U
Tertiary butyl Alcohol				ug/m3	29		-	-	18.8		25.7	
Methylene chloride		100		ug/m3	21.7	U	-	-	8.72		1.74	U
3-Chloropropene				ug/m3	7.83	U	-	-	1.74	U	0.626	U
Carbon disulfide				ug/m3	7.79	U	-	-	26.3		1.63	
Freon-113				ug/m3	19.2	U	-	-	4.26	U	1.53	U
trans-1,2-Dichloroethene				ug/m3	9.91	U	-	-	2.2	U	0.793	U
1,1-Dichloroethane				ug/m3	10.1	U	-	-	2.25	U	0.809	U
Methyl tert butyl ether				ug/m3	9.01	U	-	-	2	U	0.721	U
2-Butanone				ug/m3	18.4	U	-	-	11		14.2	
cis-1,2-Dichloroethene	6			ug/m3	15.4		-	-	10.9		2.78	
Ethyl Acetate				ug/m3	22.5	U	-	-	5.01	U	1.8	U
Chloroform				ug/m3	12.2	U	-	-	39.7		2.15	
Tetrahydrofuran				ug/m3	18.4	U	-	-	4.1	U	2.66	
1,2-Dichloroethane				ug/m3	10.1	U	-	-	2.25	U	0.809	U
n-Hexane				ug/m3	8.81	U	-	-	10.6		6.48	
1,1,1-Trichloroethane		100		ug/m3	13.6	U	-	-	3.03	U	1.09	U
Benzene				ug/m3	7.99	U	-	-	12		4.95	
Carbon tetrachloride	6			ug/m3	15.7	U	-	-	3.5	U	1.26	U
Cyclohexane				ug/m3	8.61	U	-	-	4.75		2.01	
1,2-Dichloropropane				ug/m3	11.6	U	-	-	2.57	U	0.924	U
Bromodichloromethane				ug/m3	16.7	U	-	-	3.72	U	1.34	U
1,4-Dioxane				ug/m3	9.01	U	-	-	2	U	0.721	U
Trichloroethene	6			ug/m3	8550	E	10200		1340		54.8	
2,2,4-Trimethylpentane				ug/m3	11.7	U	-	-	2.6	U	0.934	U
Heptane				ug/m3	12.1		-	-	16.7		10.5	
cis-1,3-Dichloropropene				ug/m3	11.3	U	-	-	2.52	U	0.908	U
4-Methyl-2-pentanone				ug/m3	25.6	U	-	-	5.7	U	2.05	U
trans-1,3-Dichloropropene				ug/m3	11.3	U	-	-	2.52	U	0.908	U
1,1,2-Trichloroethane				ug/m3	13.6	U	-	-	3.03	U	1.73	
Toluene				ug/m3	75.4		-	-	124		73.9	
2-Hexanone				ug/m3	10.2	U	-	-	2.28	U	0.82	U
Dibromochloromethane				ug/m3	21.3	U	-	-	4.74	U	1.7	U
1,2-Dibromoethane				ug/m3	19.2	U	-	-	4.27	U	1.54	U
Tetrachloroethene		100		ug/m3	63.1		-	-	12.7		1.36	U
Chlorobenzene				ug/m3	11.5	U	-	-	2.56	U	0.921	U
Ethylbenzene				ug/m3	21.5		-	-	27.4		23.1	
p/m-Xylene				ug/m3	91.2		-	-	119		102	
Bromoform				ug/m3	25.8	U	-	-	5.75	U	2.07	U
Styrene				ug/m3	10.6	U	-	-	2.37	U	0.852	U
1,1,2,2-Tetrachloroethane				ug/m3	17.2	U	-	-	3.82	U	1.37	U
o-Xylene				ug/m3	32.4		-	-	35.7		35.8	
4-Ethyltoluene				ug/m3	12.3	U	-	-	9.49		7.37	
1,3,5-Trimethylbenzene				ug/m3	12.3	U	-	-	5.85		8.65	
1,2,4-Trimethylbenzene				ug/m3	29.4		-	-	26.7		41.2	
Benzyl chloride				ug/m3	12.9	U	-	-	2.88	U	1.04	U
1,3-Dichlorobenzene				ug/m3	15	U	-	-	3.34	U	1.2	U
1,4-Dichlorobenzene				ug/m3	15	U	-	-	3.34	U	1.2	U
1,2-Dichlorobenzene				ug/m3	15	U	-	-	3.34	U	1.2	U
1,2,4-Trichlorobenzene				ug/m3	18.6	U	-	-	4.13	U	1.48	U
Hexachlorobutadiene				ug/m3	26.7	U	-	-	5.93	U	2.13	U

Legend:
ND - Non-detect result
J - Estimated Result
E - Sample rerun

Note: Yellow highlight indicates exceedance of criteria

FIGURES





N

MAP SOURCE: ESRI
SITE COORDINATES: 40°42'08"N, 73°56'52"W

HALEY ALDRICH

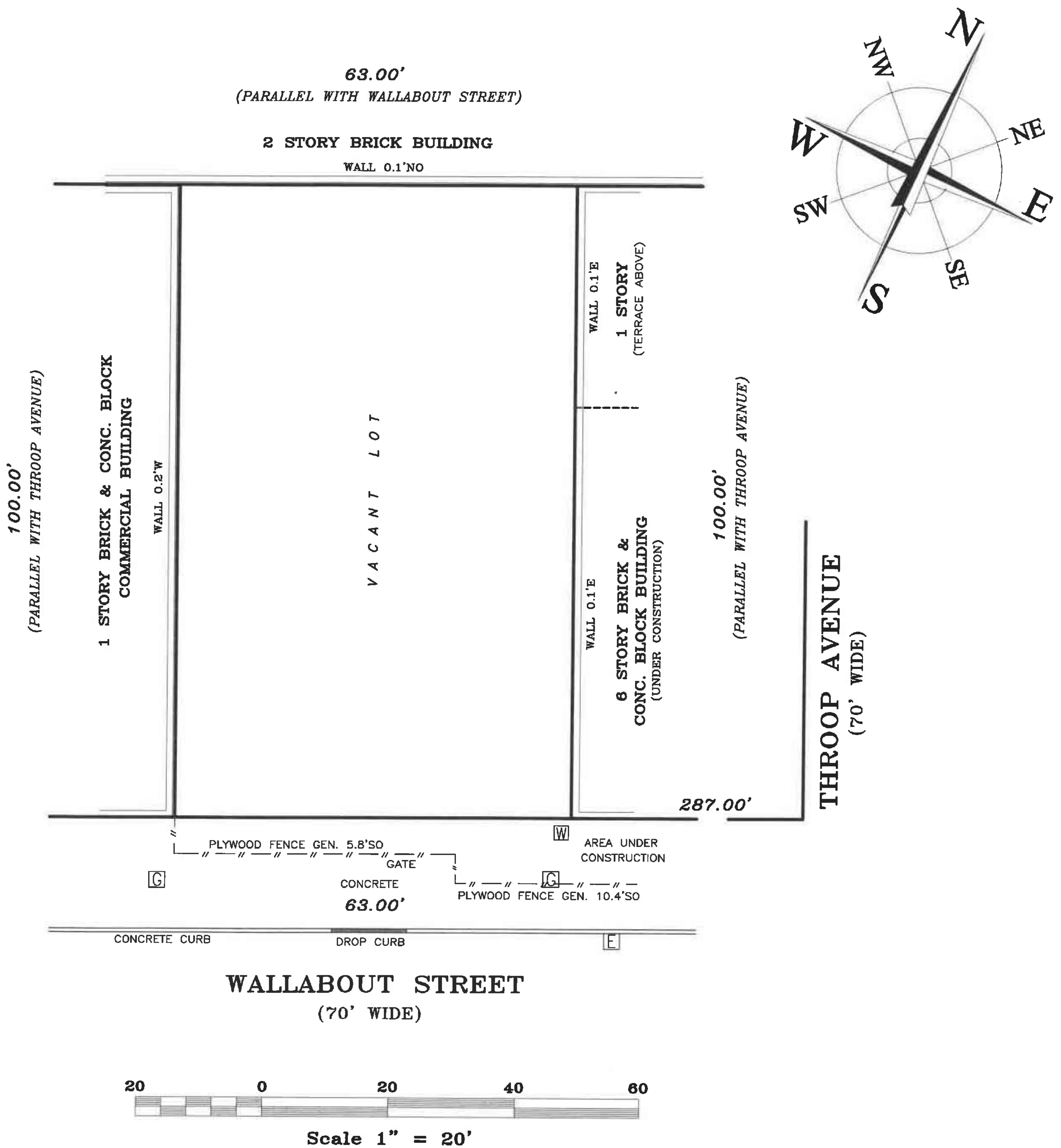
297 WALLABOUT STREET
BROOKLYN, NEW YORK

SITE LOCUS

APPROXIMATE SCALE: 1 IN = 800 FT
FEBRUARY 2019

FIGURE 1

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\GIS\Maps\2019_02\133156_005_0001_PROJECT_LOCUS.mxd — USER: hwachholz — LAST SAVED: 2/15/2019 4:14:19 PM



NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

SITE FEATURES

SEPTEMBER 2019

FIGURE 2

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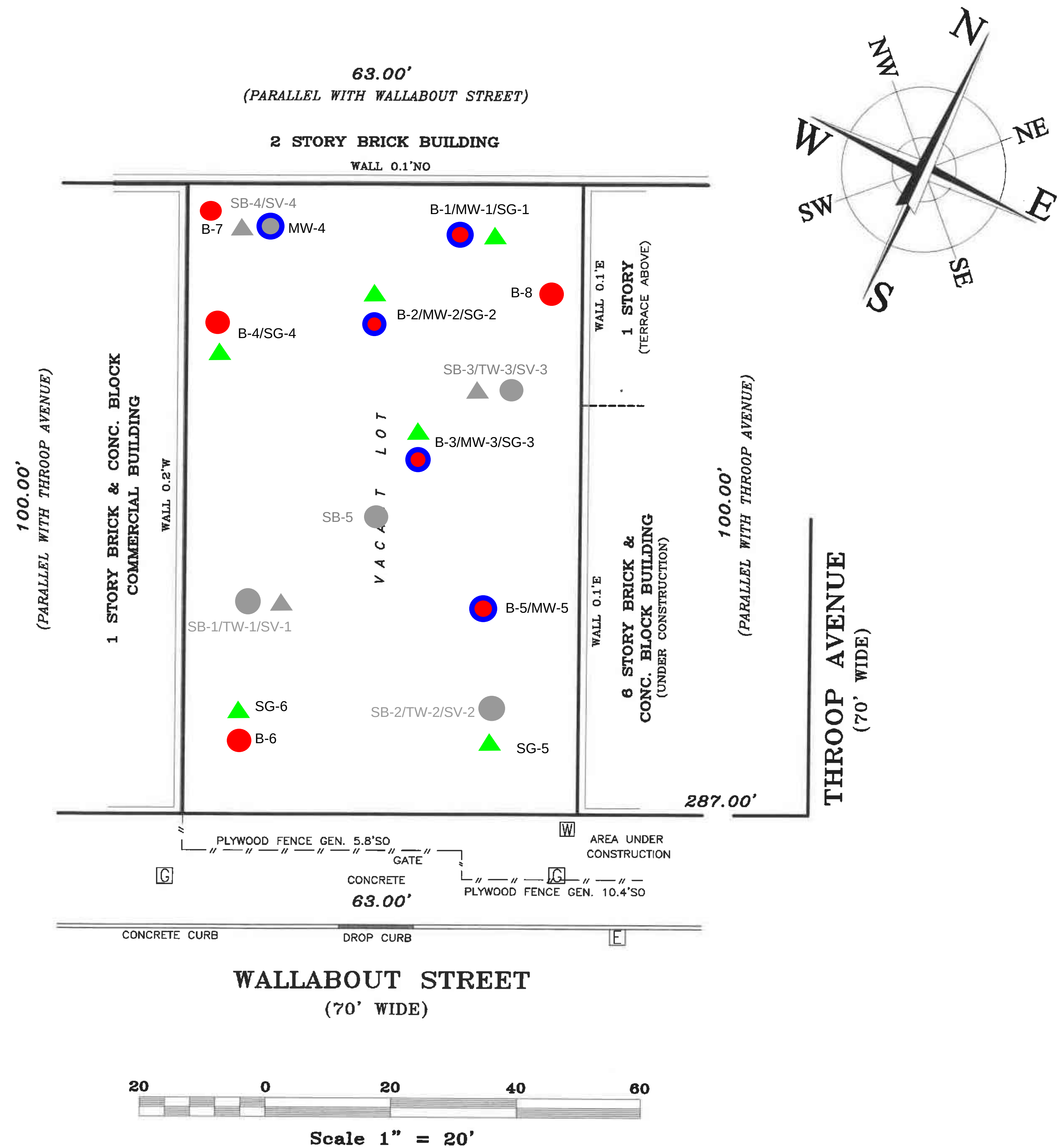


LEGEND

- SOIL BORING/TEMPORARY WELL POINT INSTALLED 18 MARCH 2019
- TEMPORARY SOIL VAPOR POINT INSTALLED 18 MARCH 2019
- PROPOSED SOIL BORING/PERMANENT WELL POINT (BLUE CIRCLE INDICATES BORING IS CONVERTED TO A WELL)
- PROPOSED TEMPORARY SOIL VAPOR POINT

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

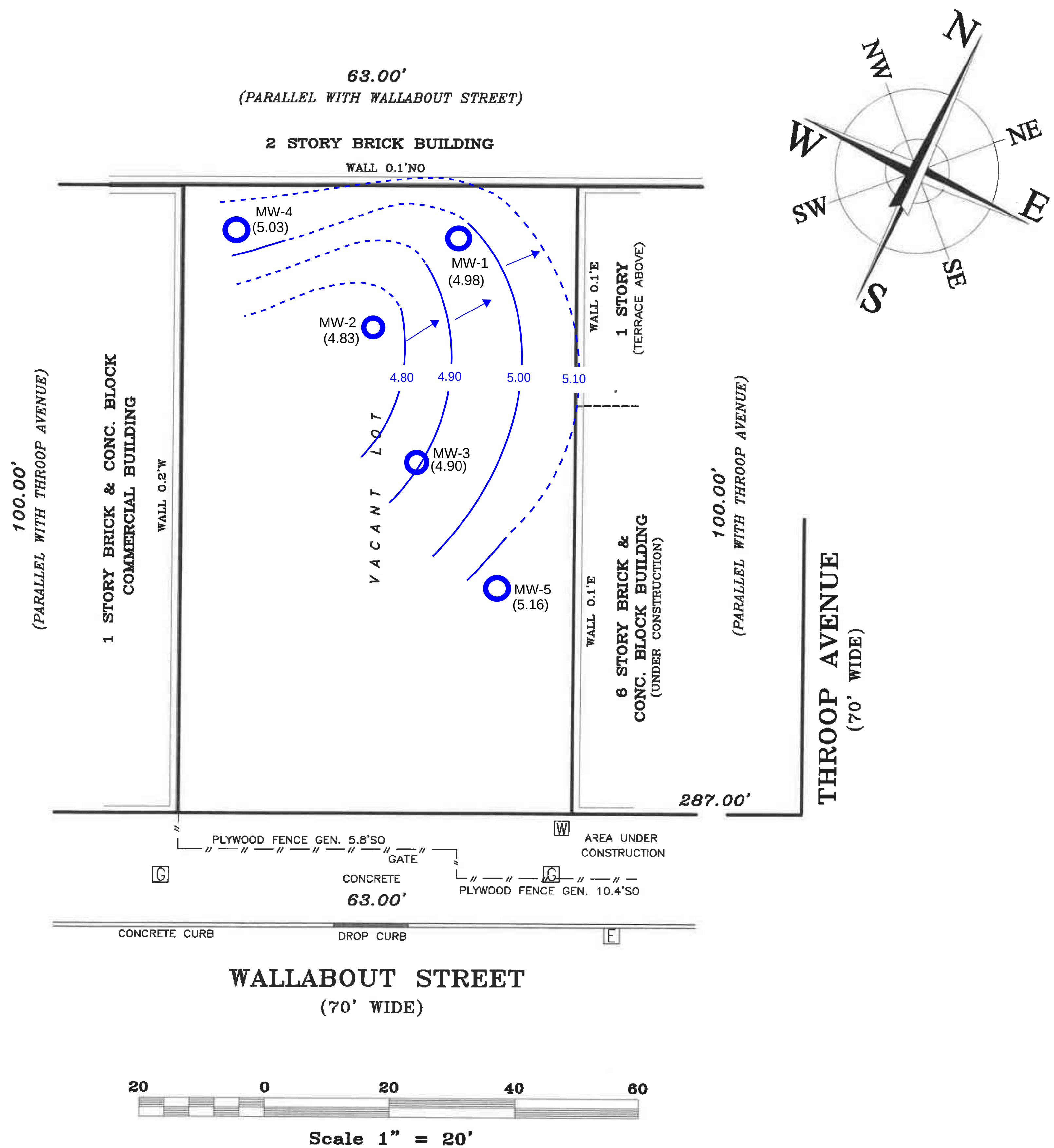
297 WALLABOUT STREET
BROOKLYN, NEW YORK

SAMPLE LOCATION MAP

JULY 2020

FIGURE 3

FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\005 - 297 Wallabout\Deliverables\RIR\Figures



LEGEND

- PERMANENT WELL POINT
- (5.00) GROUNDWATER ELEVATION (NAVD 88)
- 4.80 GROUNDWATER CONTOUR
- 5.00 INFERRED GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION

NOTES:

1. ALL LOCATIONS ARE APPROXIMATE
2. IMAGERY FROM MAP OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018
3. PERMANENT MONITORING WELLS SURVEYED BY NY LAND SURVEYORS ON 23 JULY 2020
4. SYNOPTIC GAUGING EVENT COMPLETED ON 12 AUGUST 2020

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

GROUNDWATER CONTOUR MAP

AUGUST 2020

FIGURE 4

FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\005 - 297 Wallabout\Deliverables\RIR\Figures

B-2 (8-10')	Conc. (mg/kg)
VOCs	
Tetrachloroethene	**20**
Trichloroethene	**150**
cis-1,2-Dichloroethene	1.5
SVOCs	
Benzo(a)anthracene	**2.8**
Chrysene	3.5

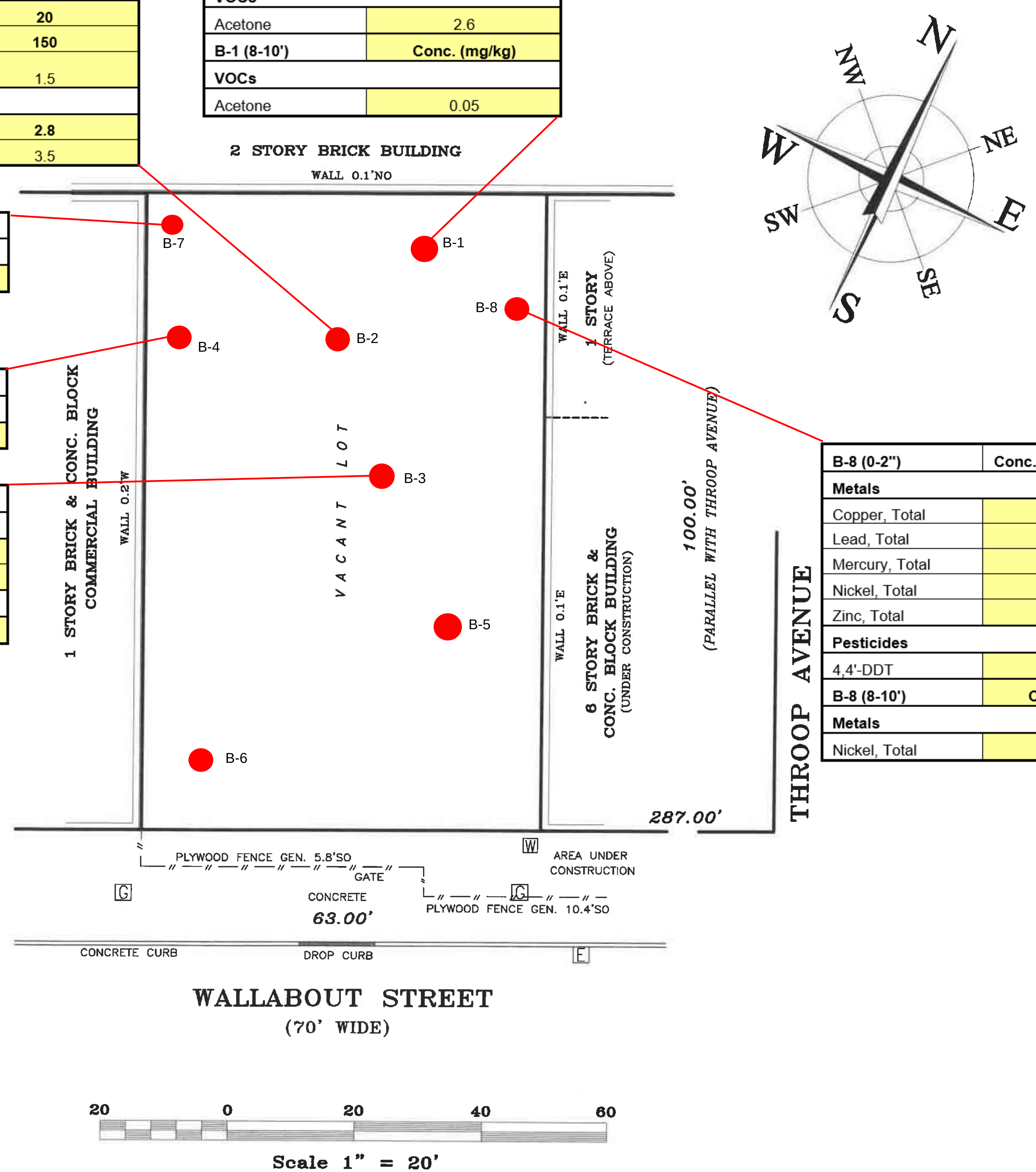
B-1 (0-2")	Conc. (mg/kg)
VOCs	
Acetone	2.6
B-1 (8-10')	**Conc. (mg/kg)**
VOCs	
Acetone	0.05

B-7 (0-2")	Conc. (mg/kg)
Pesticides	
4,4'-DDT	0.00824

B-4 (8-10')	Conc. (mg/kg)
Metals	
Nickel, Total	65.9

B-3 (0-2")	Conc. (mg/kg)
Metals	
Lead, Total	120
Nickel, Total	49.2
Pesticides	
4,4'-DDT	0.00822

B-8 (0-2")	Conc. (mg/kg)
Metals	
Copper, Total	71.8
Lead, Total	191
Mercury, Total	0.214
Nickel, Total	35.6
Zinc, Total	144
Pesticides	
4,4'-DDT	0.012
B-8 (8-10')	**Conc. (mg/kg)**
Metals	
Nickel, Total	48.5



LEGEND

● SOIL BORING LOCATION

Analyte	NY-RESRR (mg/kg)	NY-UNRES (mg/kg)
VOCs		
Tetrachloroethene	19	1.3
Trichloroethene	21	0.47
cis-1,2-Dichloroethene	100	0.25
Acetone	100	0.05
SVOCs		
Benzo(a)anthracene	1	1
Chrysene	3.9	1
Metals		
Copper, Total	270	50
Lead, Total	400	63
Mercury, Total	0.81	0.18
Nickel, Total	310	30
Zinc, Total	10000	109
Pesticides		
4,4'-DDT	7.9	0.0033

Notes:

1. Highlighted values exceed the New York Unrestricted Use Soil Cleanup Objectives (NY-UNRES)
2. Bold and highlighted values exceed the New York Restricted Residential Soil Cleanup Objectives (NY-RESRR)

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

SOIL RESULTS EXCEEDANCE MAP

JULY 2020

FIGURE 5

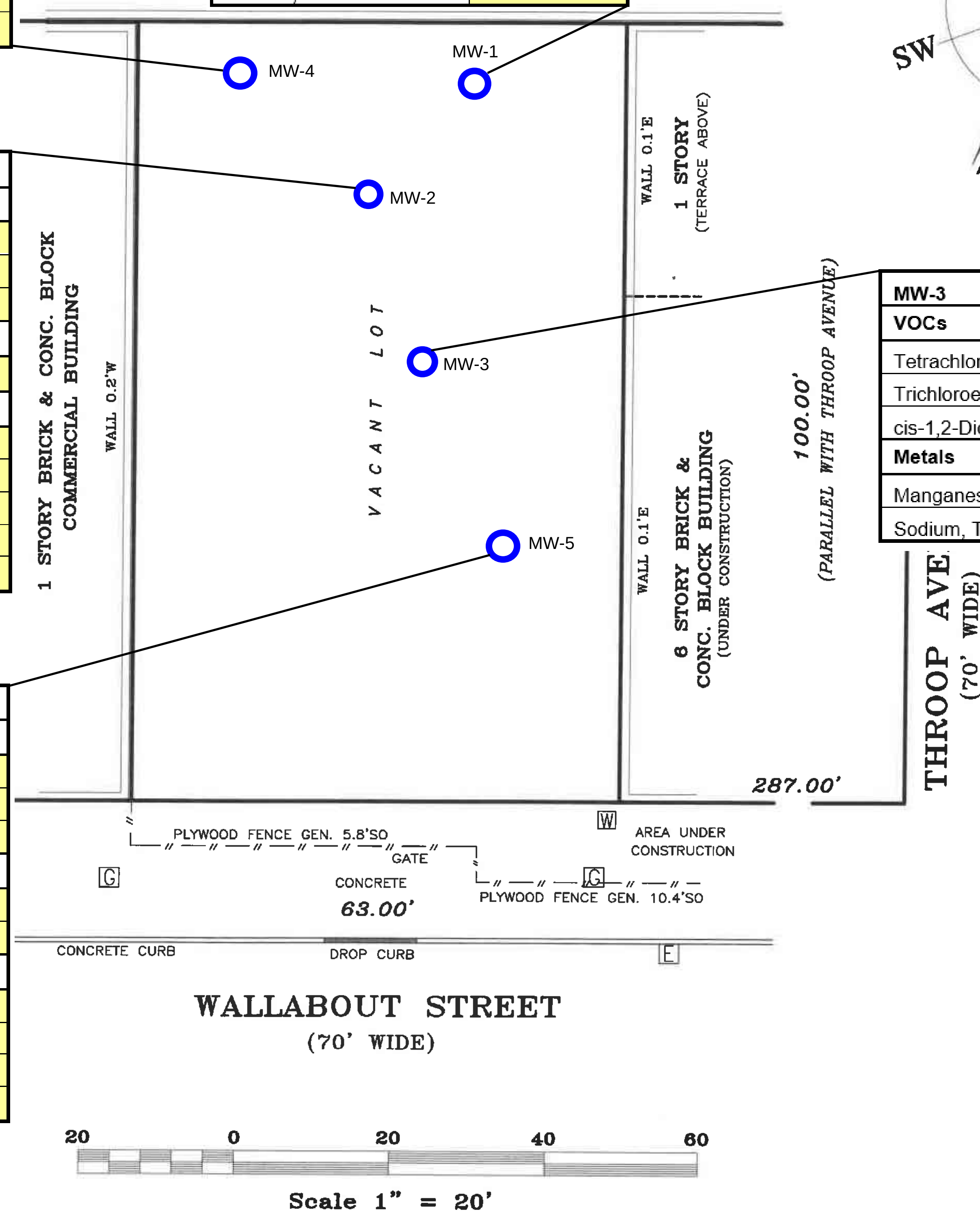
MW-4	Conc. (ug/l)
VOCs	
Trichloroethene	34
SVOCs	
Bis(2-ethylhexyl)phthalate	6.9
Metals	
Iron, Total	973
Manganese, Total	332.4
Selenium, Total	15.4
Sodium, Total	27100

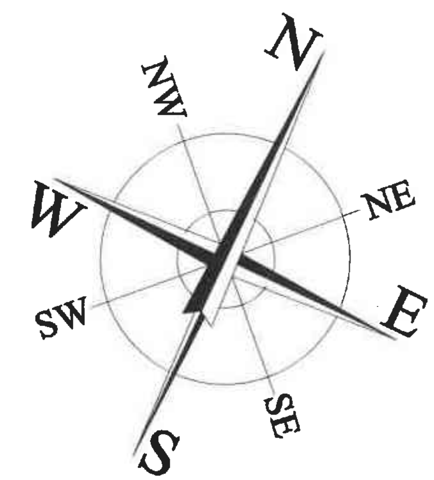
MW-1	Conc. (ug/l)
VOCs	
Tetrachloroethene	8.6
Trichloroethene	150
cis-1,2-Dichloroethene	35
Metals	
Iron, Total	351
Manganese, Total	2185
Sodium, Total	56500

MW-2	Conc. (ug/l)
VOCs	
Tetrachloroethene	150
Trichloroethene	3300
cis-1,2-Dichloroethene	390
SVOCs	
Hexachlorobutadiene	1.1
Metals	
Iron, Total	650
Magnesium, Total	51100
Manganese, Total	378
Selenium, Total	19.6
Sodium, Total	49000

MW-3	Conc. (ug/l)
VOCs	
Tetrachloroethene	11
Trichloroethene	79
cis-1,2-Dichloroethene	10
Metals	
Manganese, Total	3794
Sodium, Total	69000

MW-5	Conc (ug/l)
VOCs	
Vinyl chloride	6.7
Trichloroethene	9.2
cis-1,2-Dichloroethene	12
SVOCs	
Benzo(b)fluoranthene	0.01 J
Indeno(1,2,3-cd)pyrene	0.01 J
Metals	
Iron, Total	4240
Manganese, Total	6773
Nickel, Total	144.4
Sodium, Total	93100





LEGEND

PERMANENT WELL POINT

Analyte	NY-AWQS (ug/l)
VOCs	
Tetrachloroethene	5
Vinyl chloride	2
Trichloroethene	5
cis-1,2-Dichloroethene	5
SVOCs	
Bis(2-ethylhexyl)phthalate	5
Hexachlorobutadiene	0.5
Benzo(b)fluoranthene	0.002
Indeno(1,2,3-cd)pyrene	0.002
Metals	
Iron, Total	300
Lead, Total	25
Magnesium, Total	35000
Manganese, Total	300
Nickel, Total	100
Selenium, Total	10
Sodium, Total	20000

Notes:

1. Highlighted values exceed the New York TOGS 111 Ambient Water Quality Standards (NY-AWQS)

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

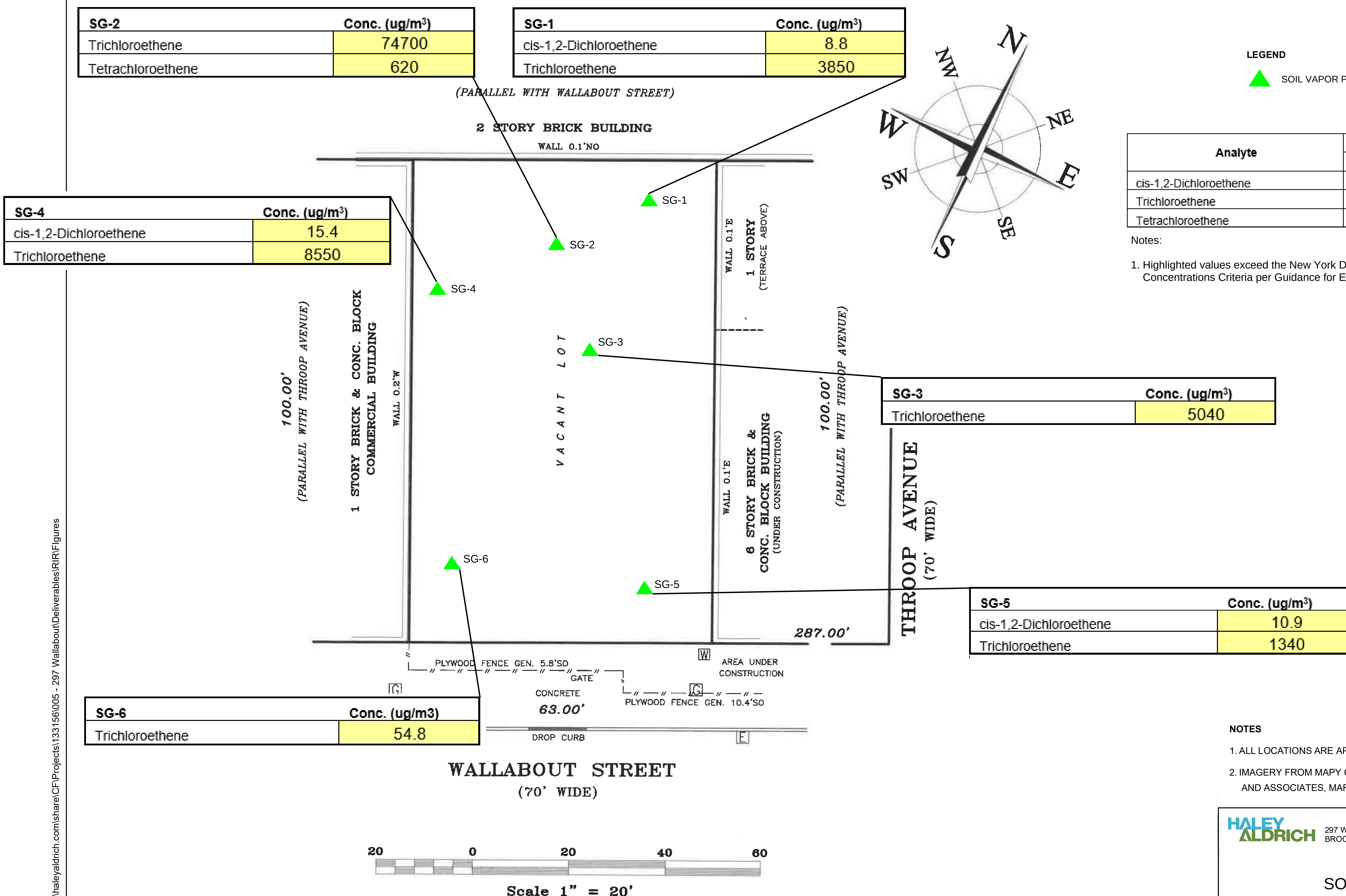
HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

GROUNDWATER RESULTS EXCEEDANCE MAP

JULY 2020

FIGURE 6



LEGEND

▲ SOIL VAPOR POINTS

Analyte	NY-SSC-A ug/m3	NY-SSC-B ug/m3
cis-1,2-Dichloroethene	6	
Trichloroethene	6	
Tetrachloroethene		100

Notes:

1. Highlighted values exceed the New York Department of Health Matrix Sub-slab Vapor Concentrations Criteria per Guidance for Evaluating Soil Vapor Intrusion

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

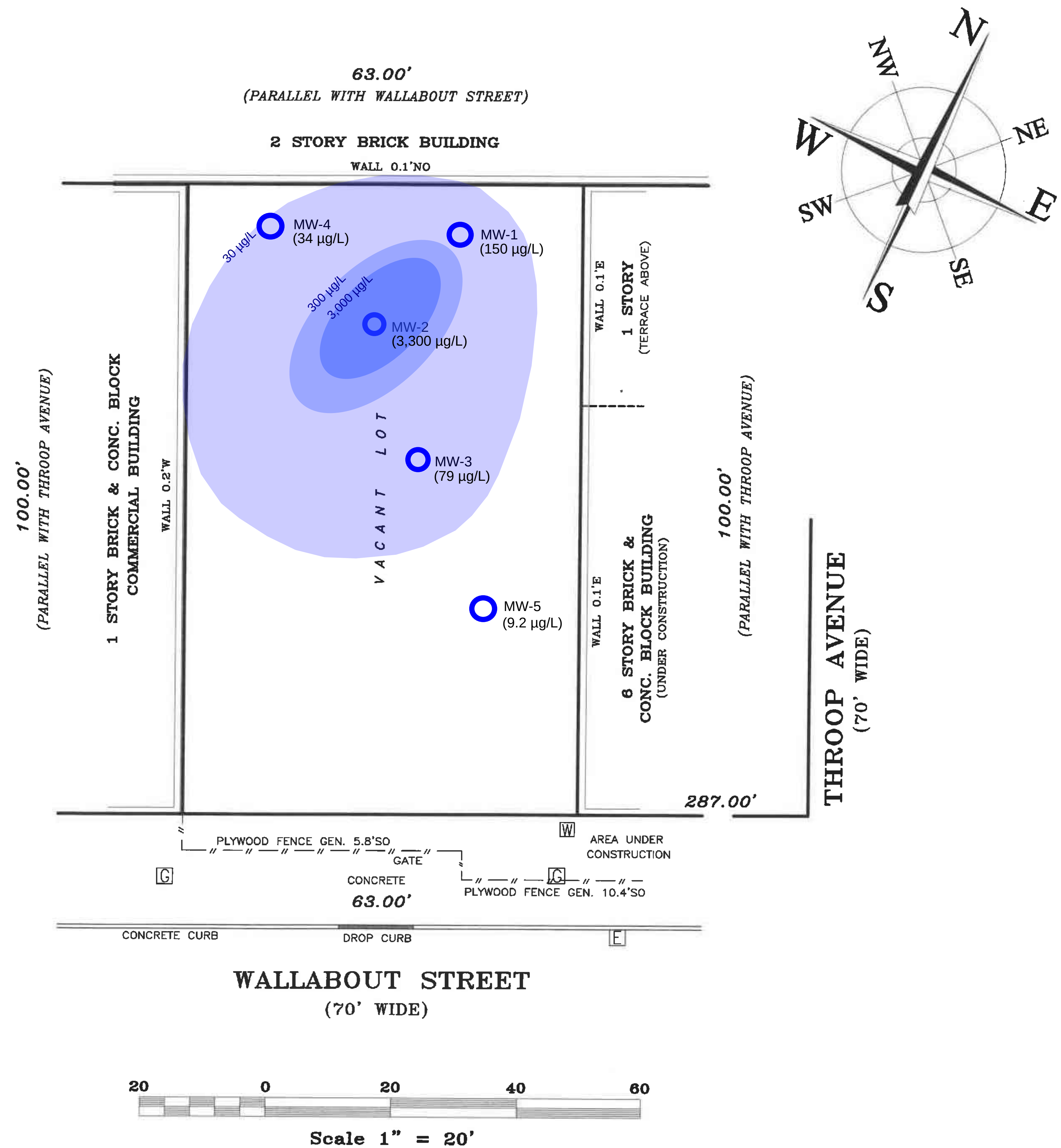
HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

SOIL VAPOR EXCEEDANCE MAP

JULY 2020

FIGURE 7



LEGEND

PERMANENT WELL POINT

(3,300 µg/L) TCE CONCENTRATIONS IN GROUNDWATER

Notes:

1. Highlighted values exceed the New York TOGS 111 Ambient Water Quality Standards (NY-AWQS)

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

TCE GROUNDWATER PLUME MAP

JULY 2020

FIGURE 8

FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\005 - 297 Wallabout\Deliverables\RIR\Figures

APPENDIX A

Remedial Investigation Work Plan

HALEY ALDRICH

09 March 2020

Meghan Medwid
New York State Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, New York

Re: 295-297 Wallabout Street
Site No. C224299
Brooklyn, New York
Draft Remedial Investigation Work Plan Comments Responses

Dear Ms. Medwid,

Haley & Aldrich of New York (Haley & Aldrich) is pleased to provide this response to the comments from New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) on the Draft Remedial Investigation Work Plan (RIWP) for 295-297 Wallabout Street, Site No. C224299 located in Brooklyn, New York (the "Site").

The comments have been incorporated in the attached revised RIWP and addressed in the manner described below:

General Comments

1. Sampling rationale has been detailed in Section 3.6 of the revised RIWP.

Technical Comments

2. Section 3.2: Surface soil sampling from 0-2 inches has been included in the scope of work as detailed herein. Samples from 0-2 feet below ground surface (ft bgs) have been removed from this sampling plan as Haley & Aldrich plans to incorporate data from the March 2019 Phase II/Remedial Investigation (Ph II/RI) performed for the New York City Office of Environmental Remediation (NYCOER) E-Designation program. Haley & Aldrich will submit Data Usability Summary Reports and Electronic Data Deliverables for this data in conjunction with the proposed RIWP.
3. Section 3.2: As per NYSDEC DER-10 requirements, soil samples will be collected for emerging contaminants. Soil samples collected from 8-10 ft bgs in soil borings B-3 and B-7 will also be sampled and analyzed for per- and polyfluoroalkyl substances (PFOA/PFAS) by EPA Method 537.1 and 1,4-dioxane by EPA Method 8270 SIM. Haley & Aldrich proposes limited emerging contaminants sampling from 8-10 ft bgs as PFAS results from the groundwater sample taken in the Ph II/RI did not identify a total PFOA/PFAS concentration above 500 parts per trillion. In addition, the proposed development plan will require excavation to 8-10 ft bgs across the entire

site. Sampling methods and procedures will adhere to the most recent emerging contaminant sampling guidance documents issued by NYSDEC.

4. Section 3.3: Language has been added to reflect that monitoring wells will be installed with 2-inches of annular space and with either #0 or #00 certified clean sand fill.
5. Section 3.3: Language has been added to reflect that groundwater samples will be analyzed for PFOA/PFAS by EPA Method 537.1 and 1,4-dioxane by EPA Method 8270 SIM. Sampling methods and procedures will adhere to the most recent emerging contaminant sampling guidance documents issued by NYSDEC.
6. Section 3.3: Language has been revised to state that monitoring wells well be surveyed by a New York State licensed surveyor.
7. Section 9: The anticipated schedule has been updated.
8. References: Item 12 has been revised to include date of the BCP Application submittal.
9. Table 4: The sample and analysis plan has been revised to include depths of soil samples. Please note, as per DER-10 herbicides analysis is not required and has been removed from the sampling list for this investigation.
10. Table 4: Rationale regarding sampling of VOCs only at locations B-5 and B-6 (formerly B-7 and B-8) has been included in Section 3.3. Please note that due to the additional sampling requests, boring names have been altered in the revised RIWP as shown on Figure 3.
11. Figure 3: To Address the first portion of this comment, Haley & Aldrich proposes moving the initially proposed permanent monitoring well in the northwest corner (formerly MW-2 in the draft RIWP) to the southeast corner. To address the second portion of this comment, Haley & Aldrich will re-install a soil vapor probe at the southeast corner location from the March 2019 Ph II/RI (SV-2).
12. Figure 3: Haley & Aldrich will install an additional soil vapor point with the soil boring at B-6 (formerly B-8 in the draft RIWP) located in the southwest corner of the Site.

Please see the attached revised RIWP with incorporation of the above comment responses. Should there be any questions please contact me at JBellew@haleyaldrich.com or 646-277-5686.

Sincerely yours,

HALEY & ALDRICH OF NEW YORK

James M. Bellew
Senior Associate

Mari C. Conlon, P.G.
Project Manager

Cc: Lazar Waldman – 295 W Holdings LLC
Frank V. Bifera, Esq. – Barclay Damon
J. O'Connell – NYSDEC Region 2
H. Dudek – NYSDEC
S. McLaughlin – NYSDOH
M. Doroski – NYSDOH

REMEDIAL INVESTIGATION WORK PLAN
295-297 WALLABOUT STREET
BROOKLYN, NEW YORK

by Haley & Aldrich of New York
New York, New York

for 295 W Holdings LLC
Brooklyn, New York

File No. 133156-005
March 2020

HALEY & ALDRICH OF NEW YORK
1441 Broadway
Suite 6031
New York, NY 10018
646.518.7735

09 March 2020
File No. 133156-005

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Attention: Ms. Meghan Medwid

Subject: Remedial Investigation Work Plan
295-297 Wallabout Street
BCP Site C224299
Brooklyn, New York

Dear Ms. Medwid,

On behalf of 295 W Holdings LLC (295 W Holdings), Haley & Aldrich of New York is submitting for the review and approval of the New York State Department of Environmental Conservation (NYSDEC) this draft Remedial Investigation Work Plan (RIWP) for 297 Wallabout Street located in the Broadway Triangle neighborhood of Brooklyn, NY (Site). This document is being submitted as part of 295 W Holdings Brownfield Cleanup Program Application for the Site. This RIWP has been developed based on the NYSDEC's "Technical Guidance for Site Investigation and Remediation" (DER-10 dated May 2010).

Please do not hesitate to contact us if there are any questions regarding this submittal or any other aspects of the project.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK

James M. Bellew
Senior Associate

Mari C. Conlon, P.G.
Project Manager

Cc: Lazar Waldman – 295 W Holdings LLC
Frank V. Bifera, Esq. – Barclay Damon
J. O'Connell – NYSDEC Region 2
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1. Introduction

On behalf of 295 W Holdings LLC (295 W Holdings), Haley & Aldrich of New York (Haley & Aldrich) has prepared this Remedial Investigation Work Plan (RIWP) for 295-297 Wallabout Street (see Figure 1) in the Broadway Triangle neighborhood of Brooklyn, NY (Site). This RIWP is being submitted as part of the Brownfield Cleanup Program (BCP) Application submitted by the Site owner 295 W Holdings and was prepared in accordance with the regulations and guidance applicable to the BCP.

The Site, identified as Block 2250 Lot 45 on the New York City tax map, is 6,300-square feet and is bounded by a residential apartment building to the north, a warehouse to the south, Wallabout Street to the east, and a warehouse to the west. The Site location is shown on Figure 1. Existing Site features are shown on Figure 2. The Site is currently a vacant unpaved open lot. Attachment 1a of the BCP Application provides a detailed description of the Site, historic use and regulatory history including a summary of previous site characterization activities.

The land is currently zoned as R7A for "medium-density apartment house districts" which allows for residential use. The Site is located in an urban area surrounded by commercial and residential properties served by municipal water. The Site owner plans to continue Site use for residential purposes consistent with current zoning.

1.1 PURPOSE

A Phase II/Remedial Investigation (Ph II/RI) has been performed at the Site for the New York City Office of Environmental Remediation (NYC OER) E-Designation program and partially determined the nature and extent of volatile organic compound (VOC), semi-volatile organic compound (SVOC), pesticide and metals contaminants. Results of previous site characterization activities are summarized on Tables 1, 2 and 3. Details on previous site characterization activities are provided in Section 1.2 and Attachment 1a of the BCP Application.

The site characterization did not identify a source of contamination on the Site, therefore additional targeted soil, groundwater and soil vapor sampling is proposed. The RI will be performed upon acceptance of the Site into the BCP and approval of this RIWP. Results of the additional sample analyses will be used to confirm the results of the previous site characterization activities, potentially identify an on site source and to determine a course for remedial action.

2. Background

2.1 CURRENT LAND USE

The Site is currently a vacant undeveloped lot accessed from Wallabout Street to the east.

2.2 SITE HISTORY

The Site was developed with a three-story dwelling/store from at least the late 1880s through the 1940s. By the late 1940s the dwellings were demolished and a rectangular building encompassing the site and adjoining lots was constructed. The subject site operated as a manufacturing facility used for woodworking and plastics product manufacturing from the 1960s through 2007. By 2012, the facility was demolished, and the site remains vacant. A. Holding LLC. sold the Site to Middleton Developers LLC in February 2013 before 295 W Holdings LLC purchased the Site in May 2019.

2.3 SURROUNDING LAND USE

The Site is located in a mixed use residential and commercial area. The Site is bounded by a residential apartment building to the north, a warehouse to the south, Wallabout Street to the east beyond which are residential apartment buildings and a warehouse to the west. One public school, JHS 318, is located at 101 Walton Street approximately 200 feet to the northwest of the Site. No hospitals or daycare facilities are located within 500 ft radius of the Site. The properties immediately surrounding the Site are zoned R7A while the properties to the south adjacent to Harrison Avenue and north adjacent to Throop Avenue are zoned R7A with commercial overlay C2-4. Properties on the north side of Walton street are zoned R6-A.

2.4 SURROUNDING LAND USE HISTORY

The area surrounding the Site was historically used for dwellings, light manufacturing, warehousing and auto works from the late 1800s through the mid-1970s. From the mid to late-1970s the area was primarily used for commercial/residential purposes and warehouses.

2.5 PREVIOUS INVESTIGATIONS

A Ph II/RI, performed by Haley & Aldrich on 18 March 2019 on behalf of 295 W Holdings for the NYC OER E-Designation program, included the following scope of work:

1. Conducted a Site inspection to identify areas of concern (AOC) and physical obstructions (i.e. structures, buildings, etc.);
2. Installed five (5) soil borings across the entire project Site, and collected ten (10) soil samples and one duplicate for chemical analysis from the soil borings to evaluate soil quality;
3. Installed three (3) groundwater monitoring wells throughout the Site to establish groundwater flow and collected three (3) groundwater samples for chemical analysis to evaluate groundwater quality;

4. Installed four (4) soil vapor probes around Site perimeter and collected four (4) samples for chemical analysis to evaluate the potential for vapor intrusion.

Full investigation findings are included in Appendix A. A summary of environmental findings of the Ph II/RI include the following:

1. Elevation of the property ranges from 13 to 14 feet above mean sea level (amsl).
2. Depth to groundwater ranges from 8.10 to 8.35 feet below ground surface (ft bgs) at the Site.
3. Groundwater flow is generally from northwest to southeast beneath the Site.
4. Depth to bedrock at the Site is greater than 100 feet.
5. The stratigraphy of the site, from the surface down, consists of historic fill material to depths up to 1 foot, underlain by 4-6 feet of brown medium to fine sand with trace silt. This layer is underlain by 3-5 feet of firm light brown to tan silty clay below which stratigraphy returns to a medium to coarse brown sand layer extending to at least 12 feet below existing grade.
6. Soil/fill samples were compared to NYSDEC 6NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs) and Restricted Residential Use Soil Cleanup Objectives (RRSCOs). Soil/fill samples collected during the Ph II/RI showed:
   - The volatile organic compound (VOC), acetone, was detected at 59 µg/kg above the UUSCO of 50 µg/kg in the 0-2 foot interval at SB-1. In addition, trichloroethene (max of 220 µg/kg) was detected in 0-2 foot interval at SB-3, well below the UUSCO of 470 µg/kg.
   - Five semi-volatile organic compounds(SVOC), benz(a)anthracene (2,000 µg/kg), benzo(a)pyrene (1,900 µg/kg), benzo(b)fluoranthene (1,800 µg/kg), dibenz(a,h)anthracene (420 µg/kg) and indeno(1,2,3-cd)pyrene (1,200 µg/kg), were detected above the RRSCOs and two SVOCs, benzo(k)fluoranthene (1,700 µg/kg) and chrysene (2,400 µg/kg), were detected above the UUSCOs in the 0-2 foot interval at SB-5. SVOCs were not detected above the UUSCOs in any other sample.
   - No polychlorinated biphenyls (PCBs) were detected at concentrations exceeding the UUSCOs
   - Five metals, barium (maximum 373 mg/kg), chromium (maximum 62.3 mg/kg), copper (maximum 90.1 mg/kg), nickel (maximum 159 mg/kg) and zinc (maximum 848 mg/kg), were detected above UUSCOs in four of five 0-2 foot interval samples. Two metals, lead (maximum of 796 mg/kg) and mercury (maximum of 1.19 mg/kg) were detected above RRSCOs in the 0-2 foot interval at SB-5.
   - Four pesticides, 4,4’-DDD (maximum 33 µg/kg), 4,4’-DDE (maximum 12 µg/kg), 4,4’-DDT (maximum 60 µg/kg) and dieldrin (maximum 14 µg/kg), were detected above UUSCOs in three of the five 0-2 foot interval samples. No pesticides were detected above UUSCOs in the development depth samples.

7. Groundwater analytical results were compared to New York State Department of Environmental Conservation 6NYCRR Part 703.5 Class GA groundwater standards (NYSDEC GWQS). Groundwater samples collected during the RI showed:

    - Two VOCs, cis-1,2-Dichloroethene (maximum 11 µg/L) and vinyl chloride (maximum 6.2 µg/L) were detected above the GWQS in TW-2 and TW-3. A third VOC, trichloroethene, was detected above the GWQS at 6.5 µg/L in TW-2 only.

    - Three SVOCs, benz(a)anthracene (0.03 µg/L), benzo(b)fluoranthene (0.02 µg/L), and chrysene (0.03 µg/L), were detected above the GWQS in TW-1.

    - No PCBs or pesticides were detected in any groundwater samples.

    - Five metals (undissolved), including aluminum (maximum 12 µg/L), antimony (maximum 0.011 µg/L), iron (maximum 35.6 µg/L), manganese (maximum of 2.67 µg/L) and sodium (maximum of 59.5 µg/L), were detected above the GWQS in at least two of the three groundwater samples. Magnesium (undissolved) was detected above the GWQS at 53.5 µg/L in TW-1 only. Two dissolved metals, manganese (maximum of 2.38 µg/L) and sodium (maximum of 65 µg/L), were detected in at least two of the three groundwater samples. Dissolved iron was also detected above the GWQS at 9.72 µg/L in TW-3 only and dissolved magnesium at 52.6 µg/L in TW-1 only.

    - TW-3 was analyzed for 1,4-dioxane and per- and polyfluoroalkyl substances (PFOA/PFAS) target analyte list. Several analytes were detected above the detection limit including perfluorobutanesulfonic acid (2.5 ng/L), perfluorohexanoic acid (6.5 ng/L), perfluoroheptanoic acid (3.2 ng/L), perfluoropentnoic acid (7.4 ng/L), perfluorooctanoic acid (12 ng/L), and perfluorooctanesulfonic acid (6.6 ng/L). 1,4-dioxane was not detected above the reporting limit of 0.20 µg/L.

8. Soil vapor analytical results were compared to New York State Department of Health (NYSDOH) Final Guidance on Soil Vapor Intrusion (May 2017) Matrix A, B, and C guidance values. Approximately 24 VOCs were detected above the method detection limits within the four soil vapor samples collected. Based on the VOC concentrations detected and the NYSDOH decision matrices, the concentrations of cis-1,2-dichloroethene, tetrachloroethene, trichloroethene and vinyl chloride exceed the guidance value for no further action and indicate the need for monitoring and/or mitigation if a building was currently present. Cis-1,2-dichloroethene was detected at 14.2 µg/m^3 in SV-2, 64.2 µg/ m^3 in SV-3 and 33.6 µg/ m^3 in SV-4 exceeding the no further action guidance value of 6 µg/ m^3. Tetrachloroethene was detected at 110 µg/ m^3 in SV-3 exceeding the no further action guidance value of 100 µg/ m^3. Trichloroethene was detected at 53.7 µg/ m^3 in SV-1, 96.1 µg/ m^3 in SV-2, 3,350 µg/ m^3 in SV-3 and 2,620 µg/ m^3 in SV-4 exceeding the no further action guidance value of 6 µg/ m^3. Lastly, vinyl chloride was detected at 11.9 µg/ m^3 in SV-2 also exceeding the no further action guidance value of 6 µg/ m^3. Total concentrations of petroleum-related VOCs (BTEX) within the four soil vapor samples ranged from 7.85 µg/m^3 to 210.01 µg/m^3.

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 4 and Figure 3. 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

Field personnel will mobilize to the Site to stake (with flagging or paint) the proposed soil sample locations. Once the sample locations are marked, Dig Safely New York will be contacted to mark underground utilities. If necessary, the adjacent property owners and/or private vendors will be contacted for assistance with markout of utilities. Once the utilities are marked, field equipment and personnel will be mobilized to the Site.

3.2 SOIL SAMPLING

To further characterize surface soil conditions, additional on-Site soil samples will be collected to meet NYSDEC DER-10 requirements for remedial investigations.

The sampling and analysis plan is summarized in Table 4. Eight soil borings will be installed to 10 feet below ground surface (ft bgs) by a track-mounted direct push drill rig (Geoprobe®) operated by a licensed operator. Soil samples will be collected from acetate liners using a stainless-steel trowel or sampling spoon. Samples will be collected using laboratory provided clean bottle ware. VOC grab samples will be collected using terra cores.

Soils will be logged continuously by a geologist or engineer using the Unified Soil Classification System. The presence of staining, odors, and photoionization detector (PID) response will be noted. Samples will be collected using laboratory-provided clean bottle ware. VOC grab samples will be collected using terra cores. Sampling methods are described in the Field Sampling Plan (FSP) provided as Appendix B. A Quality Assurance Project Plan (QAPP) is provided as Appendix C. Laboratory data will be reported in ASP Category B deliverable format.

Soil samples representative of Site conditions will be collected at eight locations widely distributed across the Site as shown on Figure 3. Samples will be collected from the surface at 0-2 inches bgs and from 8-10 ft bgs and additional samples will be collected from any interval exhibiting elevated PID readings and/or visual and olfactory impacts. Soil samples will be analyzed for:

- Target Compound List (TCL) VOCs using EPA method 8260B
- TCL SVOCs using EPA method 8270C
- Total Analyte List (TAL) Metals using EPA method 6010
- PCBs using EPA method 8082

Samples from soil borings B-5 and B-6 will only be sampled VOCs as this is the major contaminant of concern at the Site and Haley & Aldrich intends to utilize the Ph II/RI data to supplement this investigation. From the Ph II/RI there is data from three locations on the southern half of the site which include PCBs, pesticides and metals. Soil results from the previous March 2019 Ph II/RI found elevated concentrations of lead in soil from 0-2 ft bgs in SB-5 (796 mg/kg) and SB-1 (420 mg/kg). These areas will be delineated during waste characterization as required by disposal facilities and excavated as hot spots during the remedial action.

As per NYDSEC DER-10 requirements, soil samples will be collected for emerging contaminants. Soil collected from 8-10 ft bgs in soil borings B-3 and B-7 will also be sampled and analyzed for:

- Per- and polyfluoroalkyl substances (PFAS) by EPA Method 537.1
- 1,4-dioxane by EPA Method 8270 SIM

Samples to be analyzed for PFAS and 1,4-dioxane will be collected and analyzed in accordance with the NYSDEC issued January 2020 "Guidelines for sampling and Analysis of PFAS" and the June 2019 Sampling for "1,4-dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DECs Part 375 Remedial Programs," respectively.

3.3 GROUNDWATER SAMPLING

The purpose of the groundwater sampling is to obtain current groundwater data and analyze for additional parameters (i.e., per- and polyfluoroalkyl substances [PFAS] and 1,4-dioxane) to meet NYSDEC DER-10 requirements for remedial investigations. Groundwater flow generally flows northwest to southeast.

Five two-inch permanent monitoring wells will be installed to 15 ft bgs. Monitoring wells will have a 2-inch annular space and be installed using either #0 or #00 certified clean sand fill. Wells will be screened from 5-15 ft bgs. Groundwater was encountered at approximately 8 ft bgs during the Remedial Investigation completed in March 2019. 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 10 well volumes are removed, if possible. The well casings will be surveyed by a New York State licensed surveyor to facilitate preparation of a groundwater contour map and determine the direction of groundwater flow.

The sampling and analysis plan is summarized in Table 4. Well locations are provided on Figure 3.

Monitoring wells MW-1, MW-2, MW-3, MW-4 and MW-5 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;
- PFAS using EPA method 537; and
- 1,4-Dioxane using EPA method 8260B.

Samples to be analyzed for PFAS and 1,4-dioxane will be collected and analyzed in accordance with the NYSDEC issued January 2020 "Guidelines for sampling and Analysis of PFAS" and the June 2019

Sampling for "1,4-dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DECs Part 375 Remedial Programs," respectively.

Groundwater wells will be sampled using low-flow sampling methods as described in the Field Sampling Plan (FSP). Following the low-flow purge, samples will be collected from monitoring wells for analysis of the analytes mentioned above.

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

3.4 INVESTIGATION DERIVED WASTE

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

3.5 SOIL VAPOR SAMPLING

Samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Six soil vapor probes will be installed to approximately 7 ft bgs or approximately one and two feet above the groundwater interface (previously encountered at approximately 8 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 (2) hours.

Samples will be collected in appropriately sized Summa canisters that have been certified clean by the laboratory and samples will be analyzed by using USEPA Method TO-15. Flow rate for both purging and sampling will not exceed 0.2 L/min. Sampling methods are described in the Field Sampling Plan (FSP) provided as Appendix B.

3.6 PROPOSED SAMPLING RATIONALE

Haley & Aldrich has proposed the sample plan described herein and as shown on Figure 3 in consideration of incorporating data generated during the Ph II/RI performed for NYCOER in March 2019. Haley & Aldrich will submit the Data Usability Summary Reports (DUSRs) and Electronic Data Deliverables (EDDs) associated with this investigation (for soil and soil vapor) to NYSDEC in order to incorporate the analytical results to supplement this investigation.

During the Ph II/RI Haley & Aldrich installed soil borings, temporary groundwater monitoring wells and soil vapor points throughout the Site. The sampling map from the Ph II/RI (included in Appendix A) shows data gaps throughout the Site including a lack of groundwater sampling in the northwest corner, where soil vapor results found elevated concentrations of the trichloroethene and cis-1,2-dichloroethene. Proposed sample locations in this area will help confirm if there is an onsite source of contamination. The remaining proposed sample locations were proposed to address the remaining data gaps.

4. Quality Assurance and Quality Control

Quality Assurance/Quality Control (QA/QC) procedures will be used to provide performance information with regard to 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) 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 Quality Assurance Project Plan included in Appendix C.

5. Data Use

5.1 DATA SUBMITTAL

Analytical data will be supplied in ASP Category B Data Packages. If more stringent than those suggested by the United States Environmental Protection Agency, the laboratory's in house QA/QC limits will be utilized.

5.2 DATA VALIDATION

Data packages will be sent to a qualified data validation specialist for evaluation of accuracy and precision of the analytical results. A DUSR will be created to confirm the compliance of methods with the protocols described in the NYSDEC Analytical service Protocol (ASP). DUSRs will summarize and confirm usability of the data for project related decisions. Data validation will be completed in accordance with the DUSR guidelines from NYSDEC Division of Environmental Remediation. DUSRs will be included with the submittal of a Remedial Investigation Report (RIR), further discussed in Section 8.

6. Project Organization

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

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

Mari Conlon will be the Project Manager for this work. In this role, Ms. Conlon 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. Conlon will also be responsible for communications with the NYSDEC Case Manager regarding project status, schedule, issues and updates for project work.

Zachary Simmel will be the field engineer responsible for implementing the field effort for this work. Mr. Simmel's responsibilities will include implementing the work plan activities and directing the subcontractors to ensure successful completion of all field activities.

The NYSDEC Case Manager is Mr. Gerard Burke (Or designated Case Manager). The Case Manager will be responsible for overseeing the successful completion of the project work and adherence to the work plan on behalf of NYSDEC.

The drilling subcontractor will be Coastal Environmental Solutions. Coastal Environmental Solutions will provide a geoprobe operator to implement the scope of work in this RIWP.

The analytical laboratory will be Alpha Analytical of Westborough, MA, a New York Environmental Laboratory Approval Program (ELAP) certified laboratory. Alpha Analytical will be responsible for analyzing samples as per the analyses and methods identified in Section 2.

7. Health and Safety

7.1 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 E of this work plan. The HASP includes a description of health and safety protocols to be followed by Haley & Aldrich field staff during implementation of the remedy, including monitoring within the work area, along with response actions should impacts be observed. The HASP has been developed in accordance with Occupational Health and Safety Administration (OSHA) 40 CFR Part 1910.120 regulatory requirements for use by Haley & Aldrich 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 health and safety plan 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 general industry as applicable based on the nature of work being performed.

7.2 COMMUNITY AIR MONITORING PLAN

The proposed investigation work will be completed outdoors at the Site. Where intrusive drilling operations are planned, community air monitoring will be implemented to protect the downwind receptors. A Haley & Aldrich representative will continually monitor the breathing air in the vicinity of the immediate work area using a PID to measure total volatile organic compounds 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 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 Community Air Monitoring Plan (CAMP).

8. Reporting

Following completion of the work, a summary of the RI will be provided to NYSDEC in a Remedial Investigation Report (RIR) to support implementation of 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;
- Findings regarding the nature and extent of contamination at the Site; and
- Conclusions and recommendations.

The RIR may be combined with the Remedial Action Work Plan (RAWP) as a RIR/RAWP. The RIR/RAWP will include all data collected during the RI and adhere to technical requirements of DER-10.

9. Schedule

The Site owner plans to implement this RIWP promptly upon execution of a Brownfield Cleanup Agreement and after approval of the RIWP.

Anticipated RI Schedule		
RIWP and 30-Day Public Comment Period (concurrent with BCP application)	December 2019/January 2020	
Executed Brownfield Cleanup Agreement	February 2020	
NYSDEC Approval of RIWP	March 2020	Approximately 2-3 weeks to schedule and complete the RI
RI Implementation	March/April 2020	
RIR/RAWP Submittal and 45-Day Public Comment Period	April/May 2020	
NYSDEC Approval of RIR/RAWP	June 2020	

References

1. Brownfield Cleanup Program Application. 297 Wallabout Street, Brooklyn, New York. Prepared by 295 W Holdings LLC & Haley & Aldrich of New York, prepared for the New York State Department of Environmental Conservation. Submitted October 2019 and accepted as complete 27 November 2019.

2. Remedial Investigation Report. 297 Wallabout Street, Brooklyn, New York. Prepared by Haley & Aldrich of New York, prepared for the New York City Office of Environmental Remediation, April 2019.

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

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TABLES

Lab Sample Id				CC69596		CC69597		CC69598		CC69599		CC69590		CC69591		CC69594		CC69595		CC69592		CC69593		CC69600	
Collection Date				3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019	
Client Id				SB-1 (0-2)		SB-1 (10-12)		SB-2 (0-2)		SB-2 (10-12)		SB-3 (0-2)		SB-3 (10-12)		SB-4 (0-2)		SB-4 (10-12)		SB-5 (0-2)		SB-5 (10-12)		DUP (190318)	
Matrix				Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
	Units	NY-ResRestrict	NY-UnRestricted	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Miscellaneous/Inorganics																									
Percent Solid	%			82		82		91		85		86		93		89		80		87		81		84	
Metals, Total																									
Aluminum	mg/Kg			5,430	59	8,050	62	9,090	52	4,510	59	5,200	57	11,000	53	8,660	51	5,850	59	7,450	59	14,100	59	6,740	55
Antimony	mg/Kg			< 3.9	3.9	< 4.1	4.1	< 3.5	3.5	< 3.9	3.9	< 3.8	3.8	< 3.5	3.5	< 3.4	3.4	< 4.0	4.0	< 3.9	3.9	< 4.0	4.0	< 3.7	3.7
Arsenic	mg/Kg	16	13	2.02	0.78	3.47	0.82	2.08	0.70	1.01	0.78	< 0.76	0.76	3.58	0.71	1.78	0.68	1.71	0.79	8.69	0.79	9.81	0.79	1.36	0.73
Barium	mg/Kg	400	***350***	190	0.39	44.7	0.41	57.5	0.35	21.1	0.39	17.3	0.38	65.5	0.35	54.4	0.34	27.5	0.40	***373***	0.39	82.2	0.40	19.8	0.37
Beryllium	mg/Kg	72	7.2	< 0.31	0.31	0.41	0.33	0.47	0.28	< 0.31	0.31	< 0.30	0.30	0.48	0.28	0.38	0.27	0.35	0.32	0.36	0.31	1.07	0.32	0.4	0.29
Cadmium	mg/Kg	4.3	2.5	0.51	0.39	< 0.41	0.41	0.47	0.35	< 0.39	0.39	< 0.38	0.38	0.44	0.35	1.07	0.34	< 0.40	0.40	1.55	0.39	0.67	0.40	< 0.37	0.37
Calcium	mg/Kg			76,300	59	1,470	6.2	14,500	52	1,780	5.9	451	5.7	11,100	53	8,530	5.1	905	5.9	38,300	59	1,390	5.9	1,310	5.5
Chromium	mg/Kg		***30***	11.1	0.39	20.3	0.41	24.7	0.35	19.2	0.39	***62.3***	0.38	27.6	0.35	***34.3***	0.34	12.7	0.40	***48.7***	0.39	***39.4***	0.40	***31***	0.37
Cobalt	mg/Kg			2.72	0.39	7.32	0.41	8.86	0.35	3.37	0.39	5.38	0.38	9.12	0.35	7.5	0.34	6.93	0.40	6.69	0.39	7.83	0.40	4.52	0.37
Copper	mg/kg	270	***50***	11.6	0.8	11.7	0.8	23.6	0.7	8.6	0.8	9.6	0.8	28.6	0.7	33.1	0.7	10.8	0.8	***90.1***	0.8	24.9	0.8	9.5	0.7
Iron	mg/Kg			7,200	5.9	12,400	62	22,700	52	6,900	5.9	8,630	5.7	20,500	53	20,800	51	9,970	59	25,500	59	32,800	59	8,970	5.5
Lead	mg/Kg	**400**	***63***	**420**	3.9	8.55	0.41	14.3	0.35	33.2	0.39	2.78	0.38	14.4	0.35	***103***	0.34	5.4	0.40	**796**	3.9	13.3	0.40	6.72	0.37
Magnesium	mg/Kg			3,550	5.9	2,520	6.2	3,620	5.2	1,150	5.9	1,530	5.7	5,670	53	4,000	5.1	1,820	5.9	5,700	5.9	4,120	5.9	1,300	5.5
Manganese	mg/Kg	2,000	1,600	155	0.39	134	0.41	413	3.5	80	0.39	81.2	0.38	483	3.5	378	3.4	132	0.40	342	3.9	137	0.40	141	0.37
Mercury	mg/Kg	**0.81**	***0.18***	***0.33***	0.03	< 0.03	0.03	< 0.03	0.03	< 0.03	0.03	< 0.03	0.03	< 0.03	0.03	0.16	0.03	< 0.03	0.03	**1.19**	0.08	< 0.03	0.03	< 0.03	0.03
Nickel	mg/Kg	310	***30***	5.9	0.39	14.3	0.41	23.9	0.35	14.7	0.39	***159***	3.8	***30.3***	0.35	***42.7***	0.34	10.8	0.40	***45.4***	0.39	21.5	0.40	29.5	0.37
Potassium	mg/Kg			1,120	5.9	1,100	6.2	1,520	5.2	481	5.9	731	5.7	2,280	5.3	1,290	5.1	990	5.9	1,250	5.9	2,060	5.9	651	5.5
Selenium	mg/Kg	180	3.9	< 1.6	1.6	< 1.6	1.6	< 1.4	1.4	< 1.6	1.6	< 1.5	1.5	< 1.4	1.4	< 1.4	1.4	< 1.6	1.6	< 1.6	1.6	< 1.6	1.6	< 1.5	1.5
Silver	mg/Kg	180	2	< 0.39	0.39	< 0.41	0.41	< 0.35	0.35	< 0.39	0.39	< 0.38	0.38	< 0.35	0.35	< 0.34	0.34	< 0.40	0.40	< 0.39	0.39	< 0.40	0.40	< 0.37	0.37
Sodium	mg/Kg			1,160	5.9	102	6.2	375	5.2	101	5.9	50.5	5.7	939	5.3	137	5.1	58.7	5.9	426	5.9	111	5.9	79.3	5.5
Thallium	mg/Kg			< 3.5	3.5	< 3.7	3.7	< 3.1	3.1	< 3.5	3.5	< 3.4	3.4	< 3.2	3.2	< 3.0	3.0	< 3.6	3.6	< 3.5	3.5	< 3.6	3.6	< 3.3	3.3
Vanadium	mg/Kg			11.2	0.39	24.7	0.41	29.5	0.35	13.2	0.39	14.3	0.38	34.6	0.35	27.2	0.34	18.5	0.40	24.1	0.39	51.5	0.40	20	0.37
Zinc	mg/Kg	10,000	***109***	***235***	7.8	35.5	0.8	45.2	0.7	23.4	0.8	24.1	0.8	73	0.7	***214***	6.8	25.1	0.8	***848***	7.9	58.4	0.8	21.4	0.7
PCBs By SW8082A																									
PCB-1016	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1221	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1232	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1242	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1248	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1254	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1260	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1262	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
PCB-1268	ug/Kg		100	< 81	81	< 79	79	< 73	73	< 76	76	< 76	76	< 71	71	< 73	73	< 83	83	< 76	76	< 80	80	< 78	78
Volatiles By SW8260C																									
1,1,1,2-Tetrachloroethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,1,1-Trichloroethane	ug/Kg	100,000	680	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,1,2,2-Tetrachloroethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,1,2-Trichloroethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,1-Dichloroethane	ug/Kg	26,000	270	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,1-Dichloroethene	ug/Kg	100,000	330	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9

Notes:

NY-ResRestrict - NYCRR Part 375 Restricted Residential Use SCOs

NY-UnRestricted - NYCRR Part 375 Unrestrcited Use SCOs

Bold italicized results exceed the Unrestricted Use SCOs

Unrestricted Use and Restricted Residential SCOs

< - Result not detected above the reporting limit

Table 1. Soil Analytical Results
297 Wallabout Street, Brooklyn, NY

Lab Sample Id				CC69596		CC69597		CC69598		CC69599		CC69590		CC69591		CC69594		CC69595		CC69592		CC69593		CC69600	
Collection Date				3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019	
Client Id				SB-1 (0-2)		SB-1 (10-12)		SB-2 (0-2)		SB-2 (10-12)		SB-3 (0-2)		SB-3 (10-12)		SB-4 (0-2)		SB-4 (10-12)		SB-5 (0-2)		SB-5 (10-12)		DUP (190318)	
Matrix				Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
	Units	NY-ResRestrict	NY-UnRestricted	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
1,1-Dichloropropene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2,3-Trichlorobenzene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2,3-Trichloropropane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2,4-Trichlorobenzene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2,4-Trimethylbenzene	ug/Kg	52,000	3,600	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2-Dibromo-3-chloropropane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2-Dibromoethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2-Dichlorobenzene	ug/Kg	100,000	1,100	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2-Dichloroethane	ug/Kg	3,100	20	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,2-Dichloropropane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,3,5-Trimethylbenzene	ug/Kg	52,000	8,400	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,3-Dichlorobenzene	ug/Kg	49,000	2,400	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,3-Dichloropropane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
1,4-Dichlorobenzene	ug/Kg	13,000	1,800	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
2,2-Dichloropropane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
2-Chlorotoluene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
2-Hexanone	ug/Kg			< 30	30	< 30	30	< 27	27	< 31	31	< 29	29	< 27	27	< 29	29	< 31	31	< 32	32	< 31	31	< 29	29
2-Isopropyltoluene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
4-Chlorotoluene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
4-Methyl-2-pentanone	ug/Kg			< 30	30	< 30	30	< 27	27	< 31	31	< 29	29	< 27	27	< 29	29	< 31	31	< 32	32	< 31	31	< 29	29
Acetone	ug/Kg	100,000	***50***	***59***	30	< 30	30	< 27	27	< 31	31	< 29	29	< 27	27	< 29	29	< 31	31	< 32	32	< 31	31	< 29	29
Acrylonitrile	ug/Kg			< 12	12	< 12	12	< 11	11	< 12	12	< 12	12	< 11	11	< 11	11	< 12	12	< 13	13	< 12	12	< 12	12
Benzene	ug/Kg	4,800	60	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Bromobenzene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Bromochloromethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Bromodichloromethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Bromoform	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Bromomethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Carbon Disulfide	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Carbon tetrachloride	ug/Kg	2,400	760	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Chlorobenzene	ug/Kg	100,000	1,100	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Chloroethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Chloroform	ug/Kg	49,000	370	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Chloromethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
cis-1,2-Dichloroethene	ug/Kg	100,000	250	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
cis-1,3-Dichloropropene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Dibromochloromethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Dibromomethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Dichlorodifluoromethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Ethylbenzene	ug/Kg	41,000	1,000	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Hexachlorobutadiene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Isopropylbenzene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
m&p-Xylene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Methyl Ethyl Ketone	ug/Kg	100,000	120	< 30	30	< 30	30	< 27	27	< 31	31	< 29	29	< 27	27	< 29	29	< 31	31	< 32	32	< 31	31	< 29	29

Notes:

NY-ResRestrict - NYCRR Part 375 Restricted Residential Use SCOs

NY-UnRestricted - NYCRR Part 375 Unrestrcited Use SCOs

Bold italicized results exceed the Unrestricted Use SCOs

Unrestricted Use and Restricted Residential SCOs

< - Result not detected above the reporting limit

Lab Sample Id				CC69596		CC69597		CC69598		CC69599		CC69590		CC69591		CC69594		CC69595		CC69592		CC69593		CC69600	
Collection Date				3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019	
Client Id				SB-1 (0-2)		SB-1 (10-12)		SB-2 (0-2)		SB-2 (10-12)		SB-3 (0-2)		SB-3 (10-12)		SB-4 (0-2)		SB-4 (10-12)		SB-5 (0-2)		SB-5 (10-12)		DUP (190318)	
Matrix				Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
	Units	NY-ResRestrict	NY-UnRestricted	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
Methyl t-butyl ether (MTBE)	ug/Kg	100,000	930	< 12	12	< 12	12	< 11	11	< 12	12	< 12	12	< 11	11	< 11	11	< 12	12	< 13	13	< 12	12	< 12	12
Methylene chloride	ug/Kg	100,000	50	< 12	12	< 12	12	< 11	11	< 12	12	< 12	12	< 11	11	< 11	11	< 12	12	< 13	13	< 12	12	< 12	12
Naphthalene	ug/Kg	100,000	12,000	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
n-Butylbenzene	ug/Kg	100,000	12,000	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
n-Propylbenzene	ug/Kg	100,000	3,900	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
o-Xylene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
p-Isopropyltoluene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
sec-Butylbenzene	ug/Kg	100,000	11,000	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Styrene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
tert-Butylbenzene	ug/Kg	100,000	5,900	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Tetrachloroethene	ug/Kg	19,000	1,300	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Tetrahydrofuran (THF)	ug/Kg			< 12	12	< 12	12	< 11	11	< 12	12	< 12	12	< 11	11	< 11	11	< 12	12	< 13	13	< 12	12	< 12	12
Toluene	ug/Kg	100,000	700	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Total Xylenes	ug/Kg	100,000	260	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
trans-1,2-Dichloroethene	ug/Kg	100,000	190	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
trans-1,3-Dichloropropene	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
trans-1,4-dichloro-2-butene	ug/Kg			< 12	12	< 12	12	< 11	11	< 12	12	< 12	12	< 11	11	< 11	11	< 12	12	< 13	13	< 12	12	< 12	12
Trichloroethene	ug/Kg	21,000	470	7	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	220	200	< 5.4	5.4	12	5.7	12	6.2	160	130	< 6.2	6.2	< 5.9	5.9
Trichlorofluoromethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Trichlorotrifluoroethane	ug/Kg			< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Vinyl chloride	ug/Kg	900	20	< 6.0	6.0	< 6.1	6.1	< 5.4	5.4	< 6.2	6.2	< 5.8	5.8	< 5.4	5.4	< 5.7	5.7	< 6.2	6.2	< 6.5	6.5	< 6.2	6.2	< 5.9	5.9
Semivolatiles By SW8270D																									
1,2,4,5-Tetrachlorobenzene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
1,2,4-Trichlorobenzene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
1,2-Dichlorobenzene	ug/Kg	100,000	1,100	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
1,2-Diphenylhydrazine	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
1,3-Dichlorobenzene	ug/Kg	49,000	2,400	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
1,4-Dichlorobenzene	ug/Kg	13,000	1,800	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2,4,5-Trichlorophenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2,4,6-Trichlorophenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2,4-Dichlorophenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2,4-Dimethylphenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2,4-Dinitrophenol	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
2,4-Dinitrotoluene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2,6-Dinitrotoluene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2-Chloronaphthalene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2-Chlorophenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2-Methylnaphthalene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2-Methylphenol (o-cresol)	ug/Kg	100,000	330	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
2-Nitroaniline	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
2-Nitrophenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
3&4-Methylphenol (m&p-cresol)	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
3,3'-Dichlorobenzidine	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
3-Nitroaniline	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390

Notes:

NY-ResRestrict - NYCRR Part 375 Restricted Residential Use SCOs

NY-UnRestricted - NYCRR Part 375 Unrestrcited Use SCOs

Bold italicized results exceed the Unrestricted Use SCOs

Gray bold results exceed both the
Unrestricted Use and Restricted

< - Result not detected above the reporting limit

Table 1. Soil Analytical Results
297 Wallabout Street, Brooklyn, NY

Lab Sample Id				CC69596		CC69597		CC69598		CC69599		CC69590		CC69591		CC69594		CC69595		CC69592		CC69593		CC69600	
Collection Date				3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019	
Client Id				SB-1 (0-2)		SB-1 (10-12)		SB-2 (0-2)		SB-2 (10-12)		SB-3 (0-2)		SB-3 (10-12)		SB-4 (0-2)		SB-4 (10-12)		SB-5 (0-2)		SB-5 (10-12)		DUP (190318)	
Matrix				Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
	Units	NY-ResRestrict	NY-UnRestricted	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
4,6-Dinitro-2-methylphenol	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
4-Bromophenyl phenyl ether	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
4-Chloro-3-methylphenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
4-Chloroaniline	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
4-Chlorophenyl phenyl ether	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
4-Nitroaniline	ug/Kg			< 630	630	< 650	650	< 570	570	< 610	610	< 610	610	< 570	570	< 590	590	< 660	660	< 600	600	< 650	650	< 630	630
4-Nitrophenol	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Acenaphthene	ug/Kg	100,000	20,000	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Acenaphthylene	ug/Kg	100,000	100,000	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	330	260	< 280	280	< 280	280
Acetophenone	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Aniline	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Anthracene	ug/Kg	100,000	100,000	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	440	260	< 280	280	< 280	280
Benz(a)anthracene	ug/Kg	**1,000**	***1,000***	450	280	< 280	280	420	250	< 270	270	< 270	270	< 250	250	630	260	< 290	290	**2,000**	260	< 280	280	< 280	280
Benzidine	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Benzo(a)pyrene	ug/Kg	**1,000**	***1,000***	380	280	< 280	280	360	250	< 270	270	< 270	270	< 250	250	600	260	< 290	290	**1,900**	260	< 280	280	< 280	280
Benzo(b)fluoranthene	ug/Kg	**1,000**	***1,000***	310	280	< 280	280	290	250	< 270	270	< 270	270	< 250	250	560	260	< 290	290	**1,800**	260	< 280	280	< 280	280
Benzo(ghi)perylene	ug/Kg	100,000	100,000	280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	350	260	< 290	290	1,100	260	< 280	280	< 280	280
Benzo(k)fluoranthene	ug/Kg	3,900	***800***	310	280	< 280	280	280	250	< 270	270	< 270	270	< 250	250	510	260	< 290	290	***1,700***	260	< 280	280	< 280	280
Benzoic acid	ug/Kg			< 790	790	< 810	810	< 710	710	< 770	770	< 770	770	< 710	710	< 740	740	< 830	830	< 750	750	< 810	810	< 790	790
Benzyl butyl phthalate	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Bis(2-chloroethoxy)methane	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Bis(2-chloroethyl)ether	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Bis(2-chloroisopropyl)ether	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Bis(2-ethylhexyl)phthalate	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Carbazole	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Chrysene	ug/Kg	3,900	***1,000***	500	280	< 280	280	450	250	< 270	270	< 270	270	< 250	250	800	260	< 290	290	***2,400***	260	< 280	280	< 280	280
Dibenz(a,h)anthracene	ug/Kg	**330**	***330***	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	**420**	260	< 280	280	< 280	280
Dibenzofuran	ug/Kg	59,000	7,000	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Diethyl phthalate	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Dimethylphthalate	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Di-n-butylphthalate	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Di-n-octylphthalate	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Fluoranthene	ug/Kg	100,000	100,000	670	280	< 280	280	900	250	< 270	270	< 270	270	< 250	250	1,300	260	< 290	290	3,600	260	< 280	280	< 280	280
Fluorene	ug/Kg	100,000	30,000	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Hexachlorobenzene	ug/Kg	1,200		< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Hexachlorobutadiene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Hexachlorocyclopentadiene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Hexachloroethane	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Indeno(1,2,3-cd)pyrene	ug/Kg	**500**	***500***	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	390	260	< 290	290	**1,200**	260	< 280	280	< 280	280
Isophorone	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 380	380	< 280	280	< 280	280
Naphthalene	ug/Kg	100,000	12,000	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Nitrobenzene	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
N-Nitrosodimethylamine	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
N-Nitrosodi-n-propylamine	ug/Kg			< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280

Notes:

NY-ResRestrict - NYCRR Part 375 Restricted Residential Use SCOs

NY-UnRestricted - NYCRR Part 375 Unrestrcited Use SCOs

Bold italicized results exceed the Unrestricted Use SCOs

Gray bold results exceed both the Unrestricted Use and Restricted

< - Result not detected above the reporting limit

Lab Sample Id				CC69596		CC69597		CC69598		CC69599		CC69590		CC69591		CC69594		CC69595		CC69592		CC69593		CC69600	
Collection Date				3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019		3/18/2019	
Client Id				SB-1 (0-2)		SB-1 (10-12)		SB-2 (0-2)		SB-2 (10-12)		SB-3 (0-2)		SB-3 (10-12)		SB-4 (0-2)		SB-4 (10-12)		SB-5 (0-2)		SB-5 (10-12)		DUP (190318)	
Matrix				Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
	Units	NY-ResRestrict	NY-UnRestricted	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL	Result	RL
N-Nitrosodiphenylamine	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Pentachloronitrobenzene	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Pentachlorophenol	ug/Kg	6,700	800	< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Phenanthrene	ug/Kg	100,000	100,000	770	280	< 280	280	1,200	250	< 270	270	< 270	270	< 250	250	1,100	260	< 290	290	3,100	260	< 280	280	< 280	280
Phenol	ug/Kg	100,000	330	< 280	280	< 280	280	< 250	250	< 270	270	< 270	270	< 250	250	< 260	260	< 290	290	< 260	260	< 280	280	< 280	280
Pyrene	ug/Kg	100,000	100,000	650	280	< 280	280	870	250	< 270	270	< 270	270	< 250	250	1,300	260	< 290	290	3,500	260	< 280	280	< 280	280
Pyridine	ug/Kg			< 390	390	< 400	400	< 350	350	< 380	380	< 380	380	< 360	360	< 370	370	< 420	420	< 380	380	< 400	400	< 390	390
Pesticides - Soil By SW8081B																									
4,4' -DDD	ug/Kg	13,000	***3.3***	***8.8***	2.4	< 2.4	2.4	< 2.2	2.2	< 2.3	2.3	< 2.3	2.3	< 2.1	2.1	< 2.2	2.2	< 2.5	2.5	***33***	2.3	< 2.4	2.4	< 2.3	2.3
4,4' -DDE	ug/Kg	8,900	***3.3***	***12***	2.4	< 2.4	2.4	< 2.2	2.2	< 2.3	2.3	< 2.3	2.3	< 2.1	2.1	< 2.2	2.2	< 2.5	2.5	< 2.3	2.3	< 2.4	2.4	< 2.3	2.3
4,4' -DDT	ug/Kg	7,900	***3.3***	***60***	2.4	< 2.4	2.4	***8.4***	2.2	< 2.3	2.3	< 2.3	2.3	< 2.1	2.1	< 2.2	2.2	< 2.5	2.5	***14***	2.3	< 2.4	2.4	< 2.3	2.3
a-BHC	ug/Kg	480	20	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
a-Chlordane	ug/Kg	4,200	94	< 4.0	4.0	< 3.9	3.9	< 3.6	3.6	< 3.8	3.8	< 3.8	3.8	< 3.6	3.6	< 3.6	3.6	< 4.2	4.2	15	3.8	< 4.0	4.0	< 3.9	3.9
Aldrin	ug/Kg	97	5	< 4.0	4.0	< 3.9	3.9	< 3.6	3.6	< 3.8	3.8	< 3.8	3.8	< 3.6	3.6	< 3.6	3.6	< 4.2	4.2	< 3.8	3.8	< 4.0	4.0	< 3.9	3.9
b-BHC	ug/Kg	360	36	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Chlordane	ug/Kg			82	40	< 39	39	< 36	36	< 38	38	< 38	38	< 36	36	< 36	36	< 42	42	86	38	< 40	40	< 39	39
d-BHC	ug/Kg	100,000	40	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Dieldrin	ug/Kg	200	***5***	***5.6***	4.0	< 3.9	3.9	< 3.6	3.6	< 3.8	3.8	< 3.8	3.8	< 3.6	3.6	< 3.6	3.6	< 4.2	4.2	***14***	3.8	< 4.0	4.0	< 3.9	3.9
Endosulfan I	ug/Kg	24,000	2,400	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Endosulfan II	ug/Kg	24,000	2,400	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Endosulfan sulfate	ug/Kg	24,000	2,400	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Endrin	ug/Kg	11,000	14	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Endrin aldehyde	ug/Kg			< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Endrin ketone	ug/Kg			< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
g-BHC	ug/Kg	1,300	100	< 1.6	1.6	< 1.6	1.6	< 1.5	1.5	< 1.5	1.5	< 1.5	1.5	< 1.4	1.4	< 1.5	1.5	< 1.7	1.7	< 1.5	1.5	< 1.6	1.6	< 1.6	1.6
g-Chlordane	ug/Kg			14	4.0	< 3.9	3.9	< 3.6	3.6	< 3.8	3.8	< 3.8	3.8	< 3.6	3.6	< 3.6	3.6	< 4.2	4.2	14	3.8	< 4.0	4.0	< 3.9	3.9
Heptachlor	ug/Kg	2,100	42	< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Heptachlor epoxide	ug/Kg			< 8.1	8.1	< 7.9	7.9	< 7.3	7.3	< 7.6	7.6	< 7.6	7.6	< 7.1	7.1	< 7.3	7.3	< 8.3	8.3	< 7.6	7.6	< 8.0	8.0	< 7.8	7.8
Methoxychlor	ug/Kg			< 40	40	< 39	39	< 36	36	< 38	38	< 38	38	< 36	36	< 36	36	< 42	42	< 38	38	< 40	40	< 39	39
Toxaphene	ug/Kg			< 160	160	< 160	160	< 150	150	< 150	150	< 150	150	< 140	140	< 150	150	< 170	170	< 150	150	< 160	160	< 160	160

Notes:

NY-ResRestrict - NYCRR Part 375 Restricted Residential Use SCOs

NY-UnRestricted - NYCRR Part 375 Unrestrcited Use SCOs

Bold italicized results exceed the Unrestricted Use SCOs

Unrestricted Use and Restricted Residential SCOs

< - Result not detected above the reporting limit

Table 2. Groundwater Analytical Results

297 Wallabout Street, Brooklyn, NY

Lab Sample Id Collection Date Client Id Matrix			CC69573 3/18/2019 TW-1 Ground Water		CC69572 3/18/2019 TW-2 Ground Water		CC69571 3/18/2019 TW-3 Ground Water	
	Units	NY-AWQS	Result	RL	Result	RL	Result	RL
Metals, Total								
Aluminum	mg/L	***0.1***	***12***	0.010	***9.96***	0.010	***4.61***	0.010
Antimony	mg/L	***0.003***	***0.005***	0.003	< 0.003	0.003	***0.011***	0.003
Arsenic	mg/L	0.025	0.013	0.004	< 0.004	0.004	0.008	0.004
Barium	mg/L	1	0.126	0.002	0.078	0.002	0.136	0.002
Beryllium	mg/L	0.003	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001
Cadmium	mg/L	0.005	0.001	0.001	< 0.001	0.001	< 0.001	0.001
Calcium	mg/L		376	0.10	74.5	0.010	194	0.10
Chromium	mg/L	0.05	0.034	0.001	0.041	0.001	0.025	0.001
Cobalt	mg/L		0.007	0.002	0.006	0.002	0.02	0.002
Copper	mg/L	0.2	0.024	0.005	0.017	0.005	0.036	0.005
Iron	mg/L	***0.3***	***23.2***	0.010	***10.1***	0.010	***35.6***	0.010
Lead	mg/L	0.025	0.016	0.002	0.005	0.002	0.005	0.002
Magnesium	mg/L	***35***	***53.5***	0.010	7.36	0.010	12.1	0.010
Manganese	mg/L	***0.3***	0.158	0.001	***1.88***	0.001	***2.67***	0.010
Mercury	mg/L	0.0007	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002
Nickel	mg/L	0.1	0.02	0.001	0.04	0.001	0.069	0.001
Potassium	mg/L		21.8	0.1	7.5	0.1	14.5	0.1
Selenium	mg/L	0.01	< 0.010	0.010	< 0.010	0.010	< 0.010	0.010
Silver	mg/L	0.05	< 0.001	0.001	< 0.001	0.001	< 0.002	0.002
Sodium	mg/L	***20***	***53.3***	1.0	***59.5***	1.0	***55.2***	1.0
Thallium	mg/L	0.0005	< 0.0005	0.0005	< 0.0005	0.0005	< 0.0005	0.0005
Vanadium	mg/L		0.032	0.002	0.027	0.002	0.013	0.002
Zinc	mg/L	5	0.119	0.004	0.025	0.004	0.016	0.004
Metals, Dissolved								
Aluminum (Dissolved)	mg/L	0.1	0.089	0.011	0.045	0.011	0.072	0.011
Antimony (Dissolved)	mg/L	0.003	< 0.003	0.003	< 0.003	0.003	< 0.003	0.003
Arsenic (Dissolved)	mg/L	0.025	< 0.004	0.004	< 0.004	0.004	< 0.004	0.004
Barium (Dissolved)	mg/L	1	0.055	0.002	0.029	0.002	0.092	0.002
Beryllium (Dissolved)	mg/L	0.003	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001
Cadmium (Dissolved)	mg/L	0.005	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001
Calcium (Dissolved)	mg/L		330	0.11	68.8	0.01	171	0.11
Chromium (Dissolved)	mg/L	0.05	0.003	0.001	< 0.001	0.001	< 0.001	0.001
Cobalt (Dissolved)	mg/L		< 0.001	0.001	< 0.001	0.001	0.015	0.001
Copper (Dissolved)	mg/L	0.2	0.005	0.005	< 0.005	0.005	< 0.005	0.005
Thallium (Dissolved)	mg/L	0.0005	< 0.0005	0.0005	< 0.0005	0.0005	< 0.0005	0.0005
Iron (Dissolved)	mg/L	***0.3***	< 0.011	0.011	< 0.011	0.011	***9.72***	0.011
Lead (Dissolved)	mg/L	0.025	0.006	0.002	< 0.002	0.002	< 0.002	0.002
Magnesium (Dissolved)	mg/L	***35***	***52.6***	0.01	5.92	0.01	11.3	0.01
Manganese (Dissolved)	mg/L	***0.3***	0.04	0.001	***1.65***	0.001	***2.38***	0.011
Mercury (Dissolved)	mg/L	0.0007	< 0.0002	0.0002	< 0.0002	0.0002	< 0.0002	0.0002
Nickel (Dissolved)	mg/L	0.1	0.003	0.001	0.014	0.001	0.044	0.001
Potassium (Dissolved)	mg/L		18.8	0.1	5.6	0.1	12.7	0.1
Selenium (Dissolved)	mg/L	0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	0.01
Silver (Dissolved)	mg/L	0.05	< 0.001	0.001	< 0.001	0.001	< 0.001	0.001
Sodium (Dissolved)	mg/L	***20***	***53.3***	1.1	***65***	1.1	***58.4***	1.1
Vanadium (Dissolved)	mg/L		< 0.002	0.002	< 0.002	0.002	< 0.002	0.002
Zinc (Dissolved)	mg/L	5	0.007	0.002	< 0.002	0.002	< 0.002	0.002
PCBs By SW8082A								
PCB-1016	ug/L	0.09	< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
PCB-1221	ug/L	0.09	< 0.047	0.047	< 0.047	0.047	< 0.047	0.047

Notes:

NY-AWQS: New York TOGS 111 Ambient Water Quality Standards

Bold italicized results exceed the NY-AWQS

< - Result not detected above the reporting limit

Table 2. Groundwater Analytical Results

297 Wallabout Street, Brooklyn, NY

Lab Sample Id			CC69573		CC69572		CC69571	
Collection Date			3/18/2019		3/18/2019		3/18/2019	
Client Id			TW-1		TW-2		TW-3	
Matrix			Ground Water		Ground Water		Ground Water	
	Units	NY-AWQS	Result	RL	Result	RL	Result	RL
PCB-1232	ug/L	0.09	< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
PCB-1242	ug/L	0.09	< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
PCB-1248	ug/L	0.09	< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
PCB-1254	ug/L	0.09	< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
PCB-1260	ug/L	0.09	< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
PCB-1262	ug/L		< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
PCB-1268	ug/L		< 0.047	0.047	< 0.047	0.047	< 0.047	0.047
Volatiles By SW8260C								
1,1,1,2-Tetrachloroethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,1,1-Trichloroethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,1,2,2-Tetrachloroethane	ug/L	5	< 0.50	0.50	< 0.50	0.50	< 0.50	0.50
1,1,2-Trichloroethane	ug/L	1	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,1-Dichloroethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,1-Dichloroethene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,1-Dichloropropene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2,3-Trichlorobenzene	ug/L		< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2,3-Trichloropropane	ug/L	0.04	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2,4-Trichlorobenzene	ug/L		< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2,4-Trimethylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2-Dibromo-3-chloropropane	ug/L	0.04	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2-Dibromoethane	ug/L	0.0006	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2-Dichlorobenzene	ug/L		< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,2-Dichloroethane	ug/L	0.6	< 0.60	0.60	< 0.60	0.60	< 0.60	0.60
1,2-Dichloropropane	ug/L	1	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,3,5-Trimethylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,3-Dichlorobenzene	ug/L	3	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,3-Dichloropropane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
1,4-Dichlorobenzene	ug/L		< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
2,2-Dichloropropane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
2-Chlorotoluene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
2-Hexanone	ug/L	50	< 5.0	5.0	< 5.0	5.0	< 5.0	5.0
2-Isopropyltoluene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
4-Chlorotoluene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
4-Methyl-2-pentanone	ug/L		< 5.0	5.0	< 5.0	5.0	< 5.0	5.0
Acetone	ug/L	50	< 25	25	< 25	25	< 25	25
Acrylonitrile	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Benzene	ug/L	1	< 0.70	0.70	< 0.70	0.70	< 0.70	0.70
Bromobenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Bromochloromethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Bromodichloromethane	ug/L	50	< 0.50	0.50	< 0.50	0.50	< 0.50	0.50
Bromoform	ug/L	50	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Bromomethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Carbon Disulfide	ug/L		< 5.0	5.0	< 5.0	5.0	< 5.0	5.0
Carbon tetrachloride	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Chlorobenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Chloroethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Chloroform	ug/L	7	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Chloromethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
cis-1,2-Dichloroethene	ug/L	***5***	< 1.0	1.0	***11***	1.0	***7.6***	1.0
cis-1,3-Dichloropropene	ug/L	0.4	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40
Dibromochloromethane	ug/L	50	< 0.50	0.50	< 0.50	0.50	< 0.50	0.50

Notes:

NY-AWQS: New York TOGS 111 Ambient Water Quality Standards

Bold italicized results exceed the NY-AWQS

< - Result not detected above the reporting limit

Table 2. Groundwater Analytical Results

297 Wallabout Street, Brooklyn, NY

Lab Sample Id Collection Date Client Id Matrix			CC69573 3/18/2019 TW-1 Ground Water		CC69572 3/18/2019 TW-2 Ground Water		CC69571 3/18/2019 TW-3 Ground Water	
Units		NY-AWQS	Result	RL	Result	RL	Result	RL
Dibromomethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Dichlorodifluoromethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Ethylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Hexachlorobutadiene	ug/L	0.5	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40
Isopropylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
m&p-Xylene	ug/L		< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Methyl ethyl ketone	ug/L	50	< 5.0	5.0	< 5.0	5.0	< 5.0	5.0
Methyl t-butyl ether (MTBE)	ug/L		< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Methylene chloride	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Naphthalene	ug/L	10	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
n-Butylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
n-Propylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
o-Xylene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
p-Isopropyltoluene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
sec-Butylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Styrene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
tert-Butylbenzene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Tetrachloroethene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Tetrahydrofuran (THF)	ug/L	50	< 2.5	2.5	< 2.5	2.5	< 2.5	2.5
Toluene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Total Xylenes	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
trans-1,2-Dichloroethene	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
trans-1,3-Dichloropropene	ug/L	0.4	< 0.40	0.40	< 0.40	0.40	< 0.40	0.40
trans-1,4-dichloro-2-butene	ug/L	5	< 5.0	5.0	< 5.0	5.0	< 5.0	5.0
Trichloroethene	ug/L	***5***	< 1.0	1.0	***6.5***	1.0	2.6	1.0
Trichlorofluoromethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Trichlorotrifluoroethane	ug/L	5	< 1.0	1.0	< 1.0	1.0	< 1.0	1.0
Vinyl chloride	ug/L	***2***	< 1.0	1.0	***4.2***	1.0	***6.2***	1.0
Semivolatiles By SW8270D								
1,2,4,5-Tetrachlorobenzene	ug/L		< 3.3	3.3	< 3.3	3.3	< 3.3	3.3
1,2,4-Trichlorobenzene	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
1,2-Dichlorobenzene	ug/L		< 2.4	2.4	< 2.4	2.4	< 2.4	2.4
1,2-Diphenylhydrazine	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
1,3-Dichlorobenzene	ug/L	3	< 2.4	2.4	< 2.4	2.4	< 2.4	2.4
1,4-Dichlorobenzene	ug/L		< 2.4	2.4	< 2.4	2.4	< 2.4	2.4
2,4,5-Trichlorophenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
2,4,6-Trichlorophenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
2,4-Dichlorophenol	ug/L	5	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
2,4-Dimethylphenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
2,4-Dinitrophenol	ug/L	5	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
2,4-Dinitrotoluene	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
2,6-Dinitrotoluene	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
2-Chloronaphthalene	ug/L	10	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
2-Chlorophenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
2-Methylphenol (o-cresol)	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
2-Nitroaniline	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
2-Nitrophenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
3&4-Methylphenol (m&p-cresol)	ug/L		< 9.4	9.4	< 9.4	9.4	< 9.4	9.4
3,3'-Dichlorobenzidine	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
3-Nitroaniline	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
4,6-Dinitro-2-methylphenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94

Notes:

NY-AWQS: New York TOGS 111 Ambient Water Quality Standards

Bold italicized results exceed the NY-AWQS

< - Result not detected above the reporting limit

Table 2. Groundwater Analytical Results
297 Wallabout Street, Brooklyn, NY

Lab Sample Id			CC69573		CC69572		CC69571	
Collection Date			3/18/2019		3/18/2019		3/18/2019	
Client Id			TW-1		TW-2		TW-3	
Matrix			Ground Water		Ground Water		Ground Water	
	Units	NY-AWQS	Result	RL	Result	RL	Result	RL
4-Bromophenyl phenyl ether	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
4-Chloro-3-methylphenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
4-Chloroaniline	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
4-Chlorophenyl phenyl ether	ug/L		< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
4-Nitroaniline	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
4-Nitrophenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
Acetophenone	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Aniline	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Benzidine	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Benzoic acid	ug/L		< 47	47	< 47	47	< 47	47
Benzyl butyl phthalate	ug/L	50	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Bis(2-chloroethoxy)methane	ug/L	5	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Bis(2-chloroethyl)ether	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
Bis(2-chloroisopropyl)ether	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Bis(2-ethylhexyl)phthalate	ug/L	5	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
Carbazole	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Dibenzofuran	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Diethyl phthalate	ug/L	50	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Dimethylphthalate	ug/L	50	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Di-n-butylphthalate	ug/L	50	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Di-n-octylphthalate	ug/L	50	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Hexachloroethane	ug/L	5	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
Isophorone	ug/L	50	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
N-Nitrosodi-n-propylamine	ug/L		< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
N-Nitrosodiphenylamine	ug/L	50	< 4.7	4.7	< 4.7	4.7	< 4.7	4.7
Pentachloronitrobenzene	ug/L		< 2.4	2.4	< 2.4	2.4	< 2.4	2.4
Phenol	ug/L	1	< 0.94	0.94	< 0.94	0.94	< 0.94	0.94
Semivolatiles (SIM) By SW8270D (SIM)								
2-Methylnaphthalene	ug/L		< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Acenaphthene	ug/L	20	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Acenaphthylene	ug/L		< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Anthracene	ug/L	50	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Benz(a)anthracene	ug/L	***0.002***	***0.03***	0.02	< 0.02	0.02	< 0.02	0.02
Benzo(a)pyrene	ug/L		< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Benzo(b)fluoranthene	ug/L	***0.002***	***0.02***	0.02	< 0.02	0.02	< 0.02	0.02
Benzo(ghi)perylene	ug/L		< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Benzo(k)fluoranthene	ug/L	0.002	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Chrysene	ug/L	***0.002***	***0.03***	0.02	< 0.02	0.02	< 0.02	0.02
Dibenz(a,h)anthracene	ug/L		< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Fluoranthene	ug/L	50	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Fluorene	ug/L	50	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Hexachlorobenzene	ug/L	0.04	< 0.04	0.04	< 0.04	0.04	< 0.04	0.04
Hexachlorobutadiene	ug/L	0.5	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Hexachlorocyclopentadiene	ug/L	5	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Indeno(1,2,3-cd)pyrene	ug/L	0.002	< 0.02	0.02	< 0.02	0.02	< 0.02	0.02
Naphthalene	ug/L	10	0.84	0.47	< 0.47	0.47	< 0.47	0.47
Nitrobenzene	ug/L	0.4	< 0.38	0.38	< 0.38	0.38	< 0.38	0.38
N-Nitrosodimethylamine	ug/L		< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Pentachlorophenol	ug/L	1	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Phenanthrene	ug/L	50	0.87	0.47	< 0.47	0.47	< 0.47	0.47
Pyrene	ug/L	50	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47
Pyridine	ug/L	50	< 0.47	0.47	< 0.47	0.47	< 0.47	0.47

Notes:
NY-AWQS: New York TOGS 111 Ambient Water Quality Standards
Bold italicized results exceed the NY-AWQS
< - Result not detected above the reporting limit

Table 2. Groundwater Analytical Results

297 Wallabout Street, Brooklyn, NY

Lab Sample Id			CC69573		CC69572		CC69571	
Collection Date			3/18/2019		3/18/2019		3/18/2019	
Client Id			TW-1		TW-2		TW-3	
Matrix			Ground Water		Ground Water		Ground Water	
	Units	NY-AWQS	Result	RL	Result	RL	Result	RL
Pesticides By SW8081B								
4,4' -DDD	ug/L	0.3	< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
4,4' -DDE	ug/L	0.2	< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
4,4' -DDT	ug/L	0.2	< 0.009	0.009	0.017	0.009	< 0.009	0.009
a-BHC	ug/L	0.01	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005
a-chlordane	ug/L		< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Alachlor	ug/L	0.5	< 0.071	0.071	< 0.071	0.071	< 0.071	0.071
Aldrin	ug/L		< 0.001	0.001	< 0.004	0.004	< 0.001	0.001
b-BHC	ug/L	0.04	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005
Chlordane	ug/L	0.05	< 0.050	0.050	< 0.05	0.05	< 0.05	0.05
d-BHC	ug/L	0.04	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005
Dieldrin	ug/L	0.004	< 0.001	0.001	< 0.004	0.004	< 0.001	0.001
Endosulfan I	ug/L		< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Endosulfan II	ug/L		< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Endosulfan Sulfate	ug/L		< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Endrin	ug/L		< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Endrin Aldehyde	ug/L	5	< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Endrin ketone	ug/L	5	< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
g-BHC (Lindane)	ug/L	0.05	< 0.005	0.005	< 0.005	0.005	< 0.005	0.005
g-chlordane	ug/L		< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Heptachlor	ug/L	0.04	< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Heptachlor epoxide	ug/L	0.03	< 0.009	0.009	< 0.009	0.009	< 0.009	0.009
Methoxychlor	ug/L	35	< 0.094	0.094	< 0.094	0.094	< 0.094	0.094
Toxaphene	ug/L	0.06	< 0.24	0.24	< 0.24	0.24	< 0.24	0.24
1,4-dioxane By SW8270DSIM								
1,4-dioxane	ug/l		-	-	-	-	< 0.20	0.20
PFOA/PFAS by EPA 537								
Perfluorobutanesulfonic acid (PFBS)	ng/l		-	-	-	-	2.5	<2.0
Perfluorohexanoic acid (PFHxA)	ng/l		-	-	-	-	6.5	<2.0
Perfluoroheptanoic acid (PFHpA)	ng/l		-	-	-	-	3.2	<2.0
Perfluorobutanoic acid (PFBA)	ng/l		-	-	-	-	<2.0	<2.0
Perfluorodecanesulfonic acid (PFDS)	ng/l		-	-	-	-	<2.0	<2.0
Perfluoroheptanesulfonic acid (PFHpS)	ng/l		-	-	-	-	<2.0	<2.0
Perfluorooctanesulfonamide (FOSA)	ng/l		-	-	-	-	<2.0	<2.0
Perfluoropentanoic acid (PFPeA)	ng/l		-	-	-	-	7.4	<2.0
6:2 Fluorotelomersulfonate (6:2 FTS)	ng/l		-	-	-	-	<2.0	<2.0
8:2 Fluorotelomersulfonate (8:2 FTS)	ng/l		-	-	-	-	<2.0	<2.0
Perfluorohexanesulfonic acid (PFHxS)	ng/l		-	-	-	-	<2.0	<2.0
Perfluorooctanoic acid (PFOA)	ng/l		-	-	-	-	12	<2.0
Perfluorooctanesulfonic acid (PFOS)	ng/l		-	-	-	-	6.6	<2.0
Perfluorononanoic acid (PFNA)	ng/l		-	-	-	-	<2.0	<2.0
Perfluorodecanoic acid (PFDA)	ng/l		-	-	-	-	<2.0	<2.0
N-MeFOSAA	ng/l		-	-	-	-	<2.0	<2.0
Perfluoroundecanoic acid (PFUnA)	ng/l		-	-	-	-	<2.0	<2.0
N-EtFOSAA	ng/l		-	-	-	-	<2.0	<2.0
Perfluorododecanoic acid (PFDoA)	ng/l		-	-	-	-	<2.0	<2.0
Perfluorotridecanoic acid (PFTrDA)	ng/l		-	-	-	-	<2.0	<2.0
Perfluorotetradecanoic acid (PFTA)	ng/l		-	-	-	-	<2.0	<2.0

Notes:

NY-AWQS: New York TOGS 111 Ambient Water Quality Standards

Bold italicized results exceed the NY-AWQS

< - Result not detected above the reporting limit

Table 3. Soil Vapor Analytical Results
297 Wallabout Street, Brooklyn, NY

Lab Sample Id			CC69577		CC69575		CC69576		CC69578	
Collection Date			3/18/2019		3/18/2019		3/18/2019		3/18/2019	
Client Id			SV-1		SV-2		SV-3		SV-4	
Matrix			Air		Air		Air		Air	
Sample Depth			7 ft		7 ft		7 ft		7 ft	
	Units	NYSDOH VI Sub-Slab Vapor Guidance	Result	RL	Result	RL	Result	RL	Result	RL
1,1,1,2-Tetrachloroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,1,1-Trichloroethane	ug/m3	100	< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,1,2,2-Tetrachloroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,1,2-Trichloroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,1-Dichloroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.02	5.02	< 5.02	5.02
1,1-Dichloroethene	ug/m3	6	< 0.20	0.20	0.27	0.20	< 1.00	1.00	< 1.00	1.00
1,2,4-Trichlorobenzene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,2,4-Trimethylbenzene	ug/m3		3.29	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
1,2-Dibromoethane(EDB)	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,2-Dichlorobenzene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,2-Dichloroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.02	5.02	< 5.02	5.02
1,2-dichloropropane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
1,2-Dichlorotetrafluoroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,3,5-Trimethylbenzene	ug/m3		1.7	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
1,3-Butadiene	ug/m3		< 1.00	1.00	2.52	1.00	< 5.00	5.00	< 5.00	5.00
1,3-Dichlorobenzene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,4-Dichlorobenzene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
1,4-Dioxane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
2-Hexanone(MBK)	ug/m3		< 1.00	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
4-Ethyltoluene	ug/m3		6.83	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
4-Isopropyltoluene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
4-Methyl-2-pentanone(MIBK)	ug/m3		< 1.00	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
Acetone	ug/m3		71.5	1.00	10.2	1.00	62	5.01	94.2	5.01
Acrylonitrile	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
Benzene	ug/m3		5.52	1.00	2.54	1.00	7.25	5.01	< 5.01	5.01
Benzyl chloride	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
Bromodichloromethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
Bromoform	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
Bromomethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
Carbon Disulfide	ug/m3		1.64	1.00	< 1.00	1.00	5.57	5.01	< 5.01	5.01
Carbon Tetrachloride	ug/m3	6	0.36	0.20	0.4	0.20	< 1.00	1.00	< 1.00	1.00
Chlorobenzene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
Chloroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
Chloroform	ug/m3		< 1.00	1.00	2.23	1.00	34.1	4.98	< 4.98	4.98
Chloromethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
Cis-1,2-Dichloroethene	ug/m3	***6***	2.34	0.20	***14.2***	0.20	***64.2***	1.00	***33.6***	1.00
cis-1,3-Dichloropropene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
Cyclohexane	ug/m3		19.7	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
Dibromochloromethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
Dichlorodifluoromethane	ug/m3		2.34	1.00	2.63	1.00	< 4.99	4.99	< 4.99	4.99
Ethanol	ug/m3		37.3	1.00	7.57	1.00	35.4	5.01	49.9	5.01
Ethyl acetate	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
Ethylbenzene	ug/m3		20.4	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
Heptane	ug/m3		15.1	1.00	< 1.00	1.00	15.4	5.00	44.2	5.00
Hexachlorobutadiene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
Hexane	ug/m3		5.53	1.00	1.41	1.00	14.9	5.00	6.06	5.00
Isopropylalcohol	ug/m3		14.7	1.00	1.18	1.00	13.9	5.01	16.6	5.01
Isopropylbenzene	ug/m3		9.73	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
m,p-Xylene	ug/m3		25.8	1.00	1.19	1.00	< 4.99	4.99	8.29	4.99
Methyl Ethyl Ketone	ug/m3		22.1	1.00	2.42	1.00	16.5	5.01	22.5	5.01
Methyl tert-butyl ether(MTBE)	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
Methylene Chloride	ug/m3	100	< 3.00	3.00	< 3.00	3.00	< 15.0	15.0	< 15.0	15.0
n-Butylbenzene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
o-Xylene	ug/m3		15	1.00	< 1.00	1.00	< 4.99	4.99	184	4.99
Propylene	ug/m3		< 1.00	1.00	18.7	1.00	< 5.01	5.01	< 5.01	5.01
sec-Butylbenzene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
Styrene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 4.98	4.98	< 4.98	4.98
Tetrachloroethene	ug/m3	***100***	3.25	0.25	1.9	0.25	***110***	1.25	63.2	1.25
Tetrahydrofuran	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.01	5.01	< 5.01	5.01
Toluene	ug/m3		24.6	1.00	2.12	1.00	7.87	5.01	7.76	5.01
Trans-1,2-Dichloroethene	ug/m3		< 1.00	1.00	< 1.00	1.00	5.31	4.99	< 4.99	4.99
trans-1,3-Dichloropropene	ug/m3		< 1.00	1.00	< 1.00	1.00	< 4.99	4.99	< 4.99	4.99
Trichloroethene	ug/m3	***6***	***53.7***	0.20	***96.1***	0.20	***3,350***	15.0	***2,620***	6.01
Trichlorofluoromethane	ug/m3		1.91	1.00	2.52	1.00	330	5.00	15.9	5.00
Trichlorotrifluoroethane	ug/m3		< 1.00	1.00	< 1.00	1.00	< 5.00	5.00	< 5.00	5.00
Vinyl Chloride	ug/m3	***6***	< 0.20	0.20	***11.9***	0.20	< 1.00	1.00	1.66	1.00

Notes:

NYSDOH VI Sub-Slab Vapor Guidance - 2006 NYSDOH Soil Vapor Intrusion Guidance Decision Matrices

Bold italicized results exceed NYSDOH sub-slab vapor no further action guidance values

< - Result not detected above the reporting limit

Table 4. Sample and Analysis Plan
297 Wallabout Street, Brooklyn, NY

Boring Number	Soil Sample Depth	Target Compound List VOCs (8260B)	Target Compound List SVOCs (8270C)	Total Analyte List Metals (6010)	PCBs (8082)	Pesticides (8081)	PFAS (537)	1,4-Dioxane (8270 SIM)	VOCs (TO-15)
SOIL									
B-1	0-2"	X	X	X	X	X			
	8-10'	X	X	X	X	X			
B-2	0-2"	X	X	X	X	X			
	8-10'	X	X	X	X	X			
B-3	0-2"	X	X	X	X	X			
	8-10'	X	X	X	X	X	X	X	
B-4	0-2"	X	X	X	X	X			
	8-10'	X	X	X	X	X			
B-5[1]	0-2"	X							
	8-10'	X							
B-6[1]	0-2"	X							
	8-10'	X							
B-7	0-2"	X	X	X	X	X			
	8-10'	X	X	X	X	X	X	X	
B-8	0-2"	X	X	X	X	X			
	8-10'	X	X	X	X	X			
GROUNDWATER									
MW-1	-	X	X				X	X	
MW-2	-	X	X				X	X	
MW-3	-	X	X				X	X	
MW-4	-	X	X				X	X	
MW-5	-	X	X				X	X	
SOIL VAPOR									
SG-1	-								X
SG-2	-								X
SG-3	-								X
SG-4	-								X
SG-5	-								X
SG-6	-								X

Notes:

[1] - Soil borings B-5 and B-6 will only be sampled for VOCs as this is the major contaminant of concern and as there is previous data from three separate locations in the southern half of the site in the March 2019 Phase II/Remedial Investigation which include PCBs, pesticides and metals. Elevated concentrations of lead found from 0-2 ft bgs in 2019 samples at SB-1 and SB-5 will be further delineated with waste characterization sampling.

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
PCBs - Polychlorinated biphenyls
PFAS - Per- and Polyfluoroalkyl Substances
QAQC 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

FIGURES

MAP SOURCE: ESRI
SITE COORDINATES: 40°42'08"N, 73°56'52"W

HALEY ALDRICH

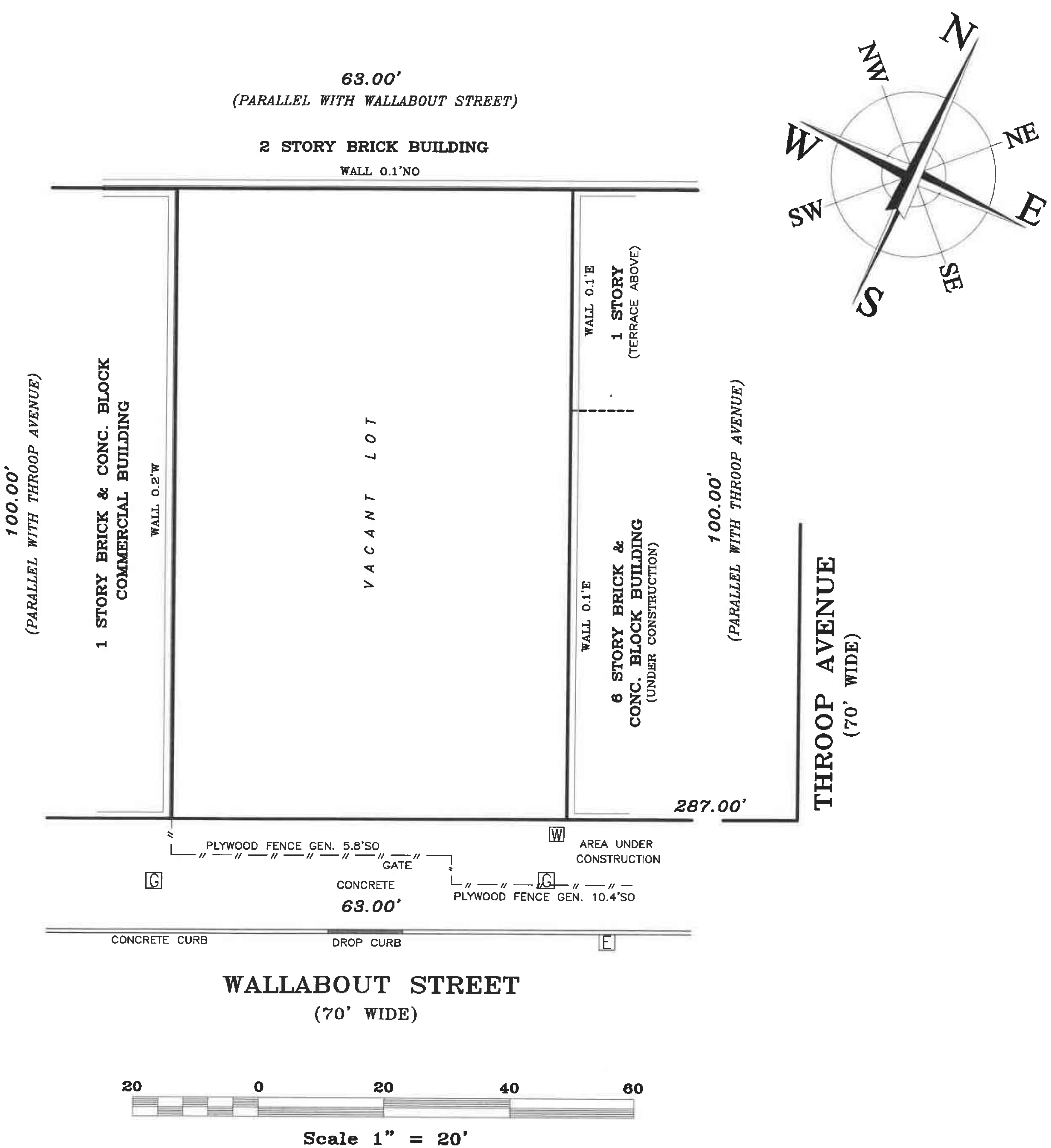
ROCK BROKERAGE
297 WALLABOUT STREET
BROOKLYN, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
NOVEMBER 2019

FIGURE 1

GIS FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\GIS\Maps\2019_11\133156_005_0001_PROJECT_LOCUS.mxd — USER: hwachholz — LAST SAVED: 11/14/2019 3:03:14 PM



NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

SITE FEATURES

SEPTEMBER 2019

FIGURE 2

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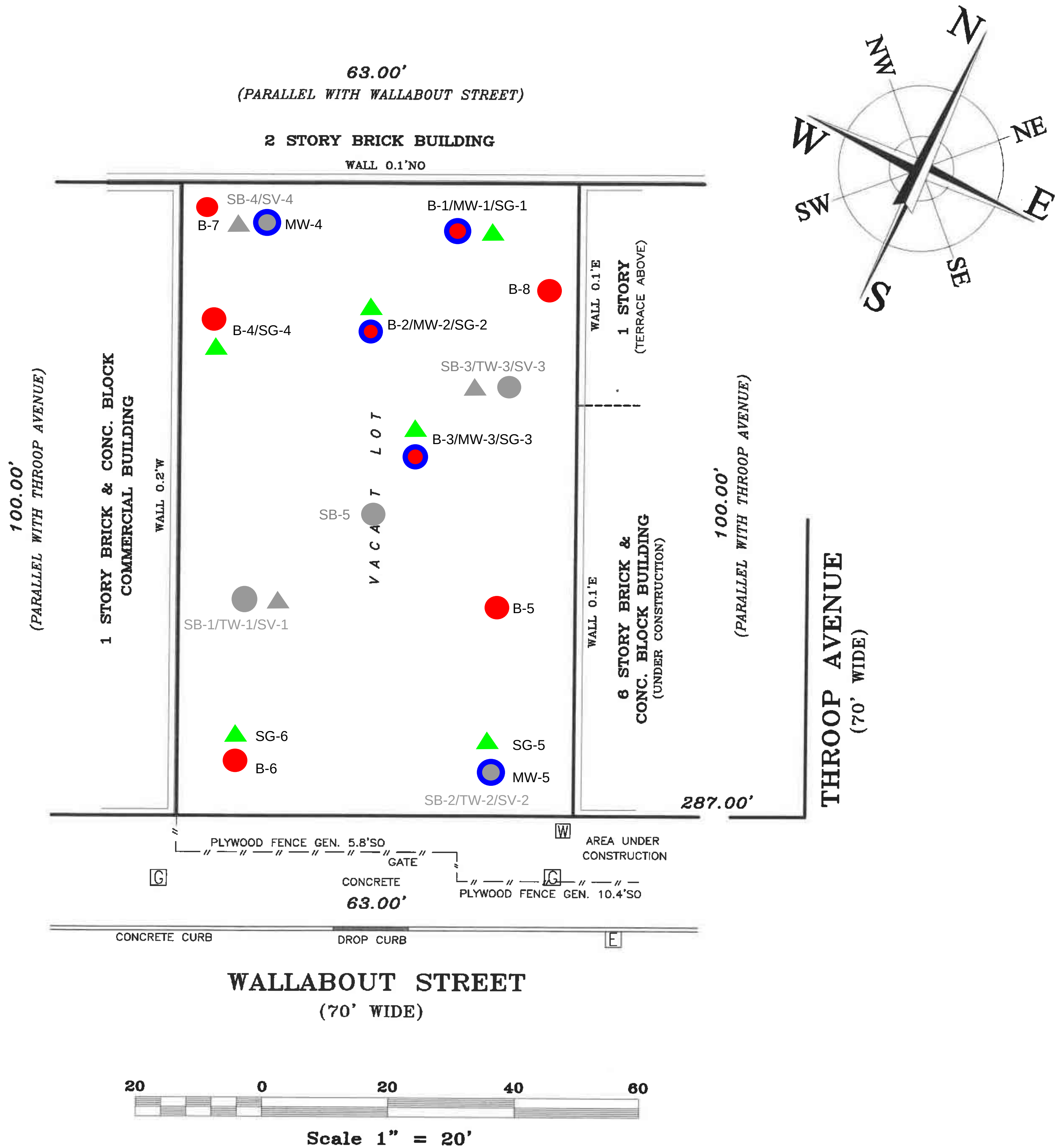

LEGEND

- SOIL BORING/TEMPORARY WELL POINT INSTALLED 18 MARCH 2019
- TEMPORARY SOIL VAPOR POINT INSTALLED 18 MARCH 2019
- PROPOSED SOIL BORING/PERMANENT WELL POINT (BLUE CIRCLE INDICATES BORING IS CONVERTED TO A WELL)
- PROPOSED TEMPORARY SOIL VAPOR POINT

NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

PROPOSED SAMPLE LOCATION MAP

MARCH 2020

FIGURE 3

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APPENDIX A

Previous Reports

APPENDIX B

Field Sampling Plan

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FIELD SAMPLING PLAN
297 WALLABOUT STREET
BROOKLYN, NEW YORK

by
Haley & Aldrich of New York
New York, New York

for
New York State Department of Environmental Conservation
Albany, New York

File No. 133156-005
September 2019

Table of Contents

Table of Contents

1. Introduction

This Field Sampling Plan (FSP) has been prepared as a component of the Remedial Investigation Work Plan (RIWP) for the portion of 297 Wallabout Street (Site) in Brooklyn, New York. 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 Field Sampling Plan, a Quality Assurance Project Plan (QAPP), Health and Safety Plan (HASP), and Community Air Monitoring Plan (CAMP), which are included as part of this plan by reference.

The standard operating procedures (SOP) 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 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 (DER-10) 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;
- Sampling of investigation of derived wastes (IDW) as needed for disposal.

A Phase II Investigation/Remedial Investigation (Ph II/RI) was performed at the Site on 18 March 2019 as part of the New York City Office of Environmental Remediation (NYC OER) E-Designation Program for the anticipated contaminants based on the Site's uses and has determined the nature and extent of volatile organic compound (VOC), semi-volatile organic compound (SVOC), pesticide and metals contaminants. The site characterization did not identify a source of contamination on the Site, therefore additional targeted soil, groundwater and soil vapor sampling is proposed.

These 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 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 by the appropriate public agencies and/or private entities. This clearance requirement applies to all work on both public and private property, whether located in a dense urban area or a seemingly out-of-the-way rural location.

The field staff or 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. 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 taken into account when choosing exploration and excavation locations. Most states require a minimum of 10 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 (AWMA 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 and the landowner and one or both following entities:

- A third-party utility locator company will be utilized 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 light 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 stake-outs have a limited time period for which they remain valid, typically two to three weeks. It is critical that this time period be taken into account 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 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 will be utilized to locate underground utilities. It is advisable that any invasive activities proceed with extreme caution in the upper four to five feet in the event the clearance has failed to identify an existing facility. This may necessitate hand-excavation or probing to confirm 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 frost line, typically at least four feet.
- 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 four to five feet.

Equipment/Materials:

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

References:

1. New York State Code Rule 753
2. American Public Works Association, April 1999, Uniform Color Code (http://www.apwa.net/)

4. Field Data Recording

This procedure describes 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 hard-cover, bound so that pages cannot be added or removed, and should be made from high-grade 50% 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. Do not abbreviate.
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. All pages in a log book must be consecutively numbered. Field log forms should also be consecutively numbered.
4. Each day’s work must start a new log book page.
5. At the end of each day, the current log book page must be signed and dated by the field personnel making the entries.
6. When using field log forms, they must also be signed and dated.

7. Make data entries immediately upon obtaining the data. Do not make temporary notes in other locations for later transfer to log forms or log books; this only increases the potential for error or loss of data.
8. Entry errors are to be crossed out with a single line, dated and initialed by the person making the correction.
9. Do not leave blanks on log forms, if no entry is applicable for a given data field, indicate so with “NA” or a dash (“--“).
10. 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.
11. 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 CD disks 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 measurement of water levels in groundwater monitoring.

Water levels in monitoring wells will be measured prior to the sampling event. 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.

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) the water is reached. The probe will be raised above 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 feet 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 (traceable to national measurement standards), 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% (0.01 feet for a 100-foot cable). See also the Field Instruments – Use and Calibration Procedure.
- Groundwater Level Monitoring Report form.

References:

1. ASTM 4750 Test Method for Determining Subsurface Liquid Levels in a Borehole or Monitoring Well (Observation Well)
2. ASTM D6000 Guide for Presentation of Water Level Information from Ground Water Sites

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 Health & Safety Plan.

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 pattern or changes in soil stratigraphy are noted and that consistent terminology is used.

Visual examination, physical observations and manual tests (adapted from 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 Haley & Aldrich 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 head space 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 screen 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 head space 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

References:

1. American Society for Testing and Materials (1991), Standard D1452-80, “Practice for Soil Investigation and Sampling by Auger Borings”, Annual Book of ASTM Standard, Section 4, Volume 04.08.
2. ASTM Standards on Environmental Sampling (1995), Standard D 2488-93, “Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)”
3. ASTM Standards on Environmental Sampling (1995), Standard D 4700-91, “Guide for Soil Sampling from the Vadose Zone”.

4. ASTM Standards on Environmental Sampling (1995), Standard D 1586-92, “Test Method for Penetration Test and Split-Barrel Sampling of Soils”.
5. ASTM Standard D 2487, “Classification of Soils for Engineering Purposes (Unified Soil Classification System)”.
6. Geotechnical Gauge, Manufactured by W.F. McCollough, Beltsville, MD.
7. Sand Grading Chart, by Geological Specialty Company, Northport, Alabama.

6.1.3 Soil Sampling

Soil samples will be collected from acetate liners installed by a track-mounted direct push drill rig (Geoprobe®) 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 varies considerably depending upon several factors including the analytical method to be conducted, and the analytical laboratory being used.

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 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 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 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 water tight 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 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.) Water level meter
- PH/temperature/conductivity meter
- Clear glass jars (e.g., drillers' jars)

References:

1. Environmental Protection Agency (1986), RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, OSWER-9950.1.

2. Environmental Protection Agency (1987), A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001.

3. Environmental Protection Agency (1988), Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, OSWER-9950.1.

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 5 minutes, or as appropriate. A steady flow rate should be maintained that results in drawdown of 0.3 feet 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), dissolved oxygen (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 <1 mS/cm and 0.01 mS/cm of the average value of the three readings for conductivity >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 nephelometric turbidity units (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:
  - Polyfluoroalkyl substances (PFAS)
  - Volatile organic compounds (VOC)
  - 1,4-Dioxane
  - Semi-volatile organic compounds (SVOC)
  - Total Analyte List (TAL) metals

- 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 feet.

- 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 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.

- All samples must be labeled with:
  - A unique sample number
  - Date and time
  - Parameters to be analyzed
  - Project Reference ID
  - Samplers 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
- Health and Safety Plan

Note: Peristaltic pump use for VOC collection is not acceptable on NYSDEC/EPA/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 C of the RIWP).

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
- Problems encountered and any deviations made from the established sampling protocol.

A standard log form for documentation and reporting groundwater purging and sampling events are 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/Decon 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 at Facility operated facilities
  - 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.

References:

1. ASTM D5474: Guide for Selection of Data Elements for Groundwater Investigations
2. ASTM D4696: Guide for Pore-liquid Sampling from the Vadose Zone
3. ASTM D5979: Guide for Conceptualization and Characterization of Groundwater Systems
4. ASTM D5903: Guide for Planning and Preparing for a Groundwater Sampling Event
5. ASTM D4448: Standard Guide for Sampling Groundwater Wells
6. ASTM D6001: Standard Guide for Direct Push Water Sampling for Geo-environmental Investigations.
7. USEPA: Low-flow (Minimal Drawdown) Groundwater Sampling Procedures (EPA/540/S-95/504)
8. USEPALL: RCRA Groundwater Monitoring: Draft Technical guidance (EPA/530 R 93 001)

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 oil 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 NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device 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 appropriate sized Summa canisters that have been certified clean by the laboratory and samples will be analyzed by using USEPA 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 which may affect the sample's integrity.

All sample submissions must be accompanied with a chain of custody (COC) document to record sample collection and submission. Personnel performing sampling tasks must check the sample preparation and preservation requirements to ensure compliance with the Quality Assurance Project Plan.

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°C, 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 sample 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 # 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 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 COC – laboratory to spike matrix.
MD	Matrix Spike Duplicate Sample (note on ‘Comments’ field of COC – 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 (COC) forms will be completed for all samples collected. The form documents the transfer of sample containers. The COC 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 COC document will be signed and dated by the sampler when transferring the samples.

Each sample cooler being shipped to the laboratory will contain a COC 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 COCs:

- COCs used should be a Haley & Aldrich standard form or supplied by the analytical laboratory.
- COCs must be completed in black ball point ink only.
- COCs 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 COC 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 COC in the Comment Section. Do not enclose separate instructions.
- Include a contact name and phone number on the COC in case there is a problem with the shipment.

- Before using an acronym on a COC, define clearly the full interpretation of your designation [i.e., polychlorinated biphenyls (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 usage of electronic instruments to monitor for environmental conditions and 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 operation of such instruments be allowed on 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 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 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 DOT-approved plastic or metal drums, appropriate for offsite shipping/disposal if necessary.

Reference:

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

8. Investigation Derived Waste Disposal

8.1 RATIONALE/ASSUMPTIONS

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

Consequently, waste sampling and characterization is 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 warrant that all materials handled will be contained and disposed.

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 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, personal protective equipment (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 Volatile Organic Compounds (VOCs), using a Photo ionization detector (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.) Decon Waters/Decon Fluids - Decon waters and/or fluids will be segregated, contained, and disposed accordingly.

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

D.) PPE/DE – A number of disposal options exists 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 a 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. New York State Department of Environmental Conservation Technical Guidance for Site Investigation and Remediation, DER-10, (3 May 2010).
2. USEPA RCRA - Guidance and Policies: Management of Remediation Waste Under RCRA (October 1998).
3. USEPA RCRA - Management of Contaminated Media (October 1998).
4. USEPA CERCLA Guidance (Options Relevant to RCRA Facilities): Guide to Management of Investigation - Derived Wastes (January 1992).

5. USEPA Office of Solid Waste- SW846 Chapter 9 Sampling Plan, Chapter 10 Sampling Methods (September 1986).
6. 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

HALEY ALDRICH

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

HALEY ALDRICH

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

Page of

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.

Page 1 of

PROJECT
LOCATION
CLIENT
CONTRACTOR
DRILLER

PROJECT MGR.
FIELD REP.
DATE STARTED
DATE FINISHED

Elevation ft.	Datum	Boring Location

Item	Casing	Sampler	Core Barrel
Type			
Inside Diameter (in.)			
Hammer Weight (lb.)			
Hammer Fall (in.)			

Rig Make & Model

☐ Truck	☐ Tripod	☐ Cat-Head
☐ ATV	☐ Geoprobe	☐ Winch
☐ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ ______	☐ Cutting Head

Hammer Type	Drilling Mud	Casing Advance
☐ Safety	☐ Bentonite	Type Method Depth
☐ Doughnut	☐ Polymer	
☐ Automatic	☐ None	

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

Date	Time	Elapsed Time (hr.)	Depth in feet to: Bottom of Casing	Bottom of Hole	Water
Date					

Sample ID

O Open End Rod
T Thin Wall Tube
U Undisturbed Sample
S Split Spoon Sample
G Geoprobe

Summary

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.**

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

Form #3000

APPENDIX C

Quality Assurance and Performance Plan

www.haleyaldrich.com

QUALITY ASSURANCE PROJECT PLAN
297 WALLABOUT STREET
BROOKLYN, NEW YORK

by
Haley & Aldrich of New York
New York, New York

for
New York State Department of Environmental Conservation
Albany, New York

File No. 133156-005
September 2019

Executive Summary

This Quality Assurance Project Plan (QAPP) outlines the scope of the quality assurance and quality control (QA/QC) activities associated with the site monitoring activities associated with the Remedial Investigation Work Plan (RIWP) for the portion of 297 Wallabout Street (Site) in Brooklyn, New York.

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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HALEY ALDRICH

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List of Tables

1. Project Description

This Quality Assurance Project Plan (QAPP) has been prepared as a component of the RIWP for the 297 Wallabout Street (Site) in Brooklyn, New York.

1.1 PROJECT OBJECTIVES

The primary objective for data collection activities is to collect sufficient data necessary to monitor the nature of any remaining groundwater and soil impacts.

1.2 SITE DESCRIPTION AND HISTORY

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

1.3 LABORATORY PARAMETERS

The laboratory parameters for soil include:

- Target Compound List volatile organic compounds (VOCs) using EPA method 8260B
- Target Compound List semi-volatile organic compounds (SVOCs) using EPA method 8270C
- Total Analyte List (TAL) Metals using EPA method 6010
- Polychlorinated biphenyls (PCBs) using EPA method 8082
- Pesticides using EPA 8081
- Herbicides using EPA method 8151

The laboratory parameter for groundwater include:

- Target Compound List VOCs using EPA method 8260C
- Target Compound List SVOCs using EPA method 8270C

Select monitoring well analyses include:

- Per- and polyfluoroalkyl substances (PFAS) using EPA method 537
- 1,4-Dioxane using EPA method 8260B

Note: 1,4-Dioxane and PFAS sampling techniques will be conducted following the NYSDEC Collection of Groundwater Samples for Per- and Polyfluoroalkyl Substances (PFAS) from Monitoring Wells Sample Protocol.

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

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 samples and groundwater monitoring wells that will be sampled.

2. Project Organization and Responsibilities

This section defines the roles and responsibilities of the individuals who will perform the RIWP monitoring activities. A NYSDOH certified analytical laboratory will perform the analyses of environmental samples collected at the Site.

2.1 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 and project oversight. The Project Manager 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
- Overall Site health and safety plan compliance.

2.2 QUALITY ASSURANCE RESPONSIBILITIES

The Quality Assurance team will consist of a Quality Assurance Officer and the Data Validation staff. Quality Assurance responsibilities are described as follows:

2.2.1 Quality Assurance (QA) 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;
- 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.

2.2.2 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.

2.3 LABORATORY RESPONSIBILITIES

Laboratory services in support of the RIWP monitoring include the following personnel:

2.3.1 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.

2.3.2 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 preparation of analytical reports.

2.3.3 Laboratory QA Officer

The Laboratory QA Officer will have sole responsibility for 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, overseeing QA/QC documentation.

2.3.4 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.

2.3.5 Laboratory Technical Personnel

The laboratory technical staff will have the primary responsibility in 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 (SOP).

2.4 FIELD RESPONSIBILITIES

2.4.1 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 & Safety Officer (HSO) to conduct operations in compliance with the project Health & Safety Plan (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 quality control 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 QAO, and Project Manager; implement and document corrective action procedures; and,
- Participate in preparation of the final reports.

2.4.2 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) and QAPP.
- Immediately report any accidents and/or unsafe conditions to the Site Health & Safety Officer and take reasonable precautions to prevent injury.

3. Sampling Procedures

The FSP provides the SOPs for sampling of soil and groundwater required by 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 U.S. EPA, "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:

- Sample Identifier-Month Day Year

Equipment rinse blank 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 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 repeated for the second set of sample container.

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

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 preprinted 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 logbook 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
- 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 sample or make 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 for sample packaging procedures.

- Samples will be assigned a unique sample number and will be affixed to a sample label. Refer to the FSP 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 (COC) 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 COC 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 to receive 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 have 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 thirty (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 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 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
- Final report

The laboratory will be responsible for maintaining analytical logbooks, 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 (6) years at which time the laboratory will contact the Haley & Aldrich 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 Health and Safety Plan (HASP). On-site air monitoring for health and safety purposes may be accomplished using a vapor detection device, such as a Photo-ionization 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 (formerly National Bureau of Standards), the U.S. 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 analysis of environmental samples will be based on referenced USEPA 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 Volatile Organic Compounds (VOC) during the collection of soil samples.

6.2 LABORATORY ANALYTICAL PROCEDURES

Laboratory analyses will be based on the U.S. 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 laboratory reporting limits (RLs) and associated method detection limits (MDLs) for the target analytes and compounds for the environmental media to be analyzed are presented in Table I. MDLs have been experimentally determined by the project laboratory using the method provided in 40 CFR, Part 136 Appendix B.

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 Quality Control (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.

HALEY ALDRICH

7. Internal Quality Control Checks

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

7.1 FIELD QUALITY CONTROL

7.1.1 Field Blanks

Internal quality control 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 blanks samples will be prepared by the project laboratory using 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 which contribute to maintenance of overall laboratory quality assurance and control include appropriately cleaned sample containers, proper sample identification and logging, applicable sample preservation, storage and 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 1 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%. 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 MS/MSD using the following equation.

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

If the quality control value falls outside the control limits (UCL or 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 Standard Reference Materials (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 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 logbook and re-analysis of project samples will be performed, if possible.

The analytical anomaly will be noted in the sample delivery group (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 semi-volatile organics 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 standard immediately before analysis for quantitation via internal standardization techniques.

Method specific quality control (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 Standards

Calibration verification (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 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 standard operating procedures. The data validator will provide recommendations for corrective actions including but not limited to additional data qualification.

8. Data Quality Objectives

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 data quality objective (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 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 relative percent difference (RPD).

8.1.2 Field Precision Sample Objectives

Field precision will be assessed through collection and measurement of field duplicate samples at a rate of 1 duplicate per 20 investigative samples. The RPD criteria for the project field duplicate samples will be +/- 100% for soil, +/- 35 % for groundwater for parameters of analysis detected at concentrations greater than 5 times (5X) the laboratory reporting limit (RL).

8.1.3 Laboratory Precision Sample Objectives

Laboratory precision will be assessed through the analysis of laboratory control and laboratory control duplicate samples (LCS/LCSD) and matrix spike and matrix spike duplicate (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 5 times (5X) the laboratory reporting limit (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 VOC. 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 laboratory control samples (LCS) and Site-specific matrix spike (MS) sample analyses. LCS analyses will be performed with each analytical batch of project samples to determine the accuracy of the analytical system.

One (1) set of MS/MSD analyses will be performed with each batch of twenty (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 reporting limits (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 of the 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.

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. Field completeness objective for this project will be greater than (>) 90%.

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 >90%.

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 Standard Reference Materials (SRM) obtained from either EPA Cooperative Research and Development Agreement (CRADA) suppliers or the National Institute of Standards and Technology (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 – mg/kg of media (Dry Weight).
- Aqueous Matrices – ng/L for PFAS analyses, ug/L of media for organic analyses, and 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 (1) 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 using the sample collection procedure described in Section 8.1.1 of the NYSDEC-approved Avangrid Field Sampling Plan. (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 VOC. Trip blanks will be preserved and handled in the same manner as the project samples. One (1) trip blank will be included along with each shipping container containing project samples to be analyzed for VOC.

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 (1) field duplicate will be collected for every 20 or fewer investigative samples collected for off-Site laboratory analysis.

Matrix spikes will provide information to assess the precision and accuracy of the analysis of the target parameters within the environmental media collected. One (1) matrix spike/matrix spike duplicate (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 VOC 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 logbooks 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 USEPA, "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

Quality control data (e.g., laboratory duplicates, surrogates, matrix spikes, and matrix spike duplicates) 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 QA Officer or designee using the following documents as guidance for the review process:

- "U.S. EPA National Functional Guidelines for Organic Data Review", 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 QAO.

- 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 data usability summary report (DUSR) based on Department 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
- 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 health and safety plans
- Procedures for verification of field duplicates
- 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
- 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
- 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
- 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 down time. Program implementation is concentrated in three areas:

- Maintenance responsibilities
- Maintenance schedules
- 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.

Maintenance records will be placed on file at the laboratory and can be made available upon request.

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 include evaluation of bound logbooks/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 Section 7.0 of this QAPP. The accuracy of pH and specific conductance will be assessed using daily instrument calibration, calibration check, 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 relative percent difference (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

Surrogate, internal standard and matrix spike recoveries will be used to evaluate data quality. The laboratory quality assurance/quality control program will include the following elements:

- Precision, in terms of relative percent difference (RPD), will be determined by relative sample analysis at a frequency of one duplicate analysis for each batch of ten project samples or a frequency of 10 percent (10%). RPD is defined as the absolute difference of duplicate measurements divided by the mean of these analyses normalized to percentage.

- Accuracy, in terms of percent recovery (recovery of known constituent additions or surrogate recoveries), will be determined by the analysis of spiked and unspiked samples. MS/MSD will be used to determine analytical accuracy. The frequency of MS/MSD analyses will be one project sample MS/MSD per set of 20 project samples.

- One method blank will be prepared and analyzed with each batch of project samples. The total number of method blank sample analyses will be determined by the laboratory analytical batch size.

- Standard Reference Materials (SRMs) will be used for each analysis. Sources of SRM's include the U.S. EPA, commercially available material from CRADA certified vendors and/or laboratory produced solutions. SRMs, when available and appropriate, will be processed and analyzed on a frequency of one per set of samples.

- Completeness is the evaluation of the amount of valid data generated versus the total set of data produced from a particular sampling and analysis event. Valid data is determined by independent confirmation of compliance with method-specific and project-specific data quality objectives. The calculation of data set completeness will be performed by the following equation.

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

13. Quality Assurance (QA) Reports

Critically important to the successful implementation of the QA Plan 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
- Daily QA/QC exception reports/corrective actions

QA/QC corrective action reports will be prepared by the Haley & Aldrich 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 the laboratory management.

References

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

2. 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 1991.

3. 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 1993.

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

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

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

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

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

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

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TABLES

TABLE I
SUMMARY OF ANALYSIS METHOD, PRESERVATION METHOD, HOLDING TIME, SAMPLE SIZE REQUIREMENTS AND SAMPLE CONTAINERS
297 Wallabout Street
Brooklyn, NY

Analysis/Method	Sample Type	Preservation	Holding Time	Volume/Weight	Container
Volatile Organic Compounds/8260C	Soil	1 - 1 Vial MeOH/2 Vial Water	14 days	120 mL	3 - 40ml glass vials
Semivolatile Organic Compounds/8270D	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
Herbicides/8151A	Soil	Cool, 4 ± 2 °C	14 days	250 mL	1 - 8 oz Glass
Polychlorinated Biphenyls/8082A	Soil	Cool, 4 ± 2 °C	14 days	250 mL	1 - 8 oz Glass
Metals/6010D	Soil	Cool, 4 ± 2 °C	180 days	60 mL	1 - 2 oz Glass
Volatile Organic Compounds/8260C	Groundwater	HCl, Cool, 4 ± 2 °C	14 days	120 mL	3 - 40ml glass vials
1,4-Dioxane	Groundwater	Cool, 4 ± 2 °C	7 days	120 mL	3 - 40ml glass vials
Semivolatile Organic Compounds/8270D	Groundwater	Cool, 4 ± 2 °C	7 days	500 mL	2 - 250 mL amber glass
TAL Metals 6020	Groundwater	HNO_3Cool, 4 ± 2 °C	180 days	500 mL	1 - 500 mL plastic bottle
PFAS 537	Groundwater	H2O Cool, 4 ± 2 °C	14 days	500 mL	2 - teflon free 250 ml plastic containers
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. Refer to text for additional information.

APPENDIX D

NYSDEC Emerging Contaminant Field Sampling Guidance

APPENDIX E

Health and Safety Plan

HALEY & ALDRICH, INC.

SITE-SPECIFIC SAFETY PLAN

FOR

297 Wallabout Street
Project/File No. 133156-005

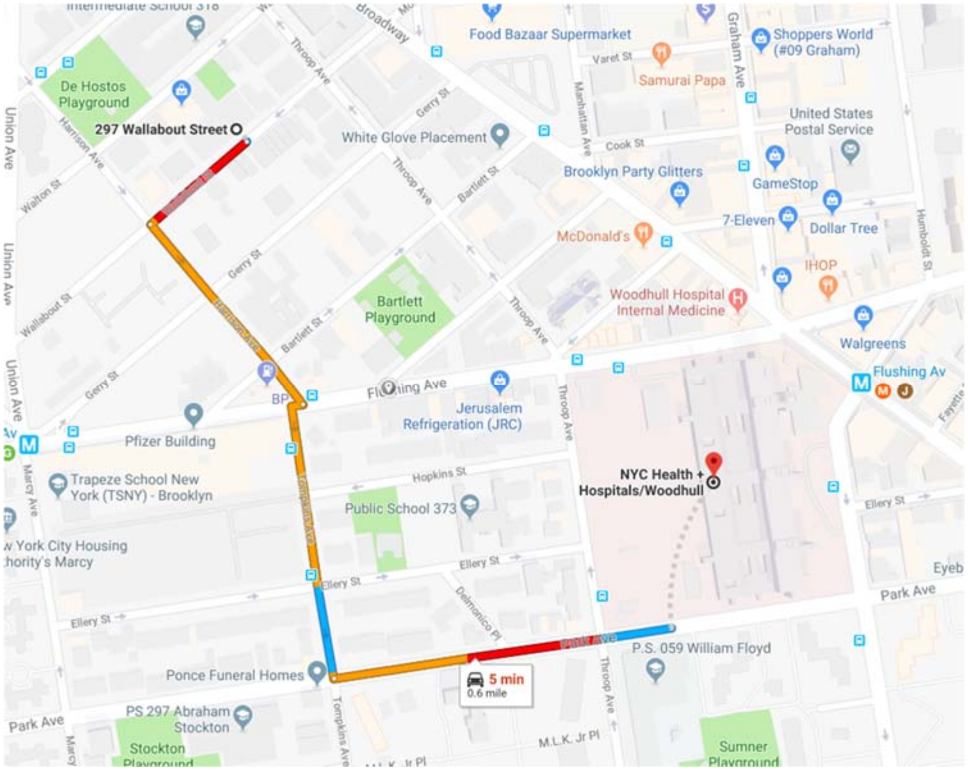
Prepared By: Conlon, Mari	**Date: 03-13-2019**

EMERGENCY INFORMATION

Project Name: 297 Wallabout Street	**H&A File No:** 133156-005
Location: 295-297 Wallabout Street, Brooklyn, NY	
Client/Site Contact: Phone Number: Emergency Phone Number:	Rock Brokerage Moshe Monheit 718-858-6655
Contractor: **Superintendent:** Phone Number:	Coastal Environmental Solutions (under contact by client) Marc Morgenstern 631-319-6536
H&A Project Manager: Office Phone Number: Cell Phone Number:	Conlon, Mari Cate 646.277.5688 347.271.1521
Regional Health & Safety Manager: Office Phone Number: Cell Phone Number:	Ferguson, Brian 617.886.7439 617.908.2761
Nearest Hospital: Address: (see map on next page) Phone Number:	**NYC Health + Hospitals/Woodhull** 760 Broadway, Brooklyn, NY 11206 718-963-8000
Nearest Occ. Health Clinic: Address: (see map on next page) Phone Number	**ModernMD Urgent Care** 68 Graham Avenue, Brooklyn, NY 11206 646-604-8120
Liberty Mutual Claim Policy	**WC6-Z11-254100-030**
Other Local Emergency Response Number:	911
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	911

Emergency Hospital

NYC Health + Hospitals/Woodhull
760 Broadway
Brooklyn, NY 11206
718-963-8000



5 min (0.6 mile)

via Tompkins Ave and Park Ave

Fastest route, despite the usual traffic

---

297 Wallabout St

Brooklyn, NY 11206

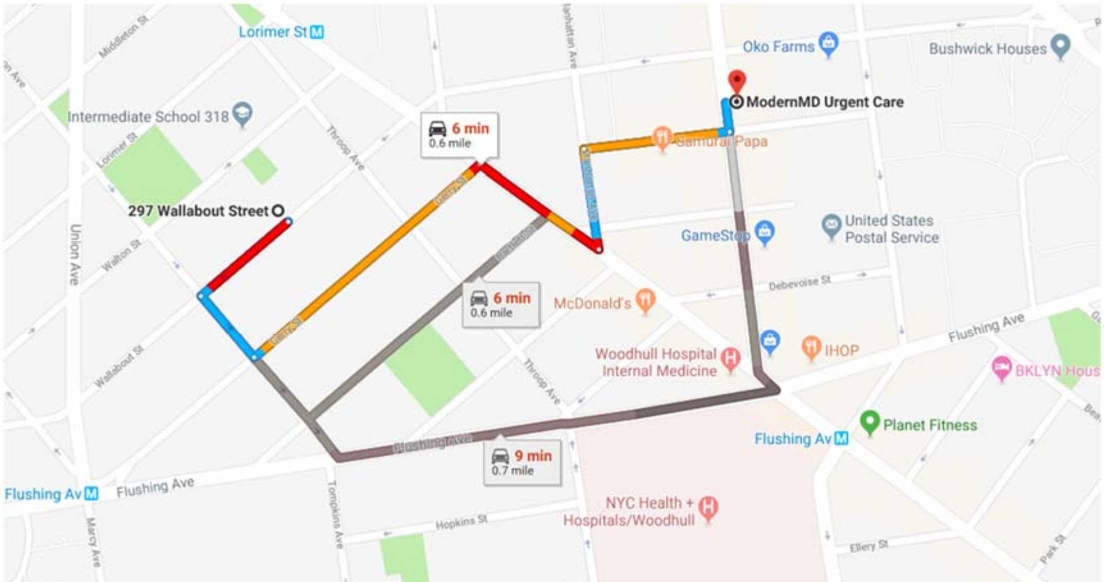
- Head southwest on Wallabout St toward Harrison Ave
  374 ft
- Turn left at the 1st cross street onto Harrison Ave
  0.1 mi
- Continue onto Tompkins Ave
  0.2 mi
- Turn left onto Park Ave
  0.2 mi

NYC Health + Hospitals/Woodhull

760 Broadway, Brooklyn, NY 11206

<u>Clinic</u>

ModernMD Urgent Care
68 Graham Avenue, Brooklyn, NY 11206
646-604-8120



6 min (0.6 mile)

via Gerry St

Fastest route, despite the usual traffic

297 Wallabout St
Brooklyn, NY 11206

- Head southwest on Wallabout St toward Harrison Ave

  374 ft

- Turn left at the 1st cross street onto Harrison Ave

  269 ft

- Turn left at the 1st cross street onto Gerry St

  0.2 mi

- Turn right at the 2nd cross street onto Broadway

  479 ft

- Turn left onto Manhattan Ave

  331 ft

- Turn right onto Varet St

  479 ft

- Turn left after Bank of America Financial Center (on the left)

  Destination will be on the right

  95 ft

ModernMD Urgent Care
68 Graham Ave, Brooklyn, NY 11206

STOP WORK

In accordance with H&A Stop Work Policy (OP1035), any individual has the right to refuse to do work that they believe to be unsafe and they have the obligation and responsibility to stop others from working in an unsafe manner without fear of retaliation. STOP Work Policy is the stop work policy for all personnel and subcontractors on the Site. When work has been stopped due to an unsafe condition, H&A site management (e.g., Project Manager, Site Safety Manager) and the H&A Senior Project Manager 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.**
- **A H&A subcontractor is in breach of site safety requirements and / or their own site HASP.**
- **Identifying a sub-standard 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(ies) stopped, the duration, person stopping work, person in-charge of stopped activity(ies), and the corrective action agreed to and/or taken. Once work has been stopped, only the H&A SM or SSO can give the order to resume work. H&A senior management is committed to support anyone who exercises his or her "Stop Work" authority.

TABLE OF CONTENTS

ADMINISTRATIVE INFORMATION

Project Name	297 Wallabout Street	**Project Number**	133156-005
Project Start Date	3/18/2019	**Project End Date**	12-31-2019
Client Site/Contact: Phone:	Moshe Monheit 718-858-6655		
H&A Project Manager: Office Phone Number: Cell Phone Number:	Conlon, Mari Cate 646.277.5688 347.271.1521		
H&A Site Safety Officer: Office Phone Number: Cell Phone Number:	Conlon, Mari Cate 646.277.5688 347.271.1521		
Subcontractor: Phone: Emergency Phone number:	Coastal Environmental Solutions 631-319-6536 516-587-9570		
APPROVALS: The following signatures constitute approval of this Health & Safety Plan			
Electronic Signature Site Project Manager Date 3.14.19 Corporate H&S Date 3.14.19			
This document is valid for a maximum time period of one year after completion. The document must be reviewed if the scope of work or nature of site hazards changes and must be updated as warranted.			

PROJECT INFORMATION

Site Overview/History

Site Classification	Vacant	**Site Status**	Vacant/Undeveloped	**Regulatory Authority**	OSHA

Project Summary

The approximately 6,300 square-foot lot is identified as Brooklyn Block 2250, Lot 45. The project is currently within a New York City Office of Environmental Remediation (NYCOER) E Designation area, specifically E-238 Broadway Triangle Rezoning. We understand the planned development will consist of one seven-story residential building with a total footprint at ground level covering the entire lot.

Scope of Work: Remedial Investigation, Waste Characterization, Remedial Oversight

Project Tasks

Task 1	Task Name**: Remedial Investigation**
Oversee installation of 5 soil borings, 3 temporary well points and 4 soil vapor sampling probes by Coastal Environmental Solutions using a direct push geoprobe rig. Collect soil samples, groundwater samples and soil vapor samples into laboratory provided containers. Coastal Environmental Solutions will provide a one call markout prior to drilling. Please note that Coastal Environmental Solutions is under contract by client.	
Start Date: 3-18-2019	End Date: 3-18-2019
H&A Site Supervisor: Conlon, Mari Cate	Subcontractor: Coastal Environmental Solutions
Task 2	Task Name**: Waste Characterization Sampling**
Collect composite waste characterization 5-point grab samples concurrently with the Remedial Investigation.	
Start Date: 3-18-2019	End Date: 3-18-2019
H&A Site Supervisor: Conlon, Mari Cate	Subcontractor: N/A
Task 3	Task Name**: Remedial Oversight**
Perform remedial oversight during implementation of the approved remedy including community air monitoring.	
Start Date: 4-2019	End Date 12-2019
H&A Site Supervisor: Conlon, Mari Cate	Subcontractor: N/A

HAZARD ASSESSMENT AND CONTROLS

The following site and task specific hazards have been identified. Associated controls have been defined and are also listed below.

Site Hazards and Controls

Site Hazard Summary		
Slips, Trips, Falls	SIMOPS	Cold Temperatures
Sun		

SUN

Hazard Information

Acute excessive exposure to solar radiation may cause painful sunburn, and chronic exposure may contribute to eye damage and skin cancer. The average peak intensity of solar ultraviolet (UV) radiation is at midday. Most of the total daily UV is received between 10 AM and 2 PM. UV radiation can reflect off of water, concrete, light colored surfaces, and snow. Cloud cover can reduce UV levels, but overexposure may still occur.
Use the shadow test to determine sun strength: If your shadow is shorter than you are, the sun´s rays are at their peak, and it is important to protect yourself.

Controls

- Wear light-colored, closely woven clothing, which covers as much of the body as practicable.
- Use sunscreens with broad spectrum protection (against both UVA and UVB rays) and sun protection factor (SPF) values of 30 or higher. Ideally, about 1 ounce of sunscreen (about a shot glass or palmful) should be used to cover the arms, legs, neck, and face of the average adult. Sunscreen needs to be reapplied at least every 2 hours to maintain protection.
- Hats should be worn and should be wide brimmed, protecting as much of the face, ears, and neck as possible. Hats should also provide ventilation around the head. Sunscreen should be applied to areas around the head not protected by the hat (ears, lips, neck, etc.).
- Wear sunglasses while working outdoors. Sunglasses should allow no more than 5% of UVA and UVB penetration and should also meet the ANSI Z87.1 standard for safety glasses.
- Use natural or artificial shade, where possible.

COLD TEMPERATURES

Hazard Information

Cold stress may occur at any time work is being performed during low ambient temperatures and high velocity winds. Because cold stress is common and potentially serious illnesses are associated with outdoor work during cold seasons, regular monitoring and other preventative measures are vital.

Staff members should consult OP1003-Cold Stress for additional information on cold weather hazards.

Cold Stress Conditions

Frostbite: Localized injury resulting from cold is included in the generic term "frostbite. There are several degrees of damage.

Symptoms: Frost nip or incident frostbite; sudden blanching or whitening of the skin.

- Superficial frostbite: Skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.
- Deep frostbite: Tissues are cold, pale, and solid; extremely serious injury.

Treatment:

- Bring the victim indoors and heat the areas quickly in water between 102° and 105° F.
  - Never place frostbitten tissue in hot water as the area will have a reduced heat awareness and such treatment could result in burns.
- Give the victim a warm drink (not coffee, tea, or alcohol).
  - The victim should not smoke or do anything that will inhibit blood circulation.
- Keep the frozen parts in warm water or covered with warm clothes for 30 minutes even though the tissue will be very painful as it thaws.
  - Elevate the injured area and protect it from injury.
  - Do not allow blisters to be broken. Use sterile, soft, dry material to cover the injured areas.
- Keep victim warm and get medical care immediately following first aid treatment.
- After thawing, the victim should try to move the injured areas slightly, but no more than can be done without assistance.

Do NOT:

- Rub the frostbitten area(s)
- Use ice, snow, gasoline, or anything cold on frostbite
- Use heat lamps or hot water bottles to rewarm the frostbitten area
- Place the frostbitten area near a hot stove

Hypothermia: Significant loss of body heat that is also a potential hazard during cold weather operations. Hypothermia is characterized as "moderate" or "severe".
Symptoms:

- Early hypothermia - Chills, pale skin, cold skin, muscle rigidity, depressed heart rate, and disorientation
- Moderate hypothermia - Any combination of severe shivering, abnormal behavior, slowing of movements, stumbling, weakness, repeated falling, inability to walk, collapse, stupor, or unconsciousness
- Severe hypothermia - Extreme skin coldness, loss of consciousness, faint pulse, and shallow, infrequent or apparently absent respiration

Death is the ultimate result of untreated hypothermia. The onset of severe shivering signals danger to personnel; exposure to cold shall be immediately terminated for any severely shivering worker.
Treatment: Staff members should seek emergency medical treatment in the event of hypothermia. The following actions can be taken prior to obtaining medical treatment:

- Gently place patients in an environment most favorable to reducing further heat loss from evaporation, radiation, conduction, or convection.
- Remove wet clothing and replace it with dry blankets or sleeping bags.
- Initiate active external rewarming with heat packs (e.g., hot water bottles, chemical packs, etc.) placed in the areas of the armpits, groin, and abdomen.
- Be aware of the risk of causing body surface burns from excessive active external rewarming.

In dire circumstances, rescuers may provide skin-to-skin contact with patients when heat packs are unavailable and such therapy would not delay evacuation.

Controls

- Recognize the environmental and workplace conditions that may be dangerous.
    - When the temperature is below 41° F, workers should be aware that cold stress is a potential hazard.
- Learn signs of cold-induced illnesses and injuries and how to help affected staff members.
    - Observe fellow staff members for signs of cold stress and administer first aid, where necessary.
- Staff members should maintain a clothing level that keeps them warm but dry (not sweating).
    - Staff should wear thermal clothing including gloves and footwear and beneath chemical resistant clothing, when appropriate.
    - Workers should have a spare set of clothing in case work clothes are not warm enough or become wet.
    - If a worker begins to sweat, he/she should remove a layer.
    - If clothing becomes wet and temperatures are below 36° F, clothing must be immediately replaced with dry clothing.
- A warm area for rest breaks should be designated.
    - In cold temperatures, rotate shifts of workers with potential cold stress exposure or take periodic breaks to allow recovery from cold stress.
    - Do not go into the field alone when cold stress could occur.
- Avoid fatigue or exhaustion because energy is needed to keep muscles warm.
- Workers should drink warm liquids (non-alcoholic, non-caffeinated) periodically throughout their shifts so they do not get dehydrated.

Simultaneous Operations (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.

It is important that SIMOPS are identified at an early stage before operations commence to understand issues such as schedule clashes, physical clashes, maintenance activities, failure impacts, interferences between vessels, contracts and third part interfaces and environmental impacts.

SIMOPS can occur when H&A projects are executed at active facilities (e.g., installing a monitoring well in a parking lot of a manufacturing plant).
Controls
• Coordinate project with site activities.
• Identify and understand the hazards associated with the host/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.

Slips and Trips
Slip and trip injuries are the most frequent injuries to workers. Statistics show that the majority of falls happen on the same level resulting from slips and trips. Both slips and trips result from some a kind of unintended or unexpected change in the contact between the feet and the ground or walking surface. This shows that 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 river bed maybe slick and may not be visible. Rocks, gradient changes, sandy bottoms, and debris may be present but not observable.
Controls
• 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 – remove hazards as appropriate

Task Specific Hazards

TASK 1

Task 1 – Remedial Investigation – Drilling, such as associated with installation of soil borings, temporary wells and soil vapor probes, is conducted for a range of services. 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 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.

Potential Hazards			
Overhead Utilities	Ground Disturbance	Underground Utilities	Noise
Line of Fire	Generated Waste	Ergonomics	Heavy Equipment

TASK 2

Task 2 – Waste Characterization Sampling – Waste characterization sampling may require working in close proximity to heavy equipment and may be exposed to many of the same hazards as the 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.

Potential Hazards			
Noise	Ground Disturbance	Ergonomics	Heavy Equipment
Line of Fire	Generated Waste		

TASK 3

Task 3 – Remedial Oversight –Remedial oversight may require working in close proximity to heavy equipment and may be exposed to many of the same hazards as the 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.

Potential Hazards			
Noise	Heavy Equipment	Ergonomics	Line of Fire

Top Task Specific Hazards

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	20/6.1
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.

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 OPS1020 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.

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 SSO, 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 the 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.

Noise

Working around heavy equipment (drill rigs, excavators, etc.) often creates excessive noise. The effects of noise can 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 work locations within 25 feet of operating heavy equipment (e.g., drill rigs, earthworking equipment) can 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.

Heavy Equipment

Staff members must be careful and alert when working around heavy equipment, since 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 the likelihood of worker injury. Equipment of this nature should be visually inspected and checked for proper working order prior to the commencement of field work. Those that operate heavy equipment must meet all of the requirements to operate heavy equipment. Haley & Aldrich, Inc. staff members that supervise projects or are associated with such 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., the operator places the bucket on the ground).
- Maintain visual contact with operators at all times 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 each piece of equipment and never go beneath a hoisted load.
- Avoid fumes created by heavy equipment exhaust.
- Understand the site traffic pattern and position yourself accordingly.

Line of Fire

Line of fire refers to the path an object will travel. Examples of line of fire typically observed on project sites include lifting/hoisting, lines under tension, objects that can fall or roll, pressurized objects, springs or stored energy, work overhead, and vehicles and heavy equipment.

Controls

The following precautions should be observed for work overhead:

- Never walk under a suspended load.
- Communicate to other workers when entering a lifting/hoisting zone, even if for a short period.
- Balance the load prior to lifting.

- Rigging equipment shall never be loaded in excess of its maximum safe loading limit.
- Establish a drop zone, an area below any work being performed aloft. Drop zone size depends on work scope and potential for falling tools and equipment. Keep the drop zone clear of people.
- If work at the structure base is unavoidable, inform the worker above. Make sure work stops and they secure tools and equipment prior to performing the work below.
- Materials should never be dropped from height. Use tool bags and hand lines when providing tools and equipment to the employee aloft

The following precautions should be observed for tension and pressure:

- Be aware and stay clear of tensioned lines such as cable, chain and rope.
- Use only correct gripping devices. Select proper equipment based on size and load limit.
- 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 come in a variety of shapes and sizes, and can release tremendous energy if compression as tension is suddenly released.
- Ensure tanks are stored upright and are in good condition, and be aware of potential failures or pressurized lines and fittings
- Items under tension and pressure can release tremendous energy if it is suddenly released.

The following precautions should be observed for objects that can fall or roll:

- 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 well clear of soil cuttings, soil stockpiles generated during drilling operations and excavations, be aware that chunks of dirt, rocks, and debris can fall or roll.
- Establish a drop zone that is free of any tools and/or debris.

The following precautions should be observed for working in proximity to vehicles and heavy equipment:

- Use parking brakes and wheel chocks for any vehicle or equipment parked on an incline.
- When working near moving, heavy equipment such as line trucks and cranes, remain in operator's full view. Obtain operator's attention prior to approaching equipment.
- Vacate the back of the bucket truck when the boom is being moved or cradled. Get the operator's attention if you must get into the back of the truck so he or she can stop boom movement.

Take precautions for all pedestrian and vehicle traffic when positioning vehicles and equipment at a job site.

Posture/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 are 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.

Controls

Recommended controls, including Administrative, Work Practice, and/or Engineering Controls, will be put in place based on the interview results and/or after an ergonomic assessment. H&S and/or HP will work with staff members and their staff managers to implement Administrative and Work Practice Controls to control risk associated with ergonomic stressors. In addition, simple Engineering Controls may be implemented, such as use of a keyboard and/or mouse tray, replacing a mouse with a more ergonomic model, and/or changing workstation set up.

Generated Waste

Excess sample solids, decontamination materials, rags, brushes, poly sheeting, etc. that are determined to be free of contamination through field or laboratory screening can usually be disposed into client-approved, on-site trash receptacles. Uncontaminated wash water may be discarded onto the ground surface away from surface water bodies in areas where infiltration can occur. Contaminated materials must be segregated into liquids or solids and drummed separately for off-site disposal.

All wastes generated shall be containerized in an appropriate container (i.e. open or closed top 55-gallon drum, roll-off container, poly tote, cardboard box, etc.) as directed by the PM. Prior to putting waste containers into service, the containers should be inspected for damages or defects. Waste containers should be appropriately labeled indicating the contents, date the container was filled, owner of the material (including address) and any unique identification number, if necessary. Upon completion of filling the waste container, the container should be inspected for leaks and an appropriate seal.

Slippery Surfaces

Both slips and trips result from some a kind of unintended or unexpected change in the contact between the feet and the ground or walking surface. This shows that good housekeeping, quality of walking surfaces (flooring), 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 the walking surface. Common causes of slips are:

- wet or oily surfaces
- occasional spills
- weather hazards
- loose, unanchored rugs or mats
- 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 leaves or mud can create treacherous walking conditions. Spills and leaks inside can also lead to slips and falls.

- 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 Area

- Provide barricades, fencing, warning signs or 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 wear high visibility clothing at all times.
- 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.

TASK PPE AND SAFETY EQUIPMENT

The personal protective equipment and safety equipment (if listed) is specific to the associated task. The required PPE and equipment listed must be on site during the task being performed. Work shall not commence unless the required PPE is present.

The purpose of PPE is to provide a barrier, which will shield or isolate staff members from the physical, biological, chemical, and/or radiological hazards that may be encountered during task activities.

Required PPE	TASK 1, 2 and 3
Hard hat	**X**
Safety glasses	**X**
Hard-toed Boots	**X**
Gloves	**X**
Long pants and 4" long sleeve shirt	**X**
Safety vest (Class 2)	**X**
Hearing Protection	**X**

TRAINING REQUIREMENTS

The table below lists the training requirements staff must have respective to their assigned tasks and that required to access the site.

Task Specific Training	
Required Training: OSHA 40-hour HAZWOPER, On Site training	**TASK 1**
	Remedial Investigation
	TASK 2
	Waste Characterization Sampling
Required Training: OSHA 40-hour HAZWOPER, OSHA 10-hr Construction Safety, On Site training	**Task 3**
	Remedial Oversight

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 H&A site personnel will communicate with other H&A staff member and/or subcontractors or contractors with: • Face-to-Face Communication • Cell Phones
External H&S site personnel will use the following means to communicate with off-site personnel or emergency services. • Cell Phones

SPILL CONTAINMENT

An evaluation was conducted to determine the potential for hazardous substance spills at this site. This evaluation indicates that there is no potential for a hazardous spill of sufficient size to require containment planning, equipment, and procedures.

EMERGENCY RESPONSE PLAN

Medical

If there is an injury or illness associated with an H&A staff member on the job-site stop work, stabilize the situation and secure the site. Assess the severity of the injury or illness to determine the appropriate course of action as listed below.

First Aid Injury

First aid will be addressed using the on-site first aid kit. H&A employees are not required or expected to administer first aid/CPR to any H&A staff member, Contractor, or Civilian personnel at any time and it is H&A´s position that those who do are doing it do so on their behalf and not as a function of their job.

- Injury or illness requiring clinic/hospital visit **WITHOUT** ambulance service

  Injuries or illnesses requiring hospital service without ambulance services include minor lacerations, minor sprains, etc. The following action will be taken:

  - The H&A SHSO will ensure prompt transportation of the injured person to the clinic or hospital identified in the safety plan.
  - Another H&A staff member, or contractor on-site, will always drive the injured staff member to the medical facility and remain at the facility until the staff member has been discharged. Staff members will not self-transport to the clinic or hospital.
  - If the injured staff member is able to return to the job site the same day, he/she will bring with him/her a statement from the doctor containing such information as:

- Date
- Employee´s name
- Diagnosis
- Date he/she is able to return to work, regular or light duty

- Date he/she is to return to doctor for follow-up appointment, if necessary
- Signature and address of doctor

- Injury or illness requiring a hospital visit **WITH** ambulance service

Injuries or illnesses requiring hospital service with ambulance services include severe head injuries, severe lacerations, heart attacks, heat stroke, etc. The following steps will be taken immediately:

- Call for ambulance service and notify the H&A SHSO.
- Comfort the individual until ambulance service arrives.
- While the injured employee is being transported, the H&A SHSO will contact the medical facility to be utilized.
- One designated representative will accompany the injured employee to the medical facility and remain at the facility until final diagnosis and other relevant information is obtained.

Notifications

For all injuries or illness notify the SHSO and PM who in turn will contact Corporate H&S. Within 24 hours the injured staff member or PM will complete the H&S Reporting Form found on HANK. Minor cuts, scratches, and bruises shall also be reported through the H&S Reporting Form. Notify the client in accordance with their notification protocol. Depending on severity, Human Potential will as promptly as possible following an injury or illness, ensure appropriate notification has been made to the family of the individual involved.

Severe Weather

Where the threat of electrical storms and the hazard of lightning exist, staff shall ensure that there is the ability to detect when lightning is in the near vicinity and when there is a potential for lightning and to notify appropriate site personnel of these conditions. The weather forecast will be checked on a daily basis and communicated at the daily safety tailgate meetings.

When lightning is detected or observed the information will be communicated to all crews in the field for appropriate action. Field supervisors will make the decision to stay put or to leave the work site. A location will be identified to marshal field staff in the event that staff are required to leave the job site. A similar decision process will be used during heavy rain events.

Staff shall seek appropriate shelter and not stay in the open

Evacuation Alarms

Verbal Communication will be used to communicate the evacuation alarm.

Emergency Services

Cellular phone will be used to contact Emergency Services.

Emergency Evacuation Plan

The site evacuation plan is as follows:

1. Establish a designated meeting area to conduct a head count in the event of an emergency evacuation.
2. If the work area is not near an emergency exit, exit via the closest route and meet at the designated meeting area.
3. Notify emergency response personnel (fire, police and ambulance) of the number of missing or unaccounted for employees and their suspected location.
4. Administer first aid will in the meeting area as necessary.

Under no circumstances should any personnel re-enter the site area without the approval of the corporate H&S manager, the H&S coordinator, and the fire department official in charge.

ROLES AND RESPONSIBILITIES

REGIONAL HEALTH AND SAFETY MANAGER (RHSM)

The Haley & Aldrich RHSM, Brian Ferguson, 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 RHSM.

Specific duties of the RHSM 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, Mari Cate Conlon, 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 RHSM with updated information regarding environmental conditions at the site and the scope of site work;
- Providing adequate authority and resources to the on-site SSO to allow for the successful implementation of all necessary safety procedures;
- Supporting the decisions made by the SHSO;
- Maintaining regular communications with the SSO and, if necessary, the RHSM;
- 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

The SHSO, Mari Cate Conlon, is responsible for field implementation of this HASP and enforcement of safety rules and regulations. SHSO functions may include some or all:

- Act as H&A´s liaison for health and safety issues with client, staff, subcontractors, and agencies.
- Verify that utility clearance has been performed by H&A subcontractors.
- Oversee day-to-day implementation of the Safety Plan by H&A 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 H&A safety equipment, including calibration of air monitoring instrumentation used by H&A.

- Perform changes to HASP and document as needed and notify appropriate persons of changes.
- Investigate and report on-site accidents and incidents involving H&A 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 H&A PM and Regional Health and Safety Manager (RHSM) as needed.

The SHSO will conduct initial site safety orientations with site personnel (including subcontractors) and conduct toolbox and safety meetings thereafter with H&A employees and H&A subcontractors at regular intervals and in accordance with H&A policy and contractual obligations. The SHSO will track the attendance of site personnel at H&A 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

Subcontractor Site Representative

Each ***contractor and subcontractor*** shall designate a ***Contractor Site Representative***. The Contractor Site Representative will interface directly with 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 contractors/subcontractors safety documentation will be at least as stringent as the health and safety requirements of the Haley & Aldrich Project specific Health & Safety Plan.

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.

APPENDICES

Appendix A - Task Hazards Summary (***Task summaries are included only if there is more than one task)***

Task 1

Appendix B – Permits and Forms

Appendix C – HASP Acknowledgement Form

HEALTH & SAFETY PLAN ACKNOWLEDGEMENT FORM

Note: Only H&A employees sign this page.

I hereby acknowledge receipt and briefing on this Health & Safety Plan prior to the start of on-site work and declare that I understand and agree to follow the provisions and procedures set forth herein while working on this site.

PRINTED NAME	SIGNATURE	DATE
____________________	____________________	________________
____________________	____________________	________________
____________________	____________________	________________
____________________	____________________	________________
____________________	____________________	________________
____________________	____________________	________________
____________________	____________________	________________
____________________	____________________	________________
____________________	____________________	________________

APPENDIX B

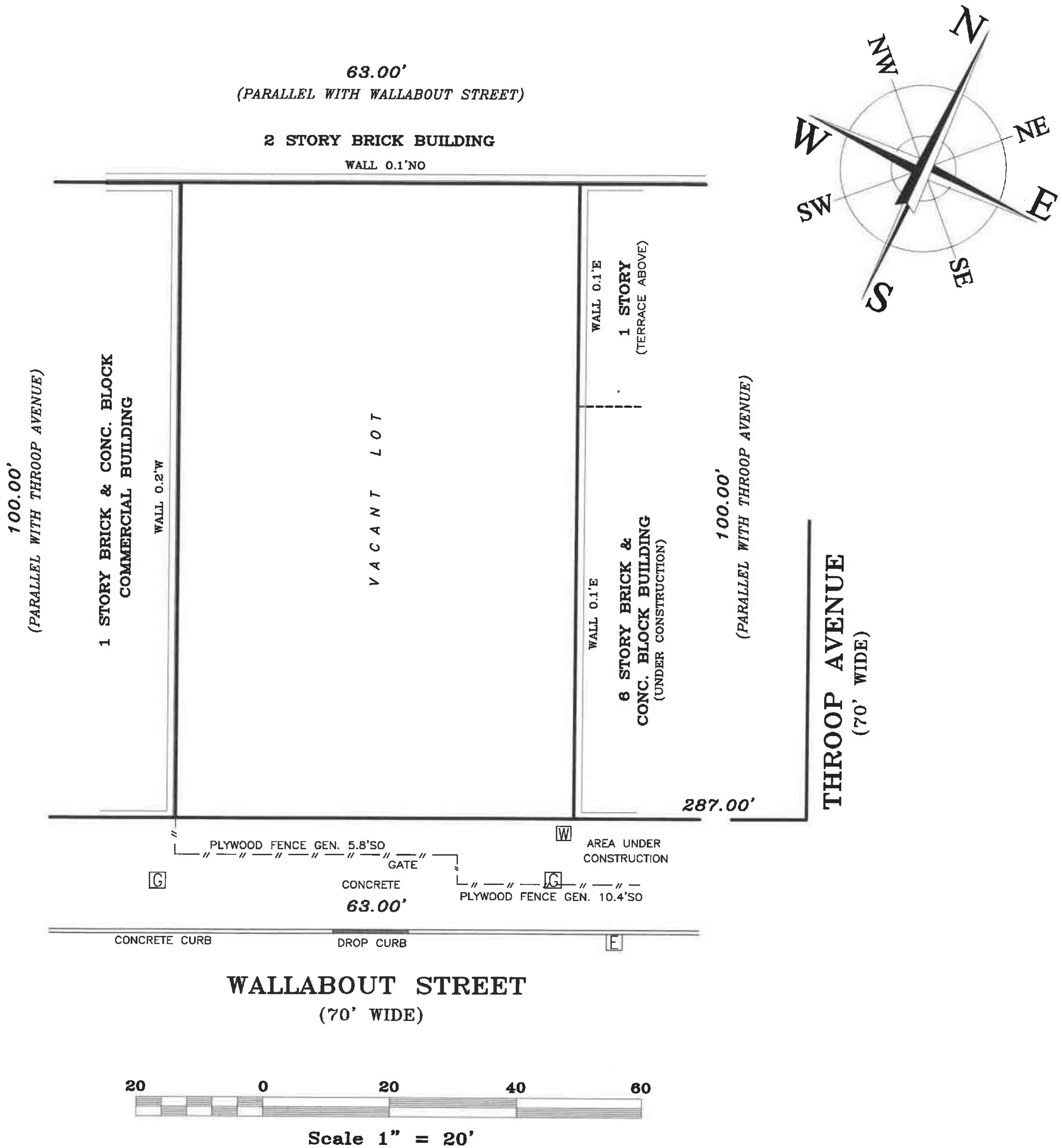
Daily Reports

DAILY FIELD REPORT

Project	**297 Wallabout Street Remedial Investigation**	**Report No.**	1
Location	**297 Wallabout Street, Brooklyn, New York**	**Date**	**6/11/2020**
Client	**Rock Brokerage**	**Page**	**1** of 1
Contractor	**Coastal Environmental Solutions**	**File No.**	**133156-005**
Weather	**Partly sunny with scattered showers**	**Temperature**	**70-75° F**

0650 M. Conlon and Z. Simmel of Haley & Aldrich arrive on site
0700 T. Fitzpatrick of Coastal Environmental Solutions arrives on site
0715 Site walk, health and safety meeting and COVID-19 Self Declaration discussion
0730 Set up air monitoring equipment down wind of work area
0745 Mobilize drill rig (Geoprobe 7822DT) onto the site
0815 Mobilize to soil boring B-5 and begin soil boring installation, logging and sample collection
0950 Complete installation of 8 soil borings on site and mobilize equipment for soil vapor probe installation
1030 Complete installation of six soil vapor probes to 7 ft bgs on site (to be sampled following day) and mobilize equipment for permanent monitoring well installation
1040 Begin installation of permanent monitoring well MW-5
1055 Refusal encountered at 5 ft bgs, boring offset for second attempt
1110 Refusal encountered at 5 ft bgs, move to different location and will revisit MW-5 the following day
1120 Begin installation of permanent monitoring well MW-3
1205 Complete installation of permanent monitoring well MW-3 to 15 ft bgs
1225 Begin well development at MW-3
1230 Begin installation of permanent monitoring well MW-2
1300 Complete well development at MW-3, total of 5 gallons purged
1305 Complete installation of permanent monitoring well MW-2 to 15 ft bgs
1310 Begin well development at MW-2
1340 Complete well development at MW-2, total of 8 gallons purged
1350 T. Fitzpatrick off site
1400 Samples relinquished to laboratory courier
1410 Site preparation for following day and take down air monitoring equipment
1430 All of site

Field Representative(s)	**Time on site**	**Report/Travel/Other**	**Total hours**
M Conlon	7.5	1	8.5
Z Simmel	7.5	1	8.5



NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

SITE FEATURES

SEPTEMBER 2019

FIGURE 2

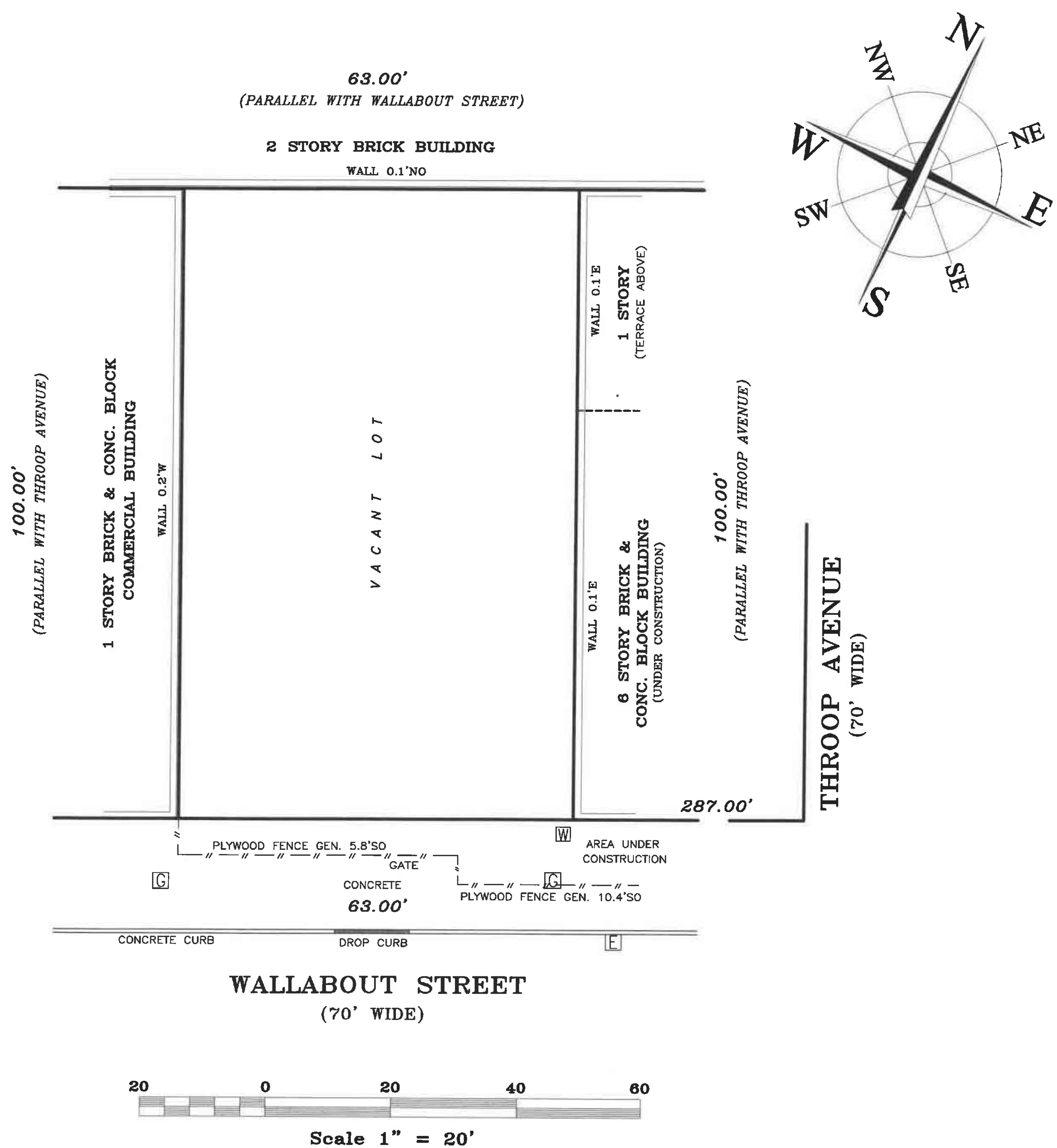
FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\005 - 297 Wallabout\Deliverables\RIR\Figures

DAILY FIELD REPORT

Project	297 Wallabout Street Remedial Investigation	Report No.	2
Location	297 Wallabout Street, Brooklyn, New York	Date	6/12/2020
Client	Rock Brokerage	Page	1 of 1
Contractor	Coastal Environmental Solutions	File No.	133156-005
Weather	Sunny	Temperature	80-85° F

0650 M. Conlon and Z. Simmel of Haley & Aldrich arrive on site, set up air monitoring equipment downwind of work area
0700 T. Fitzpatrick of Coastal Environmental Solutions arrives on site, health and safety meeting and COVID-19 Self Declaration discussion
0715 Mobilize drill rig (Geoprobe 7822DT) to permanent monitoring well MW-1 and begin installation
0720 Mobilize equipment to begin low flow groundwater sampling
0740 Mobilize equipment to begin tracer gas confirmation testing of soil vapor probe seals
0800 Begin soil vapor sampling
0810 M. Morgenstern of Coastal Environmental Solutions on site, health and safety and COVID-19 Self Declaration discussion
0815 Complete installation of permanent monitoring well MW-1 to 15 ft bgs
0835 Begin installation of permanent monitoring well MW-4
0900 Begin well development at MW-1
0915 Continue low flow groundwater sampling and soil vapor sample collection
0930 Complete installation of permanent monitoring well MW-4 to 15 ft bgs
0935 Complete well development at MW-1, total of 15 gallons purged
0940 Attempt to install permanent monitoring well MW-5
0950 Begin well development at MW-4
1000 Refusal encountered at MW-5 at 5.5 ft bgs, boring offset for second attempt
1015 Refusal encountered at MW-5 at 5 ft bgs, due to field conditions a decision was made to adjust the proposed location of MW-5 from the southeast corner of the site to the vicinity of soil boring B-5
1020 Mobilize to newly proposed location of MW-5 and begin installation
1025 Complete well development at MW-4, total of 12 gallons purged
1105 Complete soil vapor sampling
1120 Complete installation of permanent monitoring well MW-5 to 15 ft bgs
1140 Begin well development at MW-5
1210 Complete well development at MW-5, total of 10 gallons purged
1230 Continue low flow groundwater sampling
1240 Drum purge water and soil cuttings
1300 Coastal Environmental Solutions offsite
1330 Sample paper work preparation
1440 Complete low flow groundwater sampling
1505 Samples relinquished to laboratory courier
1515 Take down air monitoring equipment, drum purge water, cleanup and secure site
1530 All offsite

Field Representative(s)	Time on site	Report/Travel/Other	Total hours
M Conlon	8.5	1	9.5
Z Simmel	8.5	1	9.5



NOTES

1. ALL LOCATIONS ARE APPROXIMATE.
2. IMAGERY FROM MAPY OF SURVEY BY LEONARD J. STRANDBERG AND ASSOCIATES, MARCH 2018

HALEY ALDRICH

297 WALLABOUT STREET
BROOKLYN, NEW YORK

SITE FEATURES

SEPTEMBER 2019

FIGURE 2

FILE PATH: \\haleyaldrich.com\share\CF\Projects\133156\005 - 297 Wallabout\Deliverables\RIR\Figures

APPENDIX C

Well Construction Diagram

HALEY ALDRICH

OBSERVATION WELL INSTALLATION REPORT

Well No.

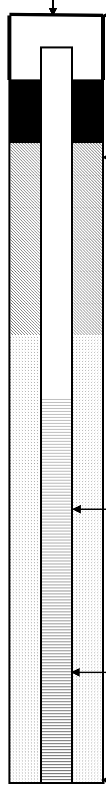
Boring No.

PROJECT	297 Wallabout Street Environmental Services	**H&A FILE NO.**	133156-005
LOCATION	8 Walworth Street, Brooklyn, NY	**PROJECT MGR.**	Mari Conlon
CLIENT	Rock Brokerage	**FIELD REP.**	Zach Simmel
CONTRACTOR	N/A	**DATE INSTALLED**	6/11/2020-
DRILLER	Coastal Environmental Solutions Inc.		6/12/2020

SOIL/ROCK CONDITIONS	BOREHOLE BACKFILL

(Bottom of Exploration)
(Numbers refer to depth from ground surface in feet)

Type of protective cover/lock (circle one): Manhole Cover



Ground Surface

Grout
Bentonite Seal
#00 Morie or Equivalent

Type of protective casing: Steel Guard Pipe
Inside Diameter 12.0 **in**

Type of screen Machine Slotted PVC
Screen gauge or size of openings 0.010 **in**
Diameter of screen 2.0 **in**
Top of Screen 5.0 **ft**

Type of backfill around screen #00 Morie or Equivalent (to 2 ft above screen)

Type of riser pipe: Schedule 40 PVC
Inside diameter of riser pipe 2.0 **in**

Depth of bottom of well screen 15.0 **ft**

(Not to Scale)

COMMENTS:

Form 2007

APPENDIX D

Well Development Logs

WELL DEVELOPMENT LOG

HALEY ALDRICH

Well No. MW-1

Comments

PROJECT	297 Wallabout Street Environmental Services	**DEVELOPMENT DATE**	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	**DEVELOPMENT START**	900
CLIENT	Rock Brokerage	**DEVELOPMENT END**	930
H&A FILE NO.	133156-005	**WELL DEPTH (FT)**	15
PROJECT MANAGER	Mari Conlon	**STATIC WATER LEVEL (FT)**	8.5
FIELD REP.	Zach Simmel	**WATER COLUMN HEIGHT (FT)**	6.5
DATE INSTALLED	6/12/2020	**WELL VOLUME (GAL)**	1.060
DRILLER	Coastal Environmental Solutions, Inc.	**TOTAL VOLUME PURGED (GAL)**	15

Time	Time Elapsed (min)	Volume (gal)	Color	Comments
9:00	0	2.0	Turbid	
9:05	5	4.0	Turbid	
9:10	10	6.0	Cloudy	
9:15	15	8.0	Slightly Cloudy	
9:20	20	10.0	Slightly Cloudy	
9:25	25	12.0	Slightly Cloudy	
9:30	30	13.5	Clear	
9:35	35	15.0	Clear	Turbidity <50 NTU

WELL DEVELOPMENT LOG

HALEY ALDRICH

Well No. MW-2

Comments

PROJECT	297 Wallabout Street Environmental Services	**DEVELOPMENT DATE**	6/11/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	**DEVELOPMENT START**	1310
CLIENT	Rock Brokerage	**DEVELOPMENT END**	1340
H&A FILE NO.	133156-005	**WELL DEPTH (FT)**	15
PROJECT MANAGER	Mari Conlon	**STATIC WATER LEVEL (FT)**	8.8
FIELD REP.	Zach Simmel	**WATER COLUMN HEIGHT (FT)**	6.2
DATE INSTALLED	6/11/2020	**WELL VOLUME (GAL)**	1.011
DRILLER	Coastal Environmental Solutions, Inc.	**TOTAL VOLUME PURGED (GAL)**	8

Time	Time Elapsed (min)	Volume (gal)	Color	Comments
13:10	0	1.2	Turbid	
13:15	5	2.4	Cloudy	
13:20	10	3.6	Cloudy	
13:25	15	4.8	Slightly Cloudy	
13:30	20	6.0	Clear	
13:35	25	7.2	Clear	
13:40	30	8.0	Clear	Turbidity <50 NTU

WELL DEVELOPMENT LOG

HALEY ALDRICH

Well No. MW-3

Comments

PROJECT	297 Wallabout Street Environmental Services	**DEVELOPMENT DATE**	6/11/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	**DEVELOPMENT START**	1220
CLIENT	Rock Brokerage	**DEVELOPMENT END**	1300
H&A FILE NO.	133156-005	**WELL DEPTH (FT)**	15
PROJECT MANAGER	Mari Conlon	**STATIC WATER LEVEL (FT)**	9.3
FIELD REP.	Zach Simmel	**WATER COLUMN HEIGHT (FT)**	5.7
DATE INSTALLED	6/11/2020	**WELL VOLUME (GAL)**	0.929
DRILLER	Coastal Environmental Solutions, Inc.	**TOTAL VOLUME PURGED (GAL)**	5

Time	Time Elapsed (min)	Volume (gal)	Color	Comments
12:25	0	0.60	Turbid	
12:30	5	1.2	Turbid	
12:35	10	1.8	Cloudy	
12:40	15	2.4	Slightly Cloudy	
12:45	20	3.0	Slightly Cloudy	
12:50	25	3.6	Clear	
12:55	30	4.2	Clear	
13:00	35	5.0	Clear	Turbidity <50 NTU

WELL DEVELOPMENT LOG

HALEY ALDRICH

Well No.	MW-4
Comments	

PROJECT	297 Wallabout Street Environmental Services	DEVELOPMENT DATE	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	DEVELOPMENT START	950
CLIENT	Rock Brokerage	DEVELOPMENT END	1025
H&A FILE NO.	133156-005	WELL DEPTH (FT)	15
PROJECT MANAGER	Mari Conlon	STATIC WATER LEVEL (FT)	8.6
FIELD REP.	Zach Simmel	WATER COLUMN HEIGHT (FT)	6.4
DATE INSTALLED	6/12/2020	WELL VOLUME (GAL)	1.043
DRILLER	Coastal Environmental Solutions, Inc.	TOTAL VOLUME PURGED (GAL)	12

Time	Time Elapsed (min)	Volume (gal)	Color	Comments
9:50	0	1.5	Turbid	
9:55	5	3.0	Cloudy	
10:00	10	4.5	Cloudy	
10:05	15	6.0	Cloudy	
10:10	20	7.5	Slightly Cloudy	
10:15	25	9.0	Slightly Cloudy	
10:20	30	10.5	Clear	
10:25	35	12.0	Clear	Turbidity <50 NTU

WELL DEVELOPMENT LOG

HALEY ALDRICH

Well No. MW-5

Comments

PROJECT	297 Wallabout Street Environmental Services	**DEVELOPMENT DATE**	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	**DEVELOPMENT START**	1140
CLIENT	Rock Brokerage	**DEVELOPMENT END**	1210
H&A FILE NO.	133156-005	**WELL DEPTH (FT)**	15
PROJECT MANAGER	Mari Conlon	**STATIC WATER LEVEL (FT)**	8.3
FIELD REP.	Zach Simmel	**WATER COLUMN HEIGHT (FT)**	6.7
DATE INSTALLED	6/12/2020	**WELL VOLUME (GAL)**	1.092
DRILLER	Coastal Environmental Solutions, Inc.	**TOTAL VOLUME PURGED (GAL)**	10

Time	Time Elapsed (min)	Volume (gal)	Color	Comments
11:40	0	1.5	Turbid	
11:45	5	3.0	Cloudy	
11:50	10	4.5	Cloudy	
11:55	15	6.0	Cloudy	
12:00	20	7.5	Slightly Cloudy	
12:05	25	9.0	Clear	
12:10	30	10.0	Clear	Turbidity <50 NTU

APPENDIX E

Groundwater Sampling Logs

HALEY ALDRICH

LOW FLOW SAMPLING PURGE LOG

Well No. MW-1

Comments

PROJECT	297 Wallabout Street Environmental Services	**DATE SAMPLED:**	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	**START TIME:**	1034
CLIENT	Rock Brokerage	**SAMPLE TIME:**	1131
H&A FILE NO.	133156-005	**PUMP:**	Peristaltic
PROJECT MANAGER	Mari Conlon	**WELL DEPTH (FT)**	15
FIELD REP.	Zach Simmel	**STATIC WATER LEVEL (FT)**	8.45
DATE INSTALLED	6/12/2020	**WATER COLUMN HEIGHT (FT)**	6.55
DRILLER	Coastal Environmental Solutions, Inc.	**WELL VOLUME (GAL)**	1.068

Time (24 Hr)	Depth to Water (ft)	Purge Rate (mL/min)	Cumulative Purge Volumge (gal)	Temperature (degrees Celsius)	pH	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Comments
1045	8.50	300	0.4	15.83	7.07	1.40	1.77	729	110	Cloudy
1050	8.50	300	0.8	15.57	6.72	1.40	1.20	451	104	Cloudy
1055	8.51	300	1.2	15.38	6.62	1.41	0.91	224	95	Slightly Cloudy
1100	8.51	300	1.6	15.41	6.58	1.42	0.72	140	88	Clear
1105	8.51	300	2	15.50	6.58	1.42	0.58	84.7	79	Clear
1110	8.51	300	2.4	15.50	6.58	1.42	0.47	52.8	74	Clear
1115	8.51	300	2.8	15.61	6.60	1.42	0.66	40.7	70	Clear
1120	8.52	300	3.2	15.65	6.61	1.43	0.47	30.4	63	Clear
1125	8.52	300	3.6	15.73	6.62	1.42	0.37	23.7	62	Clear
1130	8.52	300	4	15.84	6.63	1.42	0.35	14.6	59	Clear

LOW FLOW SAMPLING PURGE LOG

Well No. MW-2

Comments

PROJECT	297 Wallabout Street Environmental Services	DATE SAMPLED:	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	START TIME:	0855
CLIENT	Rock Brokerage	SAMPLE TIME:	0943
H&A FILE NO.	133156-005	PUMP:	Peristaltic
PROJECT MANAGER	Mari Conlon	WELL DEPTH (FT)	15
FIELD REP.	Zach Simmel	STATIC WATER LEVEL (FT)	8.76
DATE INSTALLED	6/11/2020	WATER COLUMN HEIGHT (FT)	6.24
DRILLER	Coastal Environmental Solutions, Inc.	WELL VOLUME (GAL)	1.017

Time (24 Hr)	Depth to Water (ft)	Purge Rate (mL/min)	Cumulative Purge Volumge (gal)	Temperature (degrees Celsius)	pH	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Comments
0856	8.85	340	0.46	15.25	6.97	1.76	6.87	263	114	Slightly Cloudy
0901	8.85	340	0.92	14.85	6.74	1.79	3.86	238	123	Slightly Cloudy
0906	8.82	340	1.38	14.71	6.64	1.77	3.45	72.9	130	Clear
0911	8.86	340	1.84	14.71	6.18	1.78	3.17	35.1	133	Clear
0916	8.88	340	2.3	14.79	6.60	1.78	3.19	25.3	133	Clear
0921	8.89	340	2.76	14.88	6.63	1.78	3.15	21.7	132	Clear
0926	8.89	340	3.22	14.88	6.63	1.77	2.86	29.4	131	Clear
0931	8.89	340	3.68	14.87	6.65	1.78	2.94	27.3	131	Clear
0936	8.92	340	4.14	14.86	6.67	1.79	2.56	25.1	128	Clear
0941	8.92	340	4.6	14.93	6.69	1.79	2.44	22.1	126	Clear

LOW FLOW SAMPLING PURGE LOG

HALEY ALDRICH

Well No.	MW-3
Comments	

PROJECT	297 Wallabout Street Environmental Services	DATE SAMPLED:	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	START TIME:	0720
CLIENT	Rock Brokerage	SAMPLE TIME:	0822
H&A FILE NO.	133156-005	PUMP:	Peristaltic
PROJECT MANAGER	Mari Conlon	WELL DEPTH (FT)	15
FIELD REP.	Zach Simmel	STATIC WATER LEVEL (FT)	9.35
DATE INSTALLED	6/11/2020	WATER COLUMN HEIGHT (FT)	5.65
DRILLER	Coastal Environmental Solutions, Inc.	WELL VOLUME (GAL)	0.921

Time (24 Hr)	Depth to Water (ft)	Purge Rate (mL/min)	Cumulative Purge Volumge (gal)	Temperature (degrees Celsius)	pH	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Comments
0738	9.35	260	0.35	20.37	6.73	1.54	3.44	320	142	Slightly Cloudy
0743	9.40	300	0.75	18.36	6.71	1.60	3.05	77.1	136	Slightly Cloudy
0748	9.40	300	1.15	17.32	6.67	1.63	2.84	61	132	Clear
0752	9.41	300	1.55	17.03	6.61	1.62	2.53	29.2	125	Clear
0758	9.41	300	1.95	16.85	6.54	1.62	2.21	24.1	118	Clear
0803	9.41	300	2.35	16.69	6.48	1.60	2.00	18.8	110	Clear
0808	9.41	300	2.75	16.62	6.43	1.59	1.78	6.7	103	Clear
0813	9.41	300	3.15	16.48	6.38	1.57	1.51	11.4	96	Clear
0818	9.41	300	3.55	16.43	6.37	1.55	1.34	9.6	90	Clear

LOW FLOW SAMPLING PURGE LOG

HALEY ALDRICH

Well No. MW-4

Comments

PROJECT	297 Wallabout Street Environmental Services	**DATE SAMPLED:**	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	**START TIME:**	1205
CLIENT	Rock Brokerage	**SAMPLE TIME:**	1316
H&A FILE NO.	133156-005	**PUMP:**	Peristaltic
PROJECT MANAGER	Mari Conlon	**WELL DEPTH (FT)**	15
FIELD REP.	Zach Simmel	**STATIC WATER LEVEL (FT)**	8.57
DATE INSTALLED	6/12/2020	**WATER COLUMN HEIGHT (FT)**	6.43
DRILLER	Coastal Environmental Solutions, Inc.	**WELL VOLUME (GAL)**	1.048

Time (24 Hr)	Depth to Water (ft)	Purge Rate (mL/min)	Cumulative Purge Volumge (gal)	Temperature (degrees Celsius)	pH	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Comments
1211	8.59	300	0.4	28.06	7.06	0.800	3.48	257	89	Cloudy
1216	8.60	300	0.8	24.26	6.96	0.892	2.38	611	91	Cloudy
1221	8.61	300	1.2	21.32	6.91	0.943	2.65	203	91	Slightly Cloudy
1226	8.66	300	1.6	22.95	6.90	0.904	2.20	146	91	Slightly Cloudy
1231	8.61	300	2	23.06	6.88	0.883	2.11	123	90	Clear
1236	8.61	300	2.4	22.36	6.84	0.873	2.06	90.1	86	Clear
1241	PUMP MALFUNCTION - TROUBLESHOOTING									
1246										
1251	8.60	300	2.8	23.70	6.90	0.859	1.88	682	93	Slightly Cloudy
1256	8.61	300	3.2	24.02	6.80	0.828	2.16	417	93	Clear
1301	8.61	300	3.6	29.92	6.78	0.824	2.18	219	92	Clear
1306	8.61	300	4.0	23.71	6.77	0.830	1.45	152	94	Clear
1311	8.61	300	4.4	24.04	6.76	0.829	1.41	147	92	Clear
1316	8.61	300	4.8	24.03	6.76	0.825	1.39	148	91	Clear

LOW FLOW SAMPLING PURGE LOG

HALEY ALDRICH

Well No. MW-5

Comments

PROJECT	297 Wallabout Street Environmental Services	**DATE SAMPLED:**	6/12/2020
LOCATION	297 Wallabout Street, Brooklyn, NY	**START TIME:**	1332
CLIENT	Rock Brokerage	**SAMPLE TIME:**	1425
H&A FILE NO.	133156-005	**PUMP:**	Peristaltic
PROJECT MANAGER	Mari Conlon	**WELL DEPTH (FT)**	15
FIELD REP.	Zach Simmel	**STATIC WATER LEVEL (FT)**	8.26
DATE INSTALLED	6/12/2020	**WATER COLUMN HEIGHT (FT)**	6.74
DRILLER	Coastal Environmental Solutions, Inc.	**WELL VOLUME (GAL)**	1.099

Time (24 Hr)	Depth to Water (ft)	Purge Rate (mL/min)	Cumulative Purge Volumge (gal)	Temperature (degrees Celsius)	pH	Conductivity (µs/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mv)	Comments
1338	8.35	400	0.525	30.04	7.57	1.18	0.40	789	73	Cloudy
1343	8.34	400	1.05	23.77	7.52	1.38	2.31	347	-38	Slightly Cloudy
1348	8.34	400	1.575	22.15	7.48	1.38	1.89	331	-59	Slightly Cloudy
1353	8.34	400	2.1	21.48	7.40	1.43	1.47	130	-73	Clear
1358	8.34	400	2.625	21.15	7.31	1.43	1.12	150	-78	Clear
1403	8.33	400	3.15	20.89	7.23	1.43	0.87	118	-79	Clear
1408	8.33	400	3.675	20.73	7.17	1.43	0.70	93.0	-80	Clear
1413	8.33	400	4.2	20.56	7.10	1.42	0.51	59.0	-79	Clear
1418	8.33	400	4.725	20.49	7.06	1.42	0.41	31.6	-79	Clear
1423	8.34	400	5.25	20.41	7.03	1.42	0.35	21.8	-79	Clear

APPENDIX F

Soil Vapor Sampling Log

Appendix F. Soil Vapor Sampling Log

Site: 297 Wallabout Street
Date: 12-Jun-20
Personnel: Z Simmel
Weather: 80-85 °F, Sunny
Humidity: 66%
Atmospheric Pressure: 30.10 "Hg

Sample ID	Canister ID	Canisert Size	Flow Controller ID	Sample Start Time	Canister Start Pressure ("Hg)	Sample End Time	Canister End Pressure ("Hg)	Sample Start Date	Sample Type	Analyses Method
SG-1	323	2.7 L	01387	850	-30.62	1051	-5.73	6/12/2020	Soil Gas	TO-15
SG-2	332	2.7 L	0971	842	-30.16	1042	-5.25	6/12/2020	Soil Gas	TO-15
SG-3	455	2.7 L	0801	835	-30.15	1035	-5.51	6/12/2020	Soil Gas	TO-15
SG-4	195	2.7 L	01942	859	-30.27	1100	-5.58	6/12/2020	Soil Gas	TO-15
SG-5	3028	2.7 L	0934	826	-30.18	1027	-5.4	6/12/2020	Soil Gas	TO-15
SG-6	2434	2.7 L	01941	801	-30.23	1001	-4.88	6/12/2020	Soil Gas	TO-15

Notes:
Summas and flow regulators provided by Alpha Analytical Laboratory
Analyses for VOCs by Method TO-15 completed by Alpha Analytical Laboratory

APPENDIX G

Soil Boring Logs

TEST BORING REPORT

HALEY & ALDRICH

BORING NO. **B-1**

Page 1 of 1

PROJECT	297 Wallabout Street	H&A FILE NO.	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	PROJECT MGR.	Mari Conlon
CLIENT	Rock Brokerage	FIELD REP.	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	DATE STARTED	6/11/2020
DRILLER	Coastal Environmental Solutions	DATE FINISHED	6/11/2020

Elevation 13.35 ft. Datum NAVD-88 Boring Location SB-4

Item	Casing	Sampler	Core Barrel	Rig Make & Model: 6610DT			Hammer Type	Drilling Mud	Casing Advance
Type	-			☐ Truck	☐ Tripod	☐ Cat-Head	☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	2			☐ 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.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0	2.5	B-1(0-2")	0-2"	G	**0-7'** Brown to dark brown, fine to coarse, clayey SAND, contains concrete fragments, brick fragments, no structure, no odor, dry	0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.1
						0.2
						0.0
5	4	B-1(8-10')	8-10'	G		0.0
						0.0
						0.0
					7-8' Light brown to tan, sandy lean CLAY, stiff, no odor, moist	0.0
						0.0
					8-10' Brown, fine to medium silty SAND, no structure, no odor, wet	0.0
						0.0
						0.0
						0.0
						0.0
10						

Water Level Data

Date	Bottom of Boring (ft)	Water (ft)
6/11/2020	15	8

Sample ID

- **O** Open End Rod
- **T** Thin Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2
BORING NO.	1

*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.

Form #3000

HALEY & ALDRICH

TEST BORING REPORT

BORING NO. **B-2**

Page 1 of 1

PROJECT	297 Wallabout Street	H&A FILE NO.	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	PROJECT MGR.	Mari Conlon
CLIENT	Rock Brokerage	FIELD REP.	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	DATE STARTED	6/11/2020
DRILLER	Coastal Environmental Solutions	DATE FINISHED	6/11/2020

Elevation 13.35 ft. | Datum NAVD-88 | Boring Location SB-4

Item	Casing	Sampler	Core Barrel
Type	-		
Inside Diameter (in.)	2		
Hammer Weight (lb.)	-		
Hammer Fall (in.)	-		

Rig Make & Model: 6610DT

- ☐ Truck ☐ Tripod ☐ Cat-Head
- ☐ ATV ☑ Geoprobe ☐ Winch
- ☑ Track ☐ Air Track ☐ Roller Bit
- ☐ Skid ☐ _________ ☐ Cutting Head

Hammer Type: ☐ Safety ☐ Doughnut ☑ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance Type Method Depth: -

Drilling Notes:

Depth (ft.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0	2.5	B-2(0-2")	0-2"	G	**0-7'** Brown to dark brown, fine to coarse, silty SAND, contains concrete fragments, brick fragments, no odor, dry	0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
5	5	B-2(8-10')	8-10'	G		0.0
						0.0
						0.0
					7-8' Brown to gray-brown, sandy lean CLAY, moderately stiff, no odor, moist, low plasticity	0.2
						23.4
					8-10' Brown, fine silty SAND, no structure, no odor, wet	51.7
						44.3
						43.6
						23.2
10						12.4

Water Level Data

Date	Depth in feet to: Bottom of Boring (ft)	Water (ft)
6/11/2020	15	8

Sample ID

- **O** Open End Rod
- **T** Thin Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2
BORING NO.	2

*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

TEST BORING REPORT

BORING NO. **B-3**

Page 1 of 1

PROJECT	297 Wallabout Street	H&A FILE NO.	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	PROJECT MGR.	Mari Conlon
CLIENT	Rock Brokerage	FIELD REP.	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	DATE STARTED	6/11/2020
DRILLER	Coastal Environmental Solutions	DATE FINISHED	6/11/2020

Elevation 13.35 ft. Datum NAVD-88 Boring Location SB-4

Item	Casing	Sampler	Core Barrel	Rig Make & Model: 6610DT			Hammer Type	Drilling Mud	Casing Advance
Type	-			☐ Truck	☐ Tripod	☐ Cat-Head	☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	2			☐ 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.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0	2.5	B-3(0-2")	0-2"	G	**0-6'** Dark brown, fine to coarse, clayey SAND, contains concrete fragments, brick fragments, asphalt fragments, no structure, no odor, dry	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
5	3.75	B-3(8-10')	8-10'	G	**6-8'** Brown to light brown, fine to medium, clayey SAND, no structure, no odor, moist **8-10'** Light brown, fine to medium, silty SAND, no structure, no odor, wet	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
10						

Water Level Data

Date	Bottom of Boring (ft)	Water (ft)
6/11/2020	15	8

Depth in feet to: Bottom of Boring / Water

Sample ID

- **O** Open End Rod
- **T** Thin Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2
BORING NO.	3

*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

TEST BORING REPORT

BORING NO. **B-4**

Page 1 of 1

PROJECT	297 Wallabout Street	H&A FILE NO.	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	PROJECT MGR.	Mari Conlon
CLIENT	Rock Brokerage	FIELD REP.	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	DATE STARTED	6/11/2020
DRILLER	Coastal Environmental Solutions	DATE FINISHED	6/11/2020

Elevation 13.35 ft. Datum NAVD-88 Boring Location SB-4

Item	Casing	Sampler	Core Barrel
Type	-		
Inside Diameter (in.)	2		
Hammer Weight (lb.)	-		
Hammer Fall (in.)	-		

Rig Make & Model: 6610DT

- ☐ Truck ☐ Tripod ☐ Cat-Head
- ☐ ATV ☑ Geoprobe ☐ Winch
- ☑ Track ☐ Air Track ☐ Roller Bit
- ☐ Skid ☐ ________ ☐ Cutting Head

Hammer Type	Drilling Mud	Casing Advance Type Method Depth
☐ Safety	☐ Bentonite	-
☐ Doughnut	☐ Polymer	
☑ Automatic	☑ None	

Drilling Notes:

Depth (ft.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0	2.5	B-4(0-2")	0-2"	G	**0-6'** Dark brown, fine to coarse, silty SAND, contains concrete fragments, brick fragments, no structure, no odor, dry	0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
						0.0
5	3.25	B-4(8-10')	8-10'	G		0.0
					6-7.5' Brown to tan, sandy lean CLAY, stiff, no odor, moist, low to medium plasticity	0.0
						0.0
						0.0
					7.5-10' Brown to orange brown, fine to medium silty SAND, no structure, no odor, wet	0.0
						0.0
						0.0
						0.0
						0.0
						0.0
10						

Water Level Data

Date	Depth in feet to: Bottom of Boring (ft)	Water (ft)
6/11/2020	15	7.5

Sample ID

- **O** Open End Rod
- **T** Thin Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2
BORING NO.	4

*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.

Form #3000

HALEY & ALDRICH

TEST BORING REPORT

BORING NO. **B-5**

Page 1 of 1

PROJECT	297 Wallabout Street	H&A FILE NO.	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	PROJECT MGR.	Mari Conlon
CLIENT	Rock Brokerage	FIELD REP.	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	DATE STARTED	6/11/2020
DRILLER	Coastal Environmental Solutions	DATE FINISHED	6/11/2020

Elevation 13.35 ft. | Datum NAVD-88 | Boring Location SB-4

Item	Casing	Sampler	Core Barrel
Type	-		
Inside Diameter (in.)	2		
Hammer Weight (lb.)	-		
Hammer Fall (in.)	-		

Rig Make & Model: 6610DT

☐ Truck	☐ Tripod	☐ Cat-Head
☐ ATV	☑ Geoprobe	☐ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ _________	☐ Cutting Head

Hammer Type	Drilling Mud	Casing Advance
☐ Safety	☐ Bentonite	Type Method Depth
☐ Doughnut	☐ Polymer	-
☑ Automatic	☑ None	

Drilling Notes:

Depth (ft.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0	3	B-5(0-2")	0-2"	G	**0-8'** Tan to dark brown, fine to coarse SAND with trace silt, contains gravel (MPS 1.5"), brick fragments, asphalt fragments, dry, no odor	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
5	3.5	B-5(8-10')	8-10'	G	**8-10'** Light brown to brown, fine to medium clayey SAND, medium density, no odor, low plasticity, wet	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
10						

Water Level Data		
Date	Depth in feet to: Bottom of Boring (ft)	Water (ft)
6/11/2020	15	8

Sample ID

O	Open End Rod
T	Thin Wall Tube
U	Undisturbed Sample
S	Split Spoon Sample
G	Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2

BORING NO. 5

*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

TEST BORING REPORT

BORING NO. **B-6**

Page 1 of 1

PROJECT	297 Wallabout Street	**H&A FILE NO.**	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	**PROJECT MGR.**	Mari Conlon
CLIENT	Rock Brokerage	**FIELD REP.**	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	**DATE STARTED**	6/11/2020
DRILLER	Coastal Environmental Solutions	**DATE FINISHED**	6/11/2020

Elevation 13.35 ft. **Datum** NAVD-88 **Boring Location** SB-4

Item	Casing	Sampler	Core Barrel	Rig Make & Model: 6610DT			Hammer Type	Drilling Mud	Casing Advance
Type	-			☐ Truck	☐ Tripod	☐ Cat-Head	☐ Safety	☐ Bentonite	Type Method Depth
Inside Diameter (in.)	2			☐ 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.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0					**0-8'** Light brown to tan-brown, fine to coarse silty SAND, contains concrete fragments, brick fragments, no structure, no odor, dry	0.0
						0.0
						0.0
						0.0
	2.5	B-6(0-2")	0-2"	G		0.0
						0.0
						0.0
						0.0
						0.0
						0.0
5						0.0
						0.0
						0.0
						0.0
	4	B-6(8-10')	8-10'	G	**8-10'** Brown to olive gray, fine to medium clayey SAND, stiff, no odor, wet	0.0
						0.0
						0.0
						0.0
						0.0
						0.0
10						

Water Level Data

Date	Bottom of Boring (ft)	Water (ft)
6/11/2020	15	8

Depth in feet to: Bottom of Boring (ft), Water (ft)

Sample ID

- **O** Open End Rod
- **T** Thin Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2

BORING NO. 6

***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

TEST BORING REPORT

BORING NO. **B-7**

Page 1 of 1

PROJECT	297 Wallabout Street	H&A FILE NO.	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	PROJECT MGR.	Mari Conlon
CLIENT	Rock Brokerage	FIELD REP.	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	DATE STARTED	6/11/2020
DRILLER	Coastal Environmental Solutions	DATE FINISHED	6/11/2020

Elevation 13.35 ft. Datum NAVD-88 Boring Location SB-4

Item	Casing	Sampler	Core Barrel
Type	-		
Inside Diameter (in.)	2		
Hammer Weight (lb.)	-		
Hammer Fall (in.)	-		

Rig Make & Model: 6610DT

☐ Truck ☐ Tripod ☐ Cat-Head
☐ ATV ☑ Geoprobe ☐ Winch
☑ Track ☐ Air Track ☐ Roller Bit
☐ Skid ☐ ________ ☐ Cutting Head

Hammer Type: ☐ Safety ☐ Doughnut ☑ Automatic

Drilling Mud: ☐ Bentonite ☐ Polymer ☑ None

Casing Advance — Type Method Depth: -

Drilling Notes:

Depth (ft.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0	2	B-7(0-2")	0-2"	G	**0-7'** Brown to dark brown, fine to medium clayey SAND, contains brick fragments, asphalt fragments, no structure, no odor, dry	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
5	3	B-7(8-10')	8-10'	G	**7-8'** Brown to dark brown, sandy lean CLAY, stiff, no odor, wet	0.0, 0.0
					8-10' Brown, fine to medium silty SAND with trace clay, no structure, no odor, wet	0.0, 0.0, 0.0, 0.0, 0.0, 0.0
10						

Water Level Data

Date	Bottom of Boring (ft)	Water (ft)
6/11/2020	15	8

Sample ID

- **O** Open End Rod
- **T** Thin Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2

BORING NO. 7

*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.

Form #3000

HALEY & ALDRICH

TEST BORING REPORT

BORING NO. **B-8**

Page 1 of 1

PROJECT	297 Wallabout Street	**H&A FILE NO.**	133156-005
LOCATION	297 Wallabout Street, Brooklyn, NY	**PROJECT MGR.**	Mari Conlon
CLIENT	Rock Brokerage	**FIELD REP.**	Zach Simmel
CONTRACTOR	Coastal Environmental Solutions	**DATE STARTED**	6/11/2020
DRILLER	Coastal Environmental Solutions	**DATE FINISHED**	6/11/2020

Elevation 13.35 ft. **Datum** NAVD-88 **Boring Location** SB-4

Item	Casing	Sampler	Core Barrel
Type	-		
Inside Diameter (in.)	2		
Hammer Weight (lb.)	-		
Hammer Fall (in.)	-		

Rig Make & Model: 6610DT

☐ Truck	☐ Tripod	☐ Cat-Head
☐ ATV	☑ Geoprobe	☐ Winch
☑ Track	☐ Air Track	☐ Roller Bit
☐ Skid	☐ ________	☐ Cutting Head

Hammer Type	Drilling Mud	Casing Advance Type Method Depth
☐ Safety	☐ Bentonite	
☐ Doughnut	☐ Polymer	-
☑ Automatic	☑ None	

Drilling Notes:

Depth (ft.)	Recovery (ft.)	Client ID	Sample Depth	Sample ID	Visual-Manual Identification & Description	PID (ppm)
0	2	B-8(0-2")	0-2"	G	**0-6'** Brown to dark brown, fine to coarse silty SAND, contains some gravel (MPS 1.25"), contains concrete fragments, brick fragments, no structure, no odor, slightly moist	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 0.0
5	3	B-8(8-10')	8-10'	G	**6-8'** Light brown, sandy lean CLAY, stiff, no odor, wet	0.0, 0.0, 0.0, 0.0
					8-10' Brown to orange-brown, fine to medium silty SAND, no odor, wet	0.0, 0.0, 0.0, 0.0, 0.0, 0.0
10						

Water Level Data

Date	Depth in feet to: Bottom of Boring (ft)	Water (ft)
6/11/2020	15	6

Sample ID

- **O** Open End Rod
- **T** Thin Wall Tube
- **U** Undisturbed Sample
- **S** Split Spoon Sample
- **G** Geoprobe

Summary

Overburden (Linear ft.)	10
Rock Cored (Linear ft.)	0
Number of Samples	2
BORING NO.	8

*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 H

Laboratory Data Deliverables (CD)

APPENDIX I

Data Usability Summary Reports

Haley & Aldrich, Inc.
600 South Meyer Ave
Suite 100
Tucson, AZ 85701
520.289.8621

Data Usability Summary Report

Project Name: 297 Wallabout St.

Analytical Laboratory: Alpha Analytical Laboratories, Inc. – Westborough, MA

Validation Performed by: Alexis Rainery and Sarah Mass

Validation Reviewed by: Katherine Miller

Validation Date: 5 August 2020

Haley & Aldrich, Inc., prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the 297 Wallabout St. soil samples collected on 11 June 2020. The analytical results for Sample Delivery Group(s) (SDG) listed below were reviewed to determine the data's usability.

This data validation and usability assessment was performed as per the guidance and requirements established by the U.S. Environmental Protection Agency's (EPA's) *National Functional Guidelines (NFG) for Inorganic Data Review* and *National Functional Guidelines for Organic Data Review* and *Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537* and the *Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3, Table B-15*. The QSM was used as a reference only. These samples were not analyzed in accordance with DoD protocol. The project-specific Quality Assurance Project Plan (QAPP) was also followed, herein referred to as the specified limits. The following quality assurance/quality control (QA/QC) criteria from the analysis of the project samples were reviewed as applicable:

1. Sample Delivery Group Number L2024526
2. Glossary
3. Qualifiers

- Holding Times/Preservation
- Reporting Limits and Sample Dilution
- Sample Preparation
- Reporting Basis (Wet/Dry)
- Blank Sample Analysis
- Surrogate Recovery Compliance
- Laboratory Control Samples
- Matrix Spike Samples
- Extraction Internal Standards
- Laboratory and Field Duplicate Sample Analysis
- System Performance and Overall Assessment

Analytical precision and accuracy were evaluated based on the laboratory control, matrix spike, or laboratory duplicate analyses performed concurrently with the project samples or based on field duplicates collected at the site.

Data reported in this sampling event were reported to the laboratory 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 laboratory's standard operating procedures (SOPs). The results presented in each laboratory report were found to be compliant with the data quality objectives for the project and therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group Number L2024526

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG number L2024526, dated 25 June 2020. Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the chain of custody. COCs were appropriately signed and dated by the field and/or laboratory personnel with the following exceptions:

- Custody seals were not used on the sample cooler(s).
- Mercury was analyzed by EPA 7471 which was not identified on the COC.
- COC requested analysis of 1,4-Dioxane by EPA 8270 SIM but was reported with EPA 8270D.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Collection Date	Matrix	Methods
B-1 (0-2")	N	L2024526-01	6/11/2020	SO	A, B, C, D, E, F
B-1 (8-10')	N	L2024526-02	6/11/2020	SO	A, B, C, D, E, F
B-2 (0-2")	N	L2024526-03	6/11/2020	SO	A, B, C, D, E, F
B-2 (8-10")	N	L2024526-04	6/11/2020	SO	A, B, C, D, E, F
B-3 (0-2")	N	L2024526-05	6/11/2020	SO	A, B, C, D, E, F
B-3 (8-10')	N	L2024526-06	6/11/2020	SO	A, B, C, D, E, F, G
B-4 (0-2")	N	L2024526-07	6/11/2020	SO	A, B, C, D, E, F
B-4 (8-10')	N	L2024526-08	6/11/2020	SO	A, B, C, D, E, F
B-5 (0-2")	N	L2024526-09	6/11/2020	SO	A
B-5 (8-10')	N	L2024526-10	6/11/2020	SO	A
B-6 (0-2")	N	L2024526-11	6/11/2020	SO	A
B-6 (8-10)	N	L2024526-12	6/11/2020	SO	A
B-7 (0-2")	N	L2024526-13	6/11/2020	SO	A, B, C, D, E, F
B-7 (8-10')	N	L2024526-14	6/11/2020	SO	A, B, C, D, E, F, G
B-8 (0-2")	N	L2024526-15	6/11/2020	SO	A, B, C, D, E, F
B-8 (8-10')	N	L2024526-16	6/11/2020	SO	A, B, C, D, E, F
DUP-061120	FD	L2024526-17	6/11/2020	SO	A

Method		Holding Time
A.	EPA 8260B (Volatile organic compounds)	14 days
B.	EPA 8270B (Semi-volatile organic compounds)	14-day extraction, 40-day analysis
C.	EPA 6010D (Total metals)	180 days
D.	EPA 7471 (Mercury)	28 days from collection, 48 hours from prep
E.	EPA 8082 (Polychlorinated Biphenyls (PCBs))	14-day extraction, 40-day analysis
F.	EPA 8081 (Organochlorine Pesticides)	14-day extraction, 40-day analysis
G.	Alpha 23528 Perfluorinated Alkyl Acids by Isotope Dilution (Per- and Polyfluoroalkyl Substances (PFAS))	14-day extraction, 28-day analysis

1.2 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 as per method protocol.

Cooler temperatures on arrival to the laboratory were: 2.3 and 3.1 degrees Celsius.

1.3 REPORTING LIMITS AND SAMPLE DILUTION

The reporting limits for the samples within this SDG met or were below the minimum reporting limit requirements specified by the project-specific QAPP.

All dilutions were reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below.

Sample ID	Lab ID	Analyte/ Method	Dilution Factor	Issue/Explanation
B-2 (8-10")	L2024526-04	Many EPA 8260B	10	The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.
		Many 8270D	10	The sample has elevated detection limits due to the dilution required by the sample matrix
B-2 (0-2")	L2024526-03	Many 6010B	2	The sample has elevated detection limits for all elements due to the dilution required by matrix interferences encountered during analysis
B-2 (8-10")	L2024526-04			
B-3 (0-2")	L2024526-05			
B-3 (8-10')	L2024526-06			
B-4 (0-2")	L2024526-07			
B-4 (8-10')	L2024526-08			
B-7 (0-2")	L2024526-13			
B-7 (8-10')	L2024526-14			
B-8 (0-2")	L2024526-15			
B-8 (8-10')	L2024526-16			

1.4 REPORTING BASIS (WET/DRY)

Soil samples can be reported on either a wet (as received) or dry weight basis. Dry weight data indicate calculations have been made to compensate for the moisture content of the soil sample. Per the matrix requirements, data in this SDG were reported on a dry weight basis.

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 ≥ 30% solids to be appropriately quantified. Percent solid results were reviewed and found to be within limits.

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. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred with the following exceptions:

Blank Type	Batch ID	Analyte Detected in Blank	Concentration (µg/kg)	Qualifier	Affected Samples
Method Blank	WG1382503-5	Naphthalene	0.72 J	NA	None, samples are ND
	WG1382648-5	Naphthalene	0.74 J	NA	None, samples are ND
	WG1382699-5	Methyl tert butyl ether	0.24 J	NA	None, samples are ND
	WG1382012-1	PFHxA	0.054 J	U RL	B-3 (8-10')
	WG1381069-1	Arsenic, Total	0.120 J	U RL	B-2 (8-10") B-4 (0-2") B-7 (8-10') B-8 (8-10')
				J+	B-4 (8-10')
		Chromium, Total	0.092 J	NA	None, samples are 10x the blank
		Lead, Total	0.128 J	NA	None, samples are 10x the blank
		Sodium, Total	1.94 J	U RL	B-2 (8-10") B-4 (0-2") B-4 (8-10') B-7 (8-10')
	WG1382242-1	Calcium, Total	43.6	NA	None, samples are 10x the blank
		Iron, Total	2.51	NA	None, samples are 10x the blank
		Magnesium, Total	1.12 J	NA	None, samples are 10x the blank
		Manganese, Total	0.124 J	NA	None, samples are 10x the blank
		Selenium, Total	0.160 J	NA	None, samples are ND

Field blanks are prepared to identify contamination that may have been introduced during field activity. Blank samples for field quality control were not collected in this SDG.

1.6 SURROGATE RECOVERY COMPLIANCE

Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to preparing the sample for determining the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds. The %R for each surrogate compound added to each project samples was determined to be within the laboratory specified QC limits with the following exceptions:

Method	Sample ID	Lab ID	Surrogate	Recovery	Qualification
Alpha 23528 PFAS	B-7 (8-10")	L2024526-14	M7-PFUDA	61%	J/UJ
			M2PFTEDA	25%	J/UJ

1.7 CONFIRMATION COLUMN REVIEW

When analyzing for pesticides and polychlorinated biphenyls (PCB), compound identification based on single-column analysis should be confirmed on a second column or should be supported by at least one other qualitative technique. When confirmed on a second column, the relative percent difference (RPD) should not exceed 40%. All RPDs were within control limits, with the following exceptions:

Method	Analyte	Sample	Reported Result	Action
EPA 8081B	4,4'-DDD	B-3 (0-2")	1.86	Qualify data estimated "J/UJ."
	cis-Chlordane	B-7 (0-2")	1.06 J	
	4,4'-DDE	B-8 (0-2")	2.13	
	trans-Chlordane	B-1 (0-2")	ND U	
	cis-Chlordane	B-2 (0-2")	ND U	
	trans-Chlordane	B-2 (0-2")	0.670 J	
		B-3 (0-2")	1.50 J	
		B-4 (0-2")	ND U	
		B-7 (0-2")	0.864 J	
		B-8 (0-2")	1.56 J	

1.8 LABORATORY CONTROL SAMPLES

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences. Compounds associated with the LCS/LCSD analyses exhibited recoveries and relative percent differences (RPDs) within the specified limits with the following exceptions:

Sample Type	Method	Batch ID	Analyte	%R	Qualifier	Affected Samples
LCS	Alpha 23528 PFAS	WG1382012-2 WG1382012-3	8:2FTS	148%	J/None	None, samples are ND
LCS/LCSD			PFDoA	156%/156%	J/None	
LCSD			PFTrDA	144%	J/None	
LCSD			PFTA	137%	J/None	

1.9 MATRIX SPIKE SAMPLES

Matrix spike/matrix spike duplicate (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. The sample(s) below were used for MS/MSD:

Lab Sample Number	Matrix Spike/ Matrix Spike Duplicate Sample Client ID	Method(s)
L2024526-01	B-1 (0-2")	Mercury by EPA 7471
L2024526-05	B-3 (0-2")	

The MS/MSD recoveries and the RPD between the MS and MSD results were within the specified limits with the following exceptions:

- An MSD was not reported for this EPA 6020B. Because a laboratory control duplicate, field duplicate, and laboratory duplicate was analyzed, this data set is supported by precision quality control information.

Sample Type	Method	Parent Sample Number	Analyte	%R/RPD	Qualifier	Affected Samples
MS	EPA 7471	L2024526-01	Mercury, Total	125%	J+/None	Within NFG
MS		L2024526-05	Mercury, Total	186%	J+/None	B-3 (0-2")

1.10 LABORATORY AND FIELD DUPLICATE SAMPLES

The laboratory duplicate sample analysis is used by the laboratory at the time of analysis to demonstrate acceptable method precision. The following sample(s) were used for laboratory duplicate analysis and the RPDs were all below 20% (or the absolute difference rule was satisfied if detects were less than 5x the RL):

Lab Sample Number	Laboratory Duplicate Sample Client ID	Method(s)
L2024526-01	B-1 (0-2")	Mercury by EPA 7471
L2024526-05	B-3 (0-2")	

The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. The following sample(s) were used for field duplicate analysis and the RPDs were all below 50% for soil (or the absolute difference rule was satisfied if detects were less than 5x the RL). Any exceptions are noted below and qualified.

Primary Sample ID	Duplicate Sample ID	Method(s)
B-5(8-10')	DUP-061120	Volatile organic compounds by EPA 8260B

Field Duplicate RPD Calculations:

Method(s): EPA 8260B				
Analyte (µg/kg)	Primary Sample ID B-5(8-10')	Duplicate Sample ID DUP-061120	% RPD	Qualification
Acetone	15	24	NA	J/UJ, Abs Diff > RL
Trichloroethene	1.1	0.23 U	NA	J/UJ, Abs Diff > RL

1.11 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the data quality objectives for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are 100% useable. A summary of qualifiers applied to this SDG are shown below.

Sample ID	Analyte	Reported Result	Validated Result	Reason for Qualifier
B-1 (0-2")	Acetone	2600	2600 R	Calibration exceedance
B-1 (0-2")	6/17/2020 7:24:00 AM High Run analytes	Detect/ND	R	
B-2 (8-10")	Trichloroethene	180000	180000 R	
B-3 (8-10')	PFHxA	0.059 J	0.555 U	Method Blank Contamination
B-2 (8-10")	Arsenic, Total	0.623 J	0.854 U	
B-4 (0-2")		0.587 J	0.827 U	
B-7 (8-10')		0.566 J	0.884 U	
B-8 (8-10')		0.574 J	0.912 U	
B-4 (8-10')		1.16	1.16 U	
B-2 (8-10")	Sodium, Total	19.0 J	171 U	
B-4 (0-2")		5.98 J	165 U	
B-4 (8-10')		10.2 J	180 U	
B-7 (8-10')		10.9 J	177 U	
B-7 (8-10’)	PFUnDA	ND	ND UJ	Surrogate % recovery low
B-7 (8-10’)	PFTeDA	ND	ND UJ	
B-3 (0-2")	4,4'-DDD	1.86	1.86 J	RPD between two columns high.
B-7 (0-2")	cis-Chlordane	1.06 J	1.06 J	
B-8 (0-2")	4,4'-DDE	2.13	2.13 J	
B-1 (0-2")	trans-Chlordane	ND U	ND UJ	
B-2 (0-2")	cis-Chlordane	ND U	ND UJ	
B-2 (0-2")	trans-Chlordane	0.670 J	0.670 J	
B-3 (0-2")		1.50 J	1.50 J	
B-4 (0-2")		ND U	ND UJ	
B-7 (0-2")		0.864 J	0.864 J	
B-8 (0-2")		1.56 J	1.56 J	
B-3 (0-2")	Mercury, Total	0.146	0.146 J+	MS % Recovery High
B-5(8-10’)	Acetone	15	15 J	Field Duplicate Abs Diff > RL
DUP-061120		24	24 J	
B-5(8-10’)	Trichloroethene	1.1	1.1 J	
DUP-061120		0.23 U	0.23 UJ	

2. Glossary

- Sample Types:
  - N — Primary Sample
  - FD — Field Duplicate Sample
  - FB — Field Blank Sample
  - EB — Equipment Blank Sample
  - TB — Trip Blank Sample
- Units:
  - µg/kg or µg/kg — micrograms per kilogram
  - mg/kg — milligrams per kilogram
- Matrices:
  - SO — Soil
  - SE — Sediment
- Table Footnotes
  - NA — Not applicable
  - ND — Non-detect
  - NR — Not reported
- Abbreviations
  - DUSR — Data Usability Summary Report
  - SDG — Sample Delivery Group
  - EPA — Environmental Protection Agency
  - NFG — National Functional Guidelines
  - PFAS — Per- and Polyfluoroalkyl Substances
  - QAPP — Quality Assurance Project Plan
  - QA/QC — Quality Assurance/Quality Control
  - RL — Laboratory Reporting Limit
  - MDL — Laboratory Method Detection Limit
  - SOP — Laboratory Standard Operating Procedures
  - COC — Chain of Custody
  - SPE — Solid Phase Extraction
  - %R — Percent Recovery
  - RPD — Relative Percent Difference
  - LCS/LCSD — Laboratory Control Sample/Laboratory Control Sample Duplicate
  - MS/MSD — Matrix Spike/Matrix Spike Duplicate
  - PDS — Post Digestion Spike
  - IS — Internal Standards
  - ICAL — Initial Calibration

3. Qualifiers

Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- 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.
  - UJ The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.
  - 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 therefore an estimated concentration only.
  - R The sample results were rejected as unusable; the compound may or may not be present in the sample.

References

1. Haley & Aldrich, Inc., 2019. Quality Assurance Project Plan. 297 Wallabout St. Brooklyn, New York. New York State Department of Environmental Conservation.

2. United States Environmental Protection Agency, 2014. R10 Data Validation and Review Guidelines for Polychlorinated Dibenzo-p-Dioxin and Polychlorinated Dibenzofuran Data (PCDD/PCDF) Using Method 1613B, and SW846 Method 8290A. EPA-910-R-14-003. May.

3. United States Environmental Protection Agency, 2017a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2017-001. January.

4. United States Environmental Protection Agency, 2017b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-2017-002. January.

5. United States Environmental Protection Agency, 2018. Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537. EPA 910-R-18-001. November.

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Data Usability Summary Report

Project Name: 297 Wallabout St.

Analytical Laboratory: Alpha Analytical Laboratories, Inc. – Westborough, MA

Validation Performed by: Alexis Rainery

Validation Reviewed by: Katherine Miller

Validation Date: 6 August 2020

Haley & Aldrich, Inc. prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the 297 Wallabout St. soil vapor samples collected on 12 June 2020 and submitted to Alpha Analytical Laboratories, Inc. – Westborough, MA. The analytical results for the Sample Delivery Group(s) (SDG) listed below were reviewed to determine the data's usability.

This data validation and usability assessment was performed as per the guidance and requirements from the U.S. Environmental Protection Agency's (EPA) *National Functional Guidelines (NFG) for Organic Compounds* and *Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15 (Rev. 6),* laboratory standard operating procedures, and project-specific Quality Assurance Project Plan (QAPP), herein referred to as the specified limits. The following quality assurance/quality control (QA/QC) criteria from the analysis of the project samples were reviewed as applicable:

1. Sample Delivery Group Number L2024751
2. Glossary
3. Qualifiers

- Holding Times/Preservation
- Reporting Limits & Sample Dilutions
- Blank Sample Analysis
- Clean Canister Certification
- Surrogate Recovery Compliance
- Laboratory Control Sample / Laboratory Control Sample Duplicate
- Laboratory and Field Duplicate Sample Analysis
- System Performance and Overall Assessment

Analytical precision and accuracy were evaluated based on the laboratory control or laboratory duplicate analysis analyses performed concurrently with the project samples or based on field duplicates collected at the site.

Data reported in this sampling event were reported to the laboratory reporting limit (RL).

Sample data were qualified in accordance with laboratory's standard operating procedures (SOPs). The results presented in each laboratory report were found to be compliant with the data quality objectives for the project and therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group Number L2024751

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG number L2024751, dated 19 June 2020. Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the chain of custody. COCs were appropriately signed and dated by the field and/or laboratory personnel with the following exceptions:

- Custody seals were not used on the sample cooler(s).
- The canister certification results were provided as an addendum.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Collection Date	Matrix	Methods	Holding Time
SG-1	N	L2024751-01	6/12/2020	SV	TO-15 SIM	30 days
SG-2	N	L2024751-02	6/12/2020	SV	TO-15 SIM	30 days
SG-3	N	L2024751-03	6/12/2020	SV	TO-15 SIM	30 days
SG-4	N	L2024751-04	6/12/2020	SV	TO-15 SIM	30 days
SG-5	N	L2024751-05	6/12/2020	SV	TO-15 SIM	30 days
SG-6	N	L2024751-06	6/12/2020	SV	TO-15 SIM	30 days

1.2 HOLDING TIMES/PRESERVATION

The samples were prepared and analyzed within the holding time and preservation criteria specified per method protocol.

1.3 REPORTING LIMITS & SAMPLE DILUTIONS

The reporting limits for the samples within this SDG met or exceeded the minimum reporting limit requirements specified by the project-specific QAPP with the following exceptions:

All dilutions were reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below.

<table>
<tr><th>Sample ID</th><th>Lab ID</th><th>Analyte/ Method</th><th>Dilution Factor</th><th>Issue/Explanation</th></tr>
<tr><td>SG-1</td><td>L2024751-01</td><td rowspan="5">TO-15</td><td>10</td><td rowspan="5">Dilution required by the elevated concentrations of target compounds in the samples.</td></tr>
<tr><td>SG-2</td><td>L2024751-02</td><td>172.4</td></tr>
<tr><td>SG-3</td><td>L2024751-03</td><td rowspan="2">12.5</td></tr>
<tr><td>SG-4</td><td>L2024751-04</td></tr>
<tr><td>SG-5</td><td>L2024751-05</td><td>2.778</td></tr>
</table>

1.4 BLANK SAMPLE ANALYSIS

Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred.

1.5 CLEAN CANISTER CERTIFICATION

The canisters used for the TO-15 SIM sample collection were certified clean by batch 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.

1.6 SURROGATE RECOVERY COMPLIANCE

Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to preparing samples for determining the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds. The %R for each surrogate compound added to each project sample was determined to be within the laboratory specified quality control limits.

1.7 LABORATORY CONTROL SAMPLE / LABORATORY CONTROL SAMPLE DUPLICATE

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences. Compounds associated with the LCS analyses exhibited recoveries and within the specified limits with the following exceptions:

- An LCSD was not reported for this SDG. Because a site-specific laboratory duplicate was analyzed, this data set is supported by precision quality control information.

Sample Type	Method	Batch ID	Analyte	%R	Qualifier	Affected Samples
LCS	TO-15	WG1382807-3	Trichlorofluoromethane	135%	J/None	SG-1 SG-2 SG-3 SG-4 SG-5 SG-6
			Carbon tetrachloride	131%	J/None	None, samples are ND

1.8 LABORATORY AND FIELD DUPLICATE SAMPLES

The laboratory duplicate sample analysis is used by the laboratory at the time of analysis to demonstrate acceptable method precision. The following sample was used for laboratory duplicate analysis and the RPDs were all below 20% (or the absolute difference rule was satisfied if detects were less than 5x the RL):

Lab Sample Number	Laboratory Duplicate Sample Client ID	Method(s)
L2024751-01	SG-1	TO-15

The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. No field duplicates were collected in this data set.

1.9 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the data quality objectives for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are 100% useable. A summary of qualifiers applied to this SDG are shown below.

Sample ID	Analyte	Reported Result	Validated Result	Reason for Qualifier
SG-1	Trichlorofluoromethane	101	101 J	LCS % Recovery High
SG-2		238	238 J	
SG-3		115	115 J	
SG-4		27.0	27.0 J	
SG-5		111	111 J	
SG-6		2.92	2.92 J	
SG-4	Trichloroethene	8550	8550 R	Calibration exceedance

2. Glossary

- Sample Types:
  - N Primary Sample
  - FD Field Duplicate Sample
  - FB Field Blank Sample
  - EB Equipment Blank Sample
  - TB Trip Blank Sample
- Units:
  - µg/cm3 microgramS per centimeter cubed
  - ppb v/v parts per billion volume/volume
- Matrices:
  - AA Ambient Air
  - IA Indoor Air
  - GS Soil Gas
  - SV Soil Vapor
- Table Footnotes
  - NA Not applicable
  - ND Non-detect
  - NR Not reported
- Abbreviations
  - DUSR Data Usability Summary Report
  - SDG Sample Delivery Group
  - EPA Environmental Protection Agency
  - NFG National Functional Guidelines
  - QAPP Quality Assurance Project Plan
  - QA/QC Quality Assurance/Quality Control
  - RL Laboratory Reporting Limit
  - MDL Laboratory Method Detection Limit
  - SOP Laboratory Standard Operating Procedures
  - COC Chain of Custody
  - %R Percent Recovery
  - RPD Relative Percent Difference
  - LCS/LCSD Laboratory Control Sample/Laboratory Control Sample Duplicate

3. Qualifiers

Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- 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.
  - UJ The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.
  - 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 therefore an estimated concentration only.
  - R The sample results were rejected as unusable; the compound may or may not be present in the sample.

References

1. Haley & Aldrich, Inc., 2019. Quality Assurance Project Plan. 297 Wallabout St. Brooklyn, New York. New York State Department of Environmental Conservation.

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, 2017. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-2017-002. January.

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Data Usability Summary Report

Project Name: 297 Wallabout St.

Analytical Laboratory: Alpha Analytical Laboratories, Inc. – Westborough, MA

Validation Performed by: Alexis Rainery and Sarah Mass

Validation Reviewed by: Katherine Miller

Validation Date: 5 August 2020

Haley & Aldrich, Inc., prepared this Data Usability Summary Report (DUSR) to summarize the review and validation of the 297 Wallabout St. groundwater samples collected on 12 and 22 June 2020. The analytical results for Sample Delivery Group(s) (SDG) listed below were reviewed to determine the data's usability.

This data validation and usability assessment was performed as per the guidance and requirements established by the U.S. Environmental Protection Agency's (EPAs) *National Functional Guidelines (NFG) for Inorganic Data Review* and *National Functional Guidelines for Organic Data Review* and *Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537* and the *Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3, Table B-15*. The QSM was used as a reference only. These samples were not analyzed in accordance with DoD protocol. The project-specific Quality Assurance Project Plan (QAPP) was also followed, herein referred to as the specified limits. The following quality assurance/quality control (QA/QC) criteria from the analysis of the project samples were reviewed as applicable:

1. Sample Delivery Group Number L2024757
2. Glossary
3. Qualifiers

- Holding Times/Preservation
- Reporting Limits and Sample Dilution
- Sample Preparation
- Blank Sample Analysis
- Surrogate Recovery Compliance
- Laboratory Control Samples
- Matrix Spike Samples
- Extraction Internal Standards
- Laboratory and Field Duplicate Sample Analysis
- System Performance and Overall Assessment

Analytical precision and accuracy were evaluated based on the laboratory control, matrix spike, or laboratory duplicate analyses performed concurrently with the project samples or based on field duplicates collected at the site.

Data reported in this sampling event were reported to the laboratory 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 laboratory's standard operating procedures (SOPs). The results presented in each laboratory report were found to be compliant with the data quality objectives for the project and therefore usable; any exceptions are noted in the following pages.

1. Sample Delivery Group Number L2024757

1.1 SAMPLE MANAGEMENT

This DUSR summarizes the review of SDG number L2024757, dated 26 June 2020. Samples were collected, preserved, and shipped following standard chain of custody (COC) protocol. Samples were also received appropriately, identified correctly, and analyzed according to the chain of custody. COCs were appropriately signed and dated by the field and/or laboratory personnel with the following exceptions:

- Custody seals were not used on the sample cooler(s).
- Sample summary sample dates do not match COC. COC is assumed to be correct.
- Mercury was analyzed by EPA 7471 which was not identified on the COC.
- While only 1,4-Dioxane was the only analyte identified on the COC to be analyzed with EPA 8270D SIM, various polycyclic aromatic hydrocarbons (PAH) were also analyzed.

Analyses were performed on the following samples:

Sample ID	Sample Type	Lab ID	Sample Collection Date	Matrix	Methods
MW-1	N	L2024757-01	6/12/2020	WG	A, B, C, D, E, F
MW-2	N	L2024757-02	6/12/2020	WG	A, B, C, D, E, F
MW-3	N	L2024757-03	6/12/2020	WG	A, B, C, D, E, F
MW-4	N	L2024757-04	6/12/2020	WG	A, B, C, D, E, F
MW-5	N	L2024757-05	6/12/2020	WG	A, B, C, D, E, F
FIELD BLANK	FB	L2024757-06	6/12/2020	WQ	A, B, C, D, E, F
TRIP BLANK	TB	L2024757-07	6/12/2020	WQ	A
TRIP BLANK	TB	L2024757-08	6/12/2020	WQ	A
DUP-061220	FD	L2024757-09	6/12/2020	WG	A, B, C, D, E, F
FIELD BLANK	FB	L2024757-10	6/22/2020	WQ	A, B, C, D, E, F

Method Holding Time		
A.	EPA 8260B (Volatile Organic Compounds)	14 days
B.	EPA 8270B (Semi-Volatile Organic Compounds)	14-day extraction, 40-day analysis
C.	EPA 8270D SIM (1,4-Dioxane)	14-day extraction, 40-day analysis
D.	EPA 6020D (Total Metals)	180 days
E.	EPA 7471 (Mercury)	28 days from collection, 48 hours from prep
F.	Alpha 23528 Perfluorinated Alkyl Acids by Isotope Dilution (Per- and Polyfluoroalkyl Substances [PFAS])	14-day extraction, 28-day analysis

1.2 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 as per method protocol.

Cooler temperatures on arrival to the laboratory were: 2.8 and 3.7 degrees Celsius.

1.3 REPORTING LIMITS AND SAMPLE DILUTION

The reporting limits for the samples within this SDG met or were below the minimum reporting limit requirements specified by the project-specific QAPP.

All dilutions were reviewed and found to be justified. Any non-detects with elevated reported limits are noted and explained below.

Sample ID	Lab ID	Analyte/ Method	Dilution Factor	Issue/Explanation
MW-2	L2024757-02	EPA 8260B	20	Dilution required due to matrix interference or high concentration of target analyte

1.4 BLANK SAMPLE ANALYSIS

Method blanks are prepared by the analytical laboratory and analyzed concurrently with the project samples to assess possible laboratory contamination. Method blank samples had no detections, indicating that no contamination from laboratory activities occurred with the following exceptions:

<table>
<tr><th>Blank Type</th><th>Batch ID</th><th>Analyte Detected in Blank</th><th>Concentration (µg/L)</th><th>Qualifier</th><th>Affected Samples</th></tr>
<tr><td rowspan="6">Method Blank</td><td>WG1383012-1</td><td>PFHxA</td><td>0.332 J ng/L</td><td>U RL</td><td>FIELD BLANK
(L2024757-06)</td></tr>
<tr><td rowspan="2">WG1383407-1</td><td>Naphthalene</td><td>0.62 J</td><td>U RL</td><td>MW-1-20200612
MW-5-20200612</td></tr>
<tr><td>Di-n-butylphthalate</td><td>0.66 J</td><td>NA</td><td>None, samples are ND</td></tr>
<tr><td rowspan="2">WG1383408-1</td><td>Naphthalene</td><td>0.74</td><td>NA</td><td>None, samples are ND</td></tr>
<tr><td>2-Methylnaphthalene</td><td>0.36</td><td>NA</td><td>None, samples are ND</td></tr>
<tr><td>WG1381923-1</td><td>Thallium, Total</td><td>0.00021 J mg/L</td><td>U RL</td><td>MW-2
DUP-061220</td></tr>
</table>

Field blanks are prepared to identify contamination that may have been introduced during field activity. Field blanks are highly recommended when sampling for PFAS due to the possibility of cross-contamination from common consumer products and sampling equipment. Trip blanks are prepared when volatile analysis is requested to identify contamination that may have been introduced during transport. The analysis of the blank samples for field quality control were free of target compounds, with the following exceptions:

<table>
<tr><th>Blank Type</th><th>Date of Blank</th><th>Analyte Detected in Blank</th><th>Concentration (mg/L)</th><th>Qualifier</th><th>Affected Samples</th></tr>
<tr><td rowspan="6">Field Blank
(L2024757-06)</td><td rowspan="6">6/12/2020</td><td>PFHxA</td><td>0.313 J ng/L</td><td>None</td><td>Qualified ND by Method Blank</td></tr>
<tr><td>Barium, Total</td><td>0.00033 J</td><td>NA</td><td>None, samples are 10x blank</td></tr>
<tr><td>Calcium, Total</td><td>0.0581 J</td><td>NA</td><td>None, samples are 10x blank</td></tr>
<tr><td>Iron, Total</td><td>0.0628 J</td><td>J+</td><td>MW-1
MW-3
DUP-061220</td></tr>
<tr><td>Potassium, Total</td><td>0.0480 J</td><td>NA</td><td>None, samples are 10x blank</td></tr>
<tr><td>Sodium, Total</td><td>0.807</td><td>NA</td><td>None, samples are 10x blank</td></tr>
</table>

1.5 SURROGATE RECOVERY COMPLIANCE

Surrogates, also known as system monitoring compounds, are compounds added to each sample prior to preparing the sample for determining the efficiency of the extraction procedure by evaluating the percent recovery (%R) of the compounds. The %R for each surrogate compound added to each project samples was determined to be within the laboratory specified QC limits, with the following exceptions:

Method	Sample ID	Lab ID	Surrogate	Recovery	Qualification
EPA 8270B	MW-1	L2024757-01	2,4,6-Tribromophenol	124%	None. Relevant analytes are ND
Alpha 23528 PFAS by Isotope Dilution	MW-1	L2024757-01	M2-6:2FTS	194%	None, analyte is ND
			M2-8:2FTS	29%	UJ
	MW-2	L2024757-02	M2-8:2FTS	326%	None, analyte is ND
			M5PFPEA	49%	J
			M2-6:2FTS	176%	None, analyte is ND
			M3PFHxS	49%	J
	MW-3	L2024757-03	M2-6:2FTS	175%	None, analyte is ND
			M2-8:2FTS	156%	None, analyte is ND
			M8FOSA	19%	UJ
	MW-4	L2024757-04	M8FOSA	14%	UJ
	MW-5	L2024757-05	M2-6:2FTS	183%	None, analyte is ND
			M2-8:2FTS	190%	None, analyte is ND
	Field blank	L2024757-06	M5PFPEA	154%	None, analyte is ND
	DUO-061220	L2024757-09	M8FOSA	22%	UJ

1.6 LABORATORY CONTROL SAMPLES

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) analyses are used to assess the precision and accuracy of the analytical method independent of matrix interferences. Compounds associated with the LCS/LCSD analyses exhibited recoveries and relative percent differences (RPDs) within the specified limits with the following exceptions:

- An LCSD was not reported for this EPA 6020D. Because a site-specific field duplicate was analyzed, this data set is supported by precision quality control.

Sample Type	Method	Batch ID	Analyte	%R	Qualifier	Affected Samples
LCS/LCSD	EPA 8260B	WG1382826-3 WG1382826-4	Chloroethane	140%/140%	J/None	None, samples are ND
LCS/LCSD	EPA 537 Modified	WG1383012-2 WG1383012-3	PFDoA	158%/162%	J/None	None, samples are ND
LCS/LCSD	EPA 8270B	WG1385497-2 WG1385497-3	Bis(2-chloroisopropyl)ether	39%/37%	J/UJ	FIELD BLANK (L2024757-10)
LCS/LCSD			4-Chloroaniline	36%/34%	J/UJ	
LCS			2-Nitroaniline	48%	J/UJ	
LCS/LCSD			4-Nitroaniline	40%/49%	J/UJ	
LCSD			Benzoic Acid	0%	J/UJ	
LCSD/LCS D			Carbazole	48%/50%	J/UJ	

1.7 MATRIX SPIKE SAMPLES

Matrix spike/matrix spike duplicate (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. The sample(s) below were used for MS/MSD:

Lab Sample Number	Matrix Spike/ Matrix Spike Duplicate Sample Client ID	Method(s)
L2024757-02	MW-2	Volatile organic compounds by EPA 8260B Semi-volatile organic compounds by EPA 8270B 1,4-Dioxane by EPA 8270D SIM Total metals by EPA 6020D Mercury EPA 7471 PFAS by Isotope Dilution

The MS/MSD recoveries and the RPD between the MS and MSD results were within the specified limits with the following exceptions:

Sample Type	Method	Parent Sample Number	Analyte	%R/RPD	Qualifier	Affected Samples
MSD	EPA 8270B	L2024757-02	Trichlorofluoromethane	155%	J/None	None, samples are ND
MS/MSD		L2024757-02	Chloromethane	140%/163%	J/None	
MS/MSD		L2024757-02	Chloroethane	153%/175%	J/None	
MS/MSD		L2024757-02	Trichloroethene	50%/175%	J/None	MW-2
MSD		L2024757-02	1,4-Dichlorobenzene	RPD=21	J/None	None, samples are ND
MSD		L2024757-02	tert-Butylbenzene	RPD=22	J/None	
MSD		L2024757-02	p-Ethyltoluene	RPD=21	J/None	
MSD		L2024757-02	1,2,4,5-Tetramethylbenzene	RPD=21	J/None	
MS/MSD		L2024757-02	8:2FTS	53%/41%	J/UJ	MW-2
MSD		L2024757-02	PFUnA	RPD=36	J/None	None, samples are ND
MS/MSD		L2024757-02	3,3'-Dichlorobenzidine	0%/0%	J/UJ	MW-2
MS/MSD		L2024757-02	4-Nitrophenol	88%/110%	J/None	None, samples are ND
MS/MSD	EPA 6020D	L2024757-02	Calcium, Total	0%/0%	J-/UJ	None, native sample > 4x the spiked concentration
MS		L2024757-02	Magnesium, Total	42%	J-/UJ	None, native sample > 4x the spiked concentration
MS		L2024757-02	Potassium, Total	70%	J-/UJ	MW-1 MW-2 MW-3 MW-4 MW-5 DUP-061220 FIELD BLANK (L2024757-06)
MS/MSD		L2024757-02	Sodium, Total	14%/52%	J-/UJ	None, native sample > 4x the spiked concentration

1.8 LABORATORY AND FIELD DUPLICATE SAMPLES

The laboratory duplicate sample analysis is used by the laboratory at the time of analysis to demonstrate acceptable method precision. The laboratory did not analyze any laboratory duplicates in this SDG.

The field duplicate sample analysis is used to assess the precision of the field sampling procedures and analytical method. The RPD comparison for any field duplicates in this SDG is shown below. RPDs were all below 35% for water (or the absolute difference rule was satisfied if detects were less than 5x the RL). Any exceptions are noted below and qualified.

Primary Sample ID	Duplicate Sample ID	Method(s)
MW-3	DUP-061220	Volatile organic compounds by EPA 8260B Semi-volatile organic compounds by EPA 8270B 1,4-Dioxane by EPA 8270 SIM Total metals by EPA 6020D Mercury by EPA 7471 PFAS by Isotope Dilution

1.9 SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

The results presented in this report were found to comply with the data quality objectives for the project and the guidelines specified by the analytical method. Based on the review of this report, the data are 100% useable. A summary of qualifiers applied to this SDG are shown below.

Sample ID	Analyte	Reported Result	Validated Result	Reason for Qualifier
FIELD BLANK (L2024757-06)	PFHxA	0.313 J	1.84 U	Method Blank Contamination
MW-1	Naphthalene	0.05 J	0.10 U	
MW-5		0.05 J	0.10 U	
MW-2	Thallium, Total	0.00021 J	0.00050 U	
DUP-061220		0.00020 J	0.00050 U	
MW-1	Iron, Total	0.351	0.351 J+	Field Blank Contamination
MW-3		0.291	0.291 J+	
DUP-061220		0.271	0.271 J+	
MW-1	8:2 FTS	ND U	ND UJ	Surrogate % Recovery outside acceptance limits
MW-2	PFPeA	5.63	5.63 J	
MW-2	PFHxS	0.758	0.758 J	
MW-3	PFOSA	ND U	ND UJ	
DUP-061220	PFOSA	ND U	ND UJ	
MW-4	PFOSA	ND U	ND UJ	
FIELD BLANK (L2024757-10)	Bis(2-chloroisopropyl)ether	ND U	ND UJ	LCS % Recovery Low
	4-Chloroaniline	ND U	ND UJ	
	2-Nitroaniline	ND U	ND UJ	
	4-Nitroaniline	ND U	ND UJ	
	Benzoic Acid	ND U	ND UJ	
	Carbazole	ND U	ND UJ	
MW-2	Trichloroethene	3300	3300 J	MS/MSD % Recovery High
MW-2	8:2FTS	ND U	ND UJ	MS/MSD % Recovery Low
MW-2	3,3'-Dichlorobenzidine	ND U	ND UJ	
MW-1	Potassium, Total	18.4	18.4 J-	
MW-2		27.0	27.0 J-	
MW-3		20.2	20.2 J-	
MW-4		16.2	16.2 J-	

Sample ID	Analyte	Reported Result	Validated Result	Reason for Qualifier
MW-5		18.4	18.4 J-	
DUP-061220		20.0	20.0 J-	
FIELD BLANK (L2024757-06)		0.048 J	0.048 J-	

2. Glossary

- Sample Types:
  - N — Primary Sample
  - FD — Field Duplicate Sample
  - FB — Field Blank Sample
  - EB — Equipment Blank Sample
  - TB — Trip Blank Sample
- Units:
  - µg/L or µg/L — micrograms per liter
  - mg/L — milligrams per liter
  - ng/L — nanograms per liter
- Matrices:
  - WG — Groundwater
  - SE — Sediment
- Table Footnotes
  - NA — Not applicable
  - ND — Non-detect
  - NR — Not reported
- Abbreviations
  - DUSR — Data Usability Summary Report
  - SDG — Sample Delivery Group
  - EPA — Environmental Protection Agency
  - NFG — National Functional Guidelines
  - PFAS — Per- and Polyfluoroalkyl Substances
  - QAPP — Quality Assurance Project Plan
  - QA/QC — Quality Assurance/Quality Control
  - RL — Laboratory Reporting Limit
  - MDL — Laboratory Method Detection Limit
  - SOP — Laboratory Standard Operating Procedures
  - COC — Chain of Custody
  - SPE — Solid Phase Extraction
  - %R — Percent Recovery
  - RPD — Relative Percent Difference
  - LCS/LCSD — Laboratory Control Sample/Laboratory Control Sample Duplicate
  - MS/MSD — Matrix Spike/Matrix Spike Duplicate
  - PDS — Post Digestion Spike
  - IS — Internal Standards
  - ICAL — Initial Calibration

3. Qualifiers

Results are qualified with the following codes in accordance with EPA National Functional Guidelines:

- 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.
  - UJ The compound was not detected above the reported sample quantitation limit; however, the reported limit is estimated and may or may not represent the actual limit of quantitation.
  - 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 therefore an estimated concentration only.
  - R The sample results were rejected as unusable; the compound may or may not be present in the sample.

References

1. Haley & Aldrich, Inc., 2019. Quality Assurance Project Plan. 297 Wallabout St. Brooklyn, New York. New York State Department of Environmental Conservation.

2. United States Environmental Protection Agency, 2014. R10 Data Validation and Review Guidelines for Polychlorinated Dibenzo-p-Dioxin and Polychlorinated Dibenzofuran Data (PCDD/PCDF) Using Method 1613B, and SW846 Method 8290A. EPA-910-R-14-003. May.

3. United States Environmental Protection Agency, 2017a. National Functional Guidelines for Inorganic Superfund Methods Data Review. EPA-540-R-2017-001. January.

4. United States Environmental Protection Agency, 2017b. National Functional Guidelines for Organic Superfund Methods Data Review. EPA-540-R-2017-002. January.

5. United States Environmental Protection Agency, 2018. Data Review and Validation Guidelines for Perfluoroalkyl Substances (PFASs) Analyzed Using EPA Method 537. EPA 910-R-18-001. November.