450 Union Street

KINGS COUNTY

Brooklyn, NEW YORK

SITE MANAGEMENT PLAN

NYSDEC Site Number: C224219

Prepared for:

450 Union LLC and 450 Union Developer LLC
c/o Pilot Real Estate Group LLC
10 Glenville Street, Floor 1
Greenwich, Connecticut 06831

Prepared by:

Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

DECEMBER 18, 2020

CERTIFICATION STATEMENT

I, Jason J. Hayes, certify that I am currently a NYS registered professional engineer and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

JASON JAMES HAYES
089491

12/18/2020
DATE

TABLE OF CONTENTS

List of Tables

List of Figures

List of Appendices

List of Acronyms

BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	Below Grade Surface
CAMP	Community Air Monitoring Plan
CCR	Construction Completion Report
CFR	Code of Federal Regulation
CMWP	Corrective Measures Work Plan
COC	Certificate of Completion
CSO	Combined Sewer Overflow
CP	Commissioner Policy
DNAPL	Dense Non-aqueous Phase Liquid
DER	Division of Environmental Remediation
EC	Engineering Control
ECL	Environmental Conservation Law
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
EWP	Excavation Work Plan
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
HASP	Health and Safety Plan
IC	Institutional Control
IRM	Interim Remedial Measure
IRMWP	Interim Remedial Measure Work Plan
mg/kg	Milligrams per kilogram
MGP	Manufactured Gas Plant
NAVD88	North American Vertical Datum of 1988
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYCDOH	New York City Department of Health and Mental Hygiene
NYCRR	New York Codes, Rules and Regulations
OSHA	Occupational Safety and Health Administration
PID	Photoionization Detector
PPE	Personal Protective Equipment
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RSO	Remedial System Optimization
RR	Restricted-Residential
SCG	Standards, Criteria and Guidelines
SCO	Soil Cleanup Objective

SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SVOC	Semi-volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leachate Procedure
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
UU	Unrestricted Use
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan (SMP):

Site Identification:	**C224219 - 450 Union Street**
Institutional Controls:	1. The property may be used for restricted-residential, commercial and industrial uses (land use is subject to local zoning laws);
	2. All Engineering Controls must be operated and maintained as specified in this SMP;
	3. All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;
	4. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene (NYCDOHMH) to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;
	5. DNAPL recovery and other environmental or public health monitoring must be performed as defined in this SMP;
	6. Data and information pertinent to site management must be reported to the NYSDEC as defined in this SMP;
	7. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
	8. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
	9. Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;

Site Identification:	**C224219 - 450 Union Street**
	10. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
	11. The potential for vapor intrusion must be evaluated for any new buildings developed within the boundaries defined in the Environmental Easement, and any potential impacts that are identified must be monitored or mitigated; and
	12. Vegetable gardens and farming on the site are prohibited.
Engineering Controls:	1. Site Cover System
	2. Bulkhead Wall/Contaminant Barrier
	3. DNAPL Recovery Program

Inspections:	Frequency
1. Site-wide Inspection	Annually and after severe weather events
2. Site Cover System Inspection and Bulkhead Monitoring	Annually and after severe weather events
3. DNAPL Recovery	Monthly
Reporting:	
1. Periodic Review Report	Annually
2. DNAPL Recovery Summary	Quarterly

Descriptions of the above requirements are provided in detail in this SMP.

1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is a required element of the remedial program for the property at 450 Union Street in the Gowanus Neighborhood of Brooklyn, New York (the site). The site is enrolled in the New York State (NYS) Brownfield Cleanup Program (BCP) Site No. C224219, which is administered by New York State Department of Environmental Conservation (NYSDEC). 450 Union LLC c/o Pilot Real Estate Group (the Volunteer) executed a Brownfield Cleanup Agreement (BCA) on 1 September 2015 with the NYSDEC to investigate and remediate the site. 450 Union Developer LLC was added to the BCA as an additional Volunteer on March 13, 2020. The site location is shown on Figure 1. The boundaries of the site are more fully described in the metes and bounds site description of the Environmental Easement that is provided in Appendix A.

After completion of the remedial work, some contamination was left at this site and is hereafter referred to as "remaining contamination". Institutional and Engineering Controls (ICs and ECs) have been incorporated into the site remedy to control exposure to remaining contamination for the protection of public health and the environment. An Environmental Easement (City Register File Number [CFNR] 2020092301057001) granted to the NYSDEC, and recorded with the NYC Office of the City Register on September 10, 2020, requires compliance with this SMP and all ECs and ICs placed on the site.

This SMP was prepared to manage remaining contamination at the site until the Environmental Easement is extinguished in accordance with ECL Article 71, Title 36. This SMP has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easement and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easement. Failure to properly implement the SMP is a violation of the Environmental Easement, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the BCA (Index #C224219-06-15; Site #C224219) for the site, and thereby subject to applicable penalties.

All reports associated with the site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C., on behalf of the Volunteer, in accordance with the requirements of NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010, and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the ICs and/or ECs that are required by the Environmental Easement for the site.

1.2 Revisions

Revisions to this plan will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the Environmental Easement for the site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with DER-10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity pursuant to the Excavation Work Plan.
- Notice within 48-hours of any damage or defect to the foundation, structures or EC that reduces or has the potential to reduce the effectiveness of an EC, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of ECs in place at the site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the ECs.

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

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

The following table includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. Site contact information is provided in Appendix B.

Name	**Contact Information**
NYSDEC Project Manager	Nigel Crawford, P.E. (718) 482-7778 nigel.crawford@dec.ny.gov
NYSDEC Regional HW Engineer	Jane O'Connell, P.G. (718) 482-4599 jane.oconnell@dec.ny.gov
New York State Department of Health (NYSDOH) Project Manager:	Angela Martin (518) 402-7860 beei@health.ny.gov
NYSDEC Site Control:	Kelly Lewandowski Kelly.lewandowski@dec.ny.gov

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The site is about 28,500 square feet (0.65 acres) in area, is located at 450 Union Street in the Gowanus neighborhood in Brooklyn, New York, and is identified as Block 438 and Lot 7 on the NYC Brooklyn Borough Tax Map. It is bounded by Union Street to the north, the Gowanus Canal to the east, Lot 3 (automobile and bus parking) to the south, and Bond Street to the west. A site plan is provided as Figure 1. A site layout map is provided as Figure 2. The boundaries of the site are more fully described in the Environmental Easement, which is included as Appendix A. The owner of the site at the time of issuance of this SMP is 450 Union LLC.

2.2 Physical Setting

2.2.1 Land Use

Site improvements include a one-story, 9,880-square-foot building (the "Green Building") and two ancillary storage buildings used as a private event space and restaurant with seasonal outdoor space. The exterior part of the site contains an enclosed area for social events/restaurant space and storage areas. A new bulkhead/contaminant barrier, consisting of corrugated steel sheet piles, separates the property from the Gowanus Canal and serves as a contaminant barrier.

The site is located in an urban setting that is characterized by residential, commercial and industrial buildings. The surrounding property usage is summarized below:

Direction	Adjacent Properties			Surrounding Properties
	Block No.	Lot No.	Description	
North	431	1	Four-story residential building 305 Bond Street	Multiple-story transportation facilities, parking lots, and residential and commercial buildings.
		17	Truck yard and partially-vacant lot 510 Sackett Street[1]	
		43	501 Union – event space 501 Union Street	
East	NA	NA	Gowanus Canal	Multiple-story transportation facilities, commercial and industrial buildings, and exterior parking lots.
South	438	3	Automobile and bus parking lot	Multiple-story commercial and industrial buildings and parking lots.

---

[1] 510 Sackett Street is occupied by the Bayside Fuel Oil Company and was classified as a Major Oil Storage Facility and Petroleum Bulk Storage Facility for containing six mounted tanks ranging in size from 1,000 gallons to 500,000 gallons with No. 2 fuel oil, diesel, and kerosene. Remediation at that site has begun and several tanks have already been decommissioned.

Direction	Adjacent Properties			Surrounding Properties
	Block No.	Lot No.	Description	
			426 President Street	
West	430	36	Four-story residential building 316 Bond Street	Multiple-story residential and commercial buildings, and a public school
		37	Four-story residential building 318 Bond Street	
		38	Three-story residential building 320 Bond Street	
		39	Nine-story residential building 322 Bond Street	

Land use within a half-mile of the site includes mixed-use buildings, subway tunnels, park land, and school facilities. The nearest ecological receptor is the Gowanus Canal, which adjoins the site to the east.

2.2.2 Geology

The site is located in an area of Brooklyn characterized by crystalline or metamorphic bedrock overlain by glacial deposits that, in turn, is overlain by postglacial alluvial deposits and/or fill materials. Bedrock beneath the site is part of the Hartland Formation. The Hartland Formation is comprised of mica schist and quartz-feldspar granulite, with localized intrusions of granite and pegmatite. Soil and bedrock stratigraphy throughout Brooklyn typically consists of a layer of historical fill that overlies glacial till, decomposed unconsolidated bedrock, and bedrock. During previous environmental and geotechnical investigations conducted at the site by Langan prior to the completion of the remedy, historic fill was encountered between ground surface and a maximum depth of 15 feet below ground surface (bgs), underlain by brown, reddish-brown to grey fine- to coarse-grained sand with varying amounts of silt and gravel with intermittent clay lenses. Bedrock was not encountered in borings advanced to 60 feet bgs at the site during a geotechnical investigation completed by Langan.

2.2.3 Hydrogeology

Groundwater around the site has been measures between 7 and 11 feet bgs and is presumed to flow east towards the Gowanus Canal. Groundwater in this part of Brooklyn is not used as a potable water source. Potable water provided to the City of New York is derived from surface impoundments in the Croton, Catskill, and Delaware watersheds.

2.2.4 Gowanus Canal

The site is centered in a historically industrial and manufacturing area along the Gowanus Canal. In the 1840s, the canal was a natural estuary (Gowanus Creek) surrounded by farmland and natural wooded areas. In 1849, construction began to convert the estuary into a transportation channel to promote industrial growth and commerce. Construction of the canal was completed by 1869, and by 1870 the surrounding areas had become urbanized with manufactured gas plants, coal yards, and factories. As part of construction, land was artificially created by filling in parts of the original Gowanus Creek and over excavating areas for construction of the existing bulkhead. According to a historical index map of Brooklyn, published in 1874 by J.B. Beers & Co., the site was historically partially located within the original creek. This suggests it was subject to significant land filling with material of undocumented quality.

The Gowanus Canal is a federal Superfund Site contaminated by unmanaged combined sewer outfalls (CSO), historical manufactured gas plant (MGP) operations, and unregulated waste dumping and spills, and is being remediated with oversight and guidance by the USEPA. Coal tar is a dense non-aqueous phase liquid (DNAPL) that has been documented along the Gowanus Canal.

2.3 Summary of Investigation History and Previous Reports

Prior to the Volunteer's involvement with the site, several investigation reports were prepared and are summarized below:

- October 2001 Phase I Environmental Site Assessment (ESA), prepared by New York Petroleum & Drilling
- June and July 2001 Phase II Subsurface Investigation Report, prepared by New York Petroleum & Drilling
- February 2002 Due Diligence Review, prepared by AKRF, Inc. (AKRF)
- May 2002 Phase II Site Investigation Report, prepared by AKRF
- May 29, 2014 Phase I ESA, prepared by Langan
- June 5, 2014 Phase II Environmental Site Investigation (ESI), prepared by Langan
- June 25, 2014 Phase I ESA Report, prepared by Hillmann Consulting (Hillmann)
- July 25, 2014 Subsurface Investigation Summary Letter, prepared by Hillmann

After the BCA with the NYSDEC was executed, the following reports were prepared on behalf of the Volunteer:

- October 26, 2016 Waterfront Geotechnical Engineering Report, prepared by Langan
- May 5, 2017 Remedial Investigation Report (RIR), prepared by Langan
- February 16, 2017 IRMWP, prepared by Langan
- January 21, 2020 IRMWP, prepared by Langan
- April 4, 2020 Construction Completion Report (CCR), prepared by Langan
- October 14, 2020 Remedial Action Work Plan (RAWP), prepared by Langan

The Remedial Investigation (RI) and other previous studies performed between 2001 and 2016 identified the following:

- The site was historically occupied by various industrial and manufacturing tenants by 1886. Historical uses of the property have included the following: coal and wood storage (1886 to 1928); granite works (1915); die casting and electroplating (1922); vehicle repair (1918 to 1930); fuel storage, vehicle repair and office (1931); and foundry (1930 to 2007).
- Coal tar impacts to native soil between 23 and 54 feet bgs and accumulation of coal tar DNAPL within an on-site recovery well (RW01). Coal tar DNAPL was observed to a depth of about 47 feet bgs and is believed to be perched on top of a low-permeability layer;
- An underground storage tank (UST) previously identified on historical Sanborn Fire Insurance Maps and located during geophysical ground surveys at the southeast corner of the Green Building. Petroleum impacts to soil associated with the UST were identified immediately around its location and up to 12 feet bgs;
- A hazardous lead soil hotspot near the center of the site, extending from surface grade to about 4 feet bgs; and
- A layer of historic fill (below the site cap) with concentrations of semivolatile organic compounds (SVOCs), metals, pesticides, and localized polychlorinated biphenyls (PCBs) above 6 NYCRR Part 375 Unrestricted Use (UU) and Restricted Use Restricted-Residential (RR) Soil Cleanup Objectives (SCOs).

Sample locations and corresponding soil, groundwater, and soil vapor sample results from the May 17, 2017 RIR are shown on Figures 3, 4, and 5, respectively.

2.4 Summary of Remedial Action

2.4.1 Remedial Action Objectives

The following sections outline the Remedial Action Objectives (RAOs) identified in the October 23, 2020 Decision Document and includes a summary of the remedial actions implemented at the site.

Media	RAOs for Public Health	RAOs for Environmental Protection
Soil	• Prevent ingestion/direct contact with contaminated soil.	• Prevent migration of contaminants that would result in groundwater or surface water contamination.
Groundwater	• Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.	• Prevent the discharge of contaminants to surface water. • Remove and minimize on-site source of groundwater or surface water contamination.
Soil Vapor	Prevent potential impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the site.	

The cleanup goals selected for this site are the 6 NYCRR Part 375 RR SCOs, which are summarized on Table 1.

2.4.2 Summary of 2017 Interim Remedial Measure Actions

An IRMWP was prepared to remediate the western two-thirds of the site and regulate construction activities related to site improvements. The IRM was implemented between February 20 and May 3, 2017 and included:

- Geophysical subsurface survey and waste characterization soil sampling within the underground storage tank (UST) and hazardous lead hotspot areas for disposal purposes;
- Excavation to about 5 feet and off-site disposal of soil containing characteristic hazardous concentrations of lead;
- Advancement of four test pits in the vicinity of the UST to identify its size, orientation, and distance from the adjacent building;
- Removal, decommissioning, and off-site disposal of one 550-gallon UST;
- Localized excavations into the existing site cover for installation of awning footings, planter beds, and tree pits and off-site disposal of excavated material;
- Implementation of a community air monitoring program and site-specific health and safety plan during ground-intrusive work

- Collection and analysis of confirmation soil samples following the hazardous lead soil and UST excavations and documentation soil samples following the awning footing, planter bed, and tree pit excavations.
- Restoration of the site cover with concrete, asphalt, and landscaped surfaces underlain by a high-visibility demarcation barrier.

These activities were documented in a Construction Completion Report that was approved by the NYSDEC on April 14, 2020.

2.4.3 Summary of 2020 Interim Remedial Measures Actions

An IRMWP was prepared for construction of the bulkhead/contaminant barrier between the eastern part of the site and the Gowanus Canal and a high-level relieving platform on the inland area. The work was implemented between February 22 and November 25, 2020 and included:

- Installation of a new, sealed, steel bulkhead/contaminant barrier to serve as a subsurface containment/cut-off wall for coal tar DNAPL migration;
- Excavation and off-site disposal of excess soil/fill generated during construction of the new bulkhead/contaminant barrier;
- Documentation of soil sampling and analysis, collected from the base of bulkhead/contaminant barrier excavations, to document remaining soil/fill exceeding 6 NYCRR Part 375 Restricted-Residential SCOs;
- Backfill above the high-level relieving platform to the original grade using imported virgin, native crushed stone, in accordance with DER-10;
- Restoration of the site cover consisting of new asphalt pavement;
- Surveying the new site cover proximate to the bulkhead/contaminant barrier excavation area by a New York State Professional Land Surveyor; and
- Development and execution of a Construction Health and Safety Plan (CHASP) and a Community Air Monitoring Plan (CAMP) for the protection of on-site workers and the nearby community during remediation and construction activities.

This work is documented in a Final Engineering Report (FER).

2.4.4 Summary of 2020 Remedial Action Work Plan

A RAWP was prepared to summarize the scope of the final site remedy, which includes installation of a new DNAPL recovery well, and to establish a recovery and monitoring program for one existing well and the new recovery well. The work includes:

- Installation of one DNAPL recovery well at a location where DNAPL has been documented during previous investigations;
- Implementation of a DNAPL recovery program;
- A bulkhead monitoring program;
- Maintenance of the site cover system;
- Surveying the existing and new recovery wells by a New York State Professional Land Surveyor; and
- Establishment of long-term institutional controls in the form of a SMP and an Environmental Easement.

2.5 Remaining Contamination

Confirmation and documentation sample locations are shown on Figure 6. Analytical results and related laboratory reports are included in Appendix C. Confirmation and documentation soil sampling results from the 2017 and 2020 IRMs are summarized as follows.

2017 IRM

- Confirmation soil sample results for the hazardous lead excavation indicate that remaining concentrations of lead are below RR SCOs and Resource Conservation and Recovery Act (RCRA) hazardous waste criteria. The confirmation soil sample analytical results are included as Table 2A;

- Confirmation soil sample results for the UST excavation did not contain volatile organic compound (VOC) concentrations above UU or RR SCOs. Detected semi-volatile organic compounds (SVOC) concentrations are consistent with concentrations typically found in historic fill in New York City, including in historic fill present across the site. The confirmation sample analytical results are included as Table 2B;

- Documentation soil samples collected within the 0- to 4-foot interval of historic fill did not contain VOCs herbicides, pesticides, or PCBs above the Track 4 site-specific SCOs. The detected SVOC concentrations are typical of those found in historic fill. Metals were generally below Track 4 site-specific SCOs, except for one sample, collected near the center of the site, containing mercury at a concentration of 190 milligrams per kilogram (mg/kg). This area is capped by 2 feet of recycled concrete aggregate (RCA) from a registered NYSDEC Part 360 facility and a 2-foot virgin crushed stone cover. The 2017 IRM documentation sample analytical results are included as Table 2C.

2020 IRM

- Documentation soil samples were collected from the base of the high-level relieving platform excavation, at a depth of 12.5 feet bgs, corresponding to an elevation (el.) of about 2± referenced to the North American Vertical Datum of 1988 (NAVD88). Two VOCs were detected below UU SCOs and pesticides, herbicides, PCBs were not detected. Several SVOCs, and metals were detected above RR SCOs in at least one sample. The detected SVOC and metal concentrations are consistent with concentrations typically found in historic fill in New York City, including in historic fill present across the site. The 2020 IRM documentation sample analytical results are included as Table 3.

After completing all remedial actions, the continuous site cover was restored to prevent exposure to remaining soil contamination below the site. Exposure to remaining soil, groundwater and vapor contamination will be addressed by the ECs (i.e., site cover system and bulkhead/contaminant barrier) and ICs. Residual coal-tar underlying the site will be addressed by the DNAPL Recovery Program.

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

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

This plan provides:

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

3.2 Institutional Controls

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the site to restricted-residential, commercial and industrial uses only. Adherence to these ICs on the site is required by the Environmental Easement and will be implemented under this SMP. ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The areas subject to these ICs are shown on Figure 2.

The ICs for this site are:

- The property may be used for restricted-residential, commercial and industrial uses (land use is subject to local zoning laws);
- All ECs must be operated and maintained as specified in this SMP;

- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene (NYCDOHMH) to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- DNAPL Recovery and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP;
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP;
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP;
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any new buildings developed within the boundaries defined in the Environmental Easement (Figure 2), and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited.

3.3 Engineering Controls

3.3.1 Site Cover System

Exposure to remaining contamination at the site is prevented by a site cover system, which consists of the following three types:

1. Concrete building slabs;
2. Asphalt paved-areas; and
3. Landscaped areas.

The locations and typical details of each cover type are shown on Figure 7 and the cover system surveys are provided in Appendix G. Areas that are not capped by a surface structure (i.e., concrete building slabs, asphalt, etc.) contain a minimum two-foot clean cover (i.e, virgin stone or a soil cover) installed above remaining site soil to prevent direct contact with the public. Soil used as a cover meets the lower of 6 NYCRR Part 375-6.4(b) RR and Protection of Groundwater SCOs. For landscaped areas, a highly-visible demarcation barrier (i.e., orange snow fence) was placed between the remaining site soil and the clean fill cap.

The EWP provided in Appendix D outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed or if the cover system is replaced. Procedures for the inspection of this cover are provided in the Site Monitoring and Sampling Plan, included in Section 5.0 of this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the site and provided in Appendix E and Appendix F, respectively.

3.3.2 Bulkhead/Contaminant Barrier

Migration of coal tar DNAPL between the east-adjoining Gowanus Canal and the site is prevented by a new bulkhead/contaminant barrier. The bulkhead/contaminant barrier is installed along the eastern 100-foot boundary of the site with a return at the southern lot boundary. Steel sheet piles for the bulkhead/contaminant barrier were driven to a minimum 52 feet bgs (el. -40 NAVD88) within the secondary low-permeability silt and clay layers that extend from about 38 feet to 56 feet bgs. A hydrophilic water-stop (Adeka Utraseal) is installed within un-welded interlocking seams from sheet toe (el. -40) up to the mean higher high water (MHHW), about 10 feet bgs (el. 2.5). The hydrophilic water-stop is designed to swell and seal voids on contact with water.

A high-level relieving platform, consisting of a pile-supported, reinforced concrete slab, was installed about 4 feet bgs and extends 25 feet west (inland) from the bulkhead/contaminant barrier. As part of the design, soil/fill beneath the concrete platform was excavated to about 12.5 feet bgs (el. 0) to reduce earth-pressures exerted on the steel sheets.

Procedures for monitoring the bulkhead/contaminant barrier are described in the Bulkhead Monitoring Program (Section 4.3 of this SMP). As-built bulkhead/contaminant barrier drawings are included in Appendix G. Figure 7 shows the location of the ECs for the site.

3.3.3 DNAPL Recovery Program

Manual DNAPL recovery will be performed using two on-site recovery wells as described in Section 5.1. Recovery well locations are show on Figure 7. Recovery well construction logs are included in Appendix H. It is currently anticipated that DNAPL recovery will be performed manually. The need for active recovery will be evaluated depending on observed DNAPL recovery rates. DNAPL recovery will be performed until the target completion goals are achieved and discontinuance is approved by the NYSDEC.

3.3.4 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when monitoring indicates that the remedy has achieved the remedial action objectives identified by the decision document. The framework for determining when remedial processes are complete is provided in Section 6.4 of NYSDEC DER-10.

3.3.4.1 Site Cover System

The site cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity. Where any work is planned that may penetrate the composite cover, the EWP must be followed and the cover restored. Inspection of the site cover system will be performed in accordance with Section 4.2 of this SMP.

3.3.4.2 - Bulkhead/Contaminant Barrier

The bulkhead/contaminant barrier is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in accordance with this SMP in perpetuity. Bulkhead monitoring will be conducted in accordance with Section 4.3 of this SMP.

3.3.4.3 - DNAPL Recovery System

DNAPL recovery will be performed until asymptotic conditions are reached and discontinuance is approved by the NYSDEC. Procedures and frequency for DNAPL recovery are detailed in the Site Monitoring and DNAPL Recovery Program, in Section 5.1 of this SMP.

4.0 SITE MONITORING AND SAMPLING PLAN

This Site Monitoring and Sampling Plan describes the measures for evaluating the overall performance and effectiveness of the remedy and may only be revised with the approval of the NYSDEC. Sampling of site media for laboratory analysis is not anticipated as part of site management; however, if deemed necessary, details regarding the sampling procedures, data quality usability objectives and analytical methods for all samples collected as part of site management are included in the Quality Assurance Project Plan (QAPP) provided in Appendix I. The procedures described in this section address inspections and periodic monitoring for the following:

1. Site-wide Inspections
2. Site Cover System Inspections
3. Bulkhead Monitoring.

This Plan describes the methods to be used for:

- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the monitoring activities.

To adequately address these tasks, this Site Monitoring and Sampling Plan provides information on:

- Designed containment systems (e.g. the site cover system and the bulkhead/contaminant barrier);
- Site cover inspection and maintenance requirements;
- Bulkhead/contaminant barrier monitoring;
- Annual inspection and periodic certification.

Reporting requirements are provided in Section 7.0 of this SMP. Inspections, monitoring and provisional sampling frequencies are summarized in Table 4.

4.1 Site-wide Inspection

Site-wide inspections will be performed annually. Modification to the frequency or duration of the inspections will require approval from the NYSDEC. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed as provided in Appendix J – Site Management Forms. The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection; and
- Confirm that site records are up to date.

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

- Whether ECs continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria; and
- If site records are complete and up to date.

Inspections will also be performed in the event of an emergency. If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs that reduces or has the potential to reduce the effectiveness of ECs in place at the site, verbal notice to the NYSDEC must be given by noon of the following day. In addition, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the IC/ECs implemented at the site by a qualified environmental professional, as determined by the NYSDEC. Written confirmation must be provided to the NYSDEC within 7 days of the event that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.

4.2 Site Cover Inspection and Monitoring

The site cover system provides a physical barrier to prevent exposure of contaminated site material to sensitive receptors. Inspection of the site cover system by a professional engineer, or a qualified environmental professional under the direction of a professional engineer, is required at a minimum of once per year and following any severe weather or other condition that could compromise the cover performance. Observations made during inspections will be recorded on a site cover inspection form (Appendix J) and will provide sufficient information to certify the integrity of each component of the site cover system. Any identified damages to the site cover system will be repaired in kind in compliance with this SMP.

4.3 Bulkhead Monitoring Program

An annual inspection will be performed of the surface water of the Gowanus Canal adjoining the new bulkhead face for evidence of coal tar seepage from the site to the Canal. Observations made during bulkhead monitoring will be summarized and submitted to the NYSDEC with each Periodic Review Report (PRR).

4.4 Soil Vapor Intrusion Evaluation for New Occupancies

A soil vapor intrusion evaluation will be performed prior to occupancy of new or previously unoccupied buildings. The scope of this soil vapor evaluation will be summarized in a brief work plan for approval by the NYSDEC and NYSDOH. The work plan will propose sampling procedures and methods consistent with the NYSDOH October 2006 Guidance for Evaluating Soil Vapor Intrusion in the State of New York (and updates).

5.0 OPERATION AND MAINTENANCE PLAN

This section provides a brief description of the measures necessary to operate, monitor and maintain the components of the DNAPL recovery system.

5.1 DNAPL Recovery Program

DNAPL Recovery

Manual DNAPL recovery will be performed from two recovery wells at monthly intervals. During each event, recovery wells will be gauged for product thickness to be recorded and compared with the results of past events. After gauging product thickness, recoverable DNAPL will be extracted and the approximate volume will be measured. Recovered DNAPL will be stored in labeled, 55-gallon steel drums and characterized and transported off site for disposal. DNAPL recovery rates will be monitored to determine whether the frequency of recovery events should be modified. DNAPL recovery will be performed manually. The need for active recovery will be evaluated depending on observed DNAPL recovery rates. DNAPL recovery will be performed until asymptotic conditions are reached and discontinuance is approved by the NYSDEC. The monthly DNAPL recovery results will be summarized in quarterly reports, as described in Section 7.0.

Recovery Well Repairs, Decommissioning, and Replacement

If biofouling or silt accumulation occurs in the recovery wells, the wells will be physically agitated/surged and redeveloped. If rendered unusable, the recovery wells will be properly decommissioned in accordance with CP-43 and replaced.

Repairs and/or replacement of recovery wells will be performed based on assessments of structural integrity and overall performance. The NYSDEC will be notified prior to any repair or decommissioning of any recovery well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the quarterly DNAPL recovery reports and the subsequent PRR. Recovery well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC CP-43: Groundwater Monitoring Well Decommissioning Procedures. Recovery wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

6.0 PERIODIC ASSESSMENTS/EVALUATIONS

6.1 Climate Change Vulnerability Assessment

Increases in both the severity and frequency of storms/weather events, an increase in sea level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuation, resulting from global climactic change and instability, have the potential to significantly impact the performance, effectiveness and protectiveness of a given site and associated remedial systems. Vulnerability assessments provide information so that the site and associated remedial systems are prepared for the impacts of the increasing frequency and intensity of severe storms/weather events and associated flooding.

This section provides a summary of vulnerability assessments that will be conducted for the site during periodic assessments, and briefly summarizes the vulnerability of the site and/or engineering controls to severe storms/weather events and associated flooding.

According to the Federal Emergency Management Agency (FEMA) Effective Flood Insurance Rate Map (FIRM) dated September 5, 2007 (Map Number 3604970211F) and the Preliminary FIRM Community-Panel Number 3604970211G, dated December 5, 2013, the site is located mostly in Zone X. A small part of the eastern site (less than 9 percent) is located within Zone AE. Zone AE is defined as a special flood hazard area and is subject to inundation by the 1 percent annual chance flood, and Zone X is a minimal flood hazard area. The site remedy does not rely on mechanical systems. In the event of a power loss, the effectiveness of the engineering controls will not be disrupted.

6.2 Green Remediation Evaluation

NYSDEC’s DER-31 Green Remediation requires that green remediation concepts and techniques be considered during all stages of the remedial program including site management, with the goal of improving the sustainability of the cleanup and summarizing the net environmental benefit of any implemented green technology. This section of the SMP provides a summary of any green remediation evaluations to be completed for the site during site management, and as reported in the PRR.

6.2.1 Timing of Green Remediation Evaluations

For major remedial system components, green remediation evaluations and corresponding modifications will be undertaken as part of a formal Remedial System Optimization (RSO), or at any time that the Project Manager feels appropriate, e.g. during significant maintenance events or in conjunction with storm recovery activities.

Modifications resulting from green remediation evaluations will be routinely implemented and scheduled to occur during planned/routine operation and maintenance activities. Reporting of these modifications will be presented in the PRR.

6.2.2 Frequency of System Checks, Recovery and Other Periodic Activities

Transportation to and from the site and use of consumables in relation to visiting the site in order to perform recovery and routine and non-routine inspection activities have direct and/or inherent energy costs. The schedule and/or means of these periodic activities have been prepared so that these tasks can be accomplished in a manner that does not impact remedy protectiveness but reduces expenditure of energy or resources.

6.3 Remedial System Optimization

A Remedial Site Optimization (RSO) study will be conducted any time that the NYSDEC or the remedial party requests in writing that an in-depth evaluation of the remedy is needed. An RSO may be appropriate if any of the following occur:

- The remedial actions have not met or are not expected to meet RAOs in the time frame estimated in the Decision Document;
- The management and operation of the remedial system is exceeding the estimated costs;
- The remedial system is not performing as expected or as designed;
- Previously unidentified source material may be suspected;
- Plume shift has potentially occurred;
- Site conditions change due to development, change of use, change in groundwater use, etc.;
- There is an anticipated transfer of the site management to another remedial party or agency; and
- A new and applicable remedial technology becomes available.

The RSO will evaluate the conceptual site model, summarize past remedial actions, document current site engineering controls, summarize progress made toward the site's cleanup goals, evaluate additional performance or media-specific data and information, and provide recommendations and justifications for improving the engineering controls or changing the approved remedy. The RSO study should focus on assessing and improving remedial strategy, optimization, and management to increase efficiency, improve cost effectiveness, and reduce estimated remediation schedules. Sustainable remediation practices should also be considered during RSO studies. RSO reporting is described in more detail in Section 7.4.

7.0 REPORTING REQUIREMENTS

All site management inspection, maintenance and monitoring events will be recorded on the appropriate site management forms provided in Appendix J. These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the following table and summarized in the PRR. Reporting frequencies are summarized in Table 4.

Task/Report	Reporting Frequency*
DNAPL Recovery	Quarterly
Site-Wide Inspection and PRR	Annually, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;
- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- DNAPL measurements and recovery quantities;
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

New analytical data that is generated will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS^{TM} database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

7.1 DNAPL Recovery Reporting

DNAPL recovery will be performed in accordance with the DNAPL Recovery Program described in Section 5.1. DNAPL well gauging and recovery events will be performed monthly. The well column thickness and recovery volumes will be summarized in quarterly reports and include the well gauging and recovery procedures, well thicknesses and DNAPL recovery volume, and anticipated schedule.

DNAPL recovery will be performed until asymptotic conditions are reached and discontinuance is approved by the NYSDEC. The recovery wells will be gauged and DNAPL recovered to show that the recovery wells are operational and effective. This information will be documented in the FER. The start of the DNAPL recovery and bulkhead monitoring program under the SMP will be coordinated with the NYSDEC.

7.2 Periodic Review Report

A PRR will be submitted to the Department beginning 16 months after the Certificate of Completion is issued. After submittal of the initial PRR, the next PRR shall be submitted annually to the Department or at another frequency as may be required by the Department. In the event that the site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the site described in the Environmental Easement (Appendix A). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. The PRR will include:

- Certification Period
- Identification, assessment and certification of all ECs/ICs required by the remedy for the site.
    - If the ECs employed at the site continue to perform as designed and continue to be protective of human health and the environment;
    - If any modifications are needed to improve the ECs to maintain operation as designed;
    - Compliance with all ICs included site uses, the SMP and the EE;
    - Achievement of remedial performance criteria, if applicable; and
    - If site records are complete, maintained at the site, and are current/up-to-date.
- Descriptions of annual site inspections and bulkhead monitoring, monthly DNAPL recovery events, SVI evaluation(s), and severe condition inspections, if applicable.

- All applicable site management forms and other records generated for the site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific Decision Document;
    - The operation and the effectiveness of all ECs;
    - Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and DNAPL Recovery Plan or SVI evaluation for the media being monitored;
    - Recommendations regarding any necessary changes to the remedy and/or Monitoring and DNAPL Recovery Plan; and
    - Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.
    - The overall performance and effectiveness of the remedy.

7.2.1 Certification of Institutional and Engineering Controls

Following the last inspection of the reporting period, a New York State-licensed Professional Engineer will prepare, and include in the PRR, the following certification as per the requirements of NYSDEC DER-10:

" For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- *The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;*

- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *No new information has come to my attention, including groundwater monitoring data from wells located at the site boundary, if any, to indicate that the assumptions made in the qualitative exposure assessment of off-site contamination are no longer valid; and*
- *Use of the site is compliant with the environmental easement;*
- *The engineering control systems are performing as designed and are effective;*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, Jason Hayes, P.E., of Langan, have been authorized and designated by the Volunteer to sign this certification for the site."

Every five years the following certification will be added:

- *The assumptions made in the qualitative exposure assessment remain valid.*

The signed certification will be included in the PRR. The PRR will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The PRR may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

7.3 Corrective Measures Work Plan

If there is evidence that a component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an IC or EC, a Corrective Measures Work Plan (CMWP) will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the CMWP until it has been approved by the NYSDEC.

7.4 Remedial Site Optimization Report

In the event that an RSO is to be performed (see Section 6.3), upon completion of an RSO, an RSO report must be submitted to the Department for approval. A general outline for a RSO report is included in Appendix K. The RSO report should document the research/ investigation and data collection, evaluate the results and findings, present a revised conceptual site model and present recommendations. RSO recommendations are to be implemented upon approval from the NYSDEC. Additional work plans, design documents, HASPs etc., may still be required to implement the recommendations, based upon the actions that need to be taken, including updated engineering reports and updates to this SMP. The RSO report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located, Site Control and the NYSDOH Bureau of Environmental Exposure Investigation.

8.0 REFERENCES

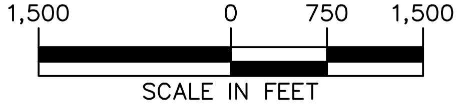
1. 6 NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
2. NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".
3. NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).
4. New York Petroleum & Drilling, Phase II Subsurface Investigation Report, dated June and July 2001.
5. New York Petroleum & Drilling, Phase I Environmental Site Assessment (ESA), dated October 2001
6. AKRF Inc. (AKRF), Due Diligence Review, dated February 1, 2002.
7. AKRF, Phase II Site Investigation Report, dated May 2002.
8. Hillmann Consulting (Hillmann), Phase I ESA Report, dated June 25, 2014.
9. Hillmann, Subsurface Investigation Summary Letter, dated July 25, 2014.
10. Langan Engineering, Environmental, Surveying, and Landscape Architecture, D.P.C. (Langan), Phase I ESA, dated May 29, 2014.
11. Langan, Phase II Environmental Site Investigation (ESI), dated June 5, 2014.
12. Langan, Remedial Investigation Report (RIR), dated May 5, 2017.
13. Langan, Interim Remedial Measure Work Plan (IRMWP), dated February 16, 2017.
14. Langan, Phase I ESA, dated December 3, 2019.
15. Langan, IRMWP, dated January 21, 2020.
16. Langan, Construction Completion Report (CCR), dated April 13. 2020.
17. Langan, Remedial Action Work Plan (RAWP), dated October 14, 2020.

Figures

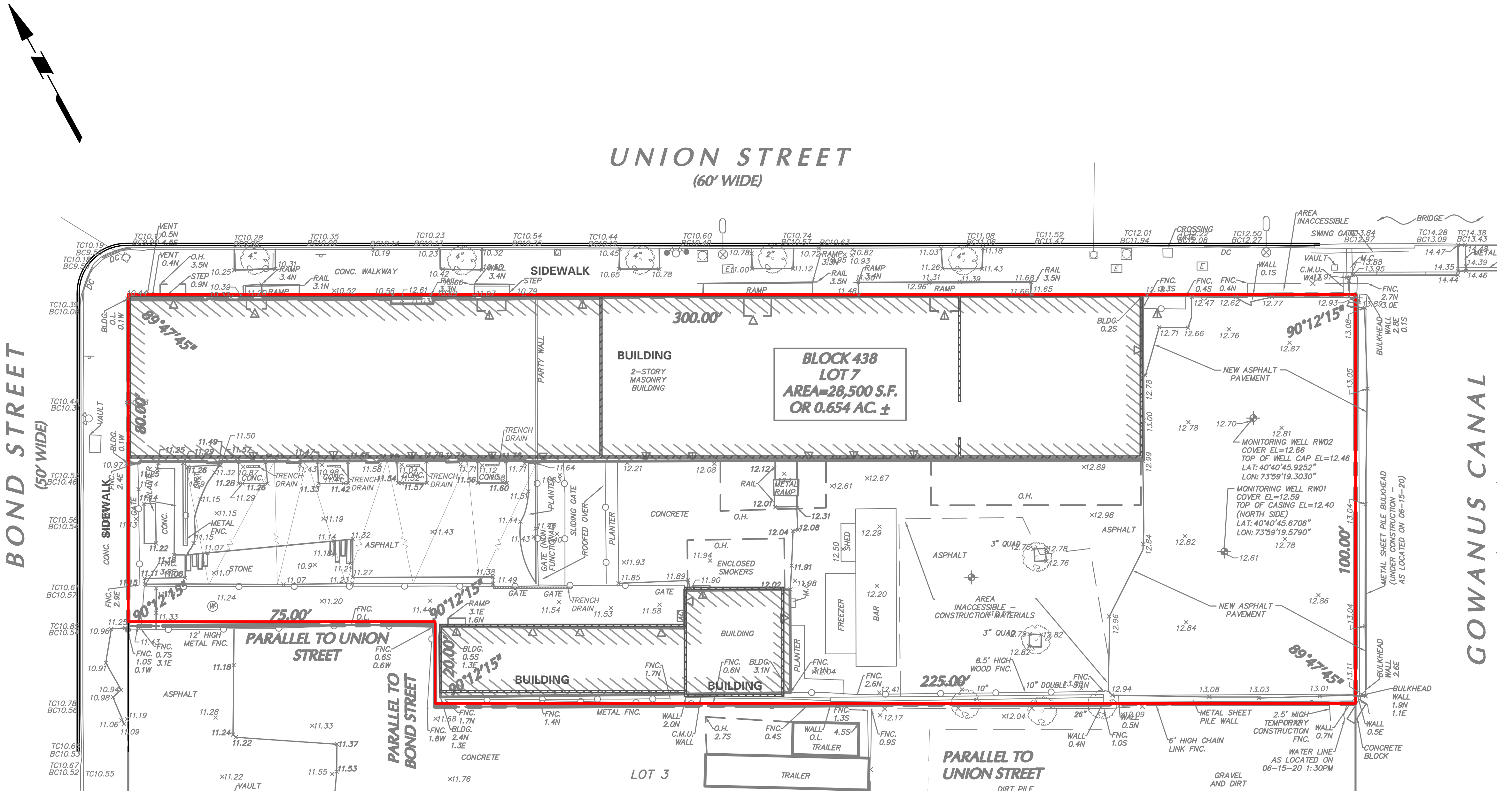
LEGEND:

APPROXIMATE BROWNFIELD CLEANUP PROGRAM SITE BOUNDARY

MAP REFERENCE: BASE MAP IS TAKEN FROM UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5 MINUTE TOPOGRAPHIC MAPS FOR THE BROOKLYN, 1980 AND JERSEY CITY, 1982 QUADRANGLES.



LANGAN Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 21 Penn Plaza, 360 West 31st Street, 8th Floor New York, NY 10001 T: 212.479.5400 F: 212.479.5444 www.langan.com	Project 450 UNION STREET BLOCK No. 438, LOT No. 7 BROOKLYN KINGS NEW YORK	Figure Title SITE LOCATION MAP	Project No. 170301202 Date 7/27/2020 Drawn By JD Checked By AT	Figure No. 1 Sheet 1 of 7



30 0 15 30

SCALE IN FEET

LEGEND:

🟥 APPROXIMATE BROWNFIELD CLEANUP PROGRAM SITE BOUNDARY

NOTES:

1. BASE MAP IS REFERENCED FROM THE FOLLOWING SOURCES:
   A) BOUNDARY AND TOPOGRAPHIC SURVEY, PREPARED BY LANGAN ENGINEERING, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C., DATED JUNE 13, 2017, LAST REVISED DECEMBER 14 2020.
   B) DEC EASEMENT SURVEY BY LANGAN ENGINEERING, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C., DATE JUNE 25, 2020.
2. ALL LOCATIONS ARE APPROXIMATE.

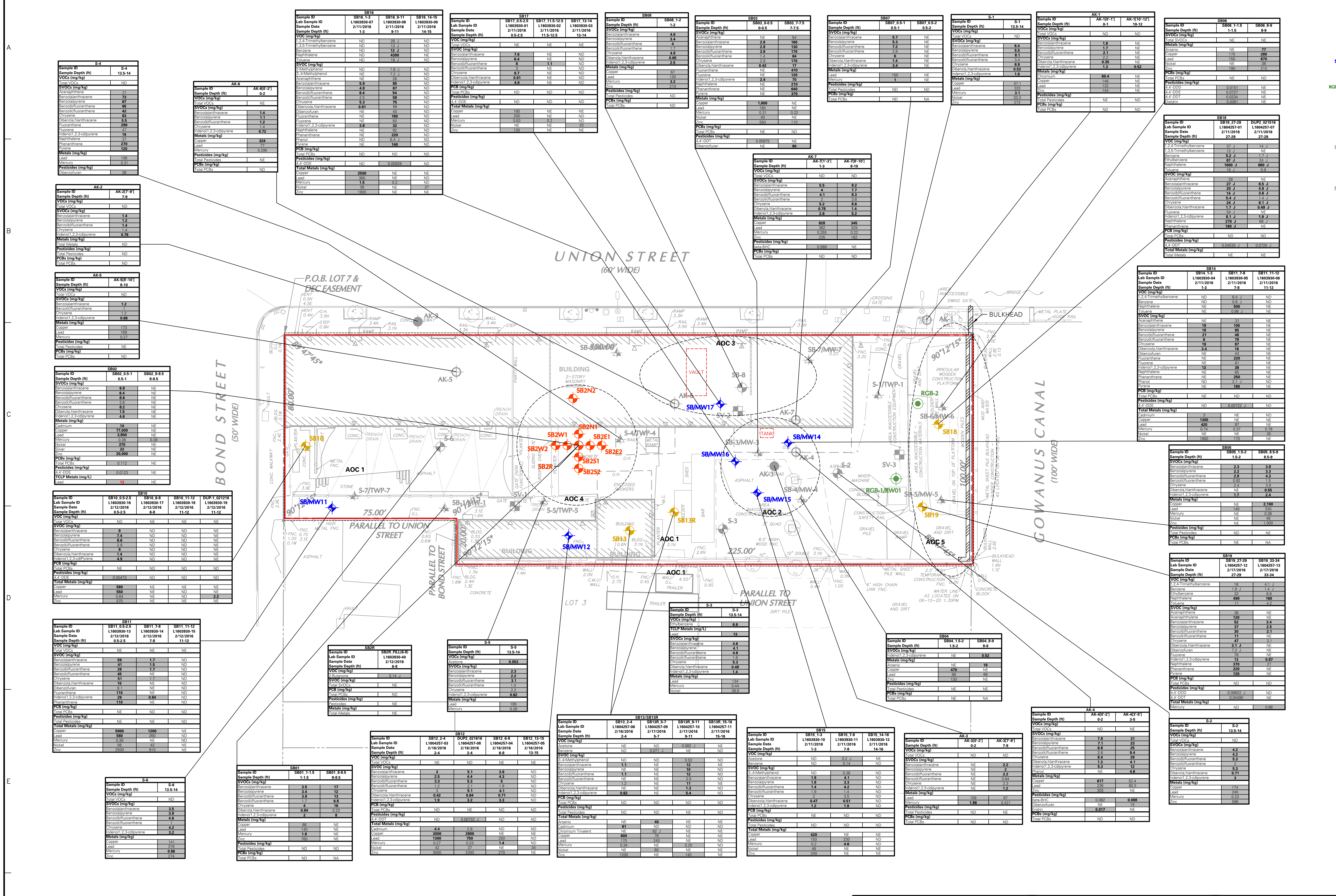
SITE LAYOUT - AERIAL (APRIL 2020)

NOT TO SCALE

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Project	Figure Title	Project No. 170301202	Figure No.
450 UNION STREET BLOCK No. 438, LOT No. 7 BROOKLYN KINGS NEW YORK	SITE PLAN	Date 9/25/2020 Drawn By LE Checked By AT	2 Sheet 2 of 7

Filename: \\langan.com\data\NYC\data2\170301202\Cadd Data - 170301202\2D-DesignFiles\Environmental\BCP SMP\Figure 2 - Site Plan.dwg Date: 12/10/2020 Time: 13:19 User: tschiefer Style Table: Langan.stb Layout: Figure 2 - Site Plan



LEGEND:

- APPROXIMATE BROWNFIELD CLEANUP PROGRAM SITE BOUNDARY
- SB10 — RI SOIL BORING LOCATION (FEBRUARY 2016)
- SB2W1 — RI LEAD DELINEATION SOIL BORING LOCATION (FEBRUARY 2016)
- SB/MW11 — RI SOIL BORING/MONITORING WELL LOCATION (FEBRUARY 2016)
- RGB-2 — RI GEOTECHNICAL SOIL BORING LOCATION (JULY 2016)
- RGB-1/RW01 — RI GEOTECHNICAL SOIL BORING/RECOVERY WELL LOCATION (JULY 2016)
- AK-4 — AKRF BORING LOCATION (APRIL 2002)
- AK-3 — AKRF BORING AND MONITORING WELL LOCATION (APRIL 2002)
- SB-8 — LANGAN BORING LOCATION (MAY 2014)
- SB-7/MW-7 — LANGAN BORING AND MONITORING WELL LOCATION (MAY 2014)
- SV-3 — LANGAN SOIL VAPOR SAMPLE LOCATION (MAY 2014)
- S-2 — HILLMAN BORING LOCATION (JULY 2014)
- S-5/TWP-5 — HILLMAN BORING AND MONITORING WELL LOCATION (JULY 2014)

NOTES:

1. BASE MAP IS REFERENCED FROM SITE SURVEY, PREPARED BY LANGAN, DATED JUNE 25, 2020.
2. SOIL BORING LOCATIONS ARE APPROXIMATE. LANGAN REMEDIAL INVESTIGATION MONITORING WELLS WERE SURVEYED ON MARCH 9, 2016.
3. RI = REMEDIAL INVESTIGATION
4. AREA OF CONCERN (AOC) KEY:
   - AOC 1 - HISTORIC FILL
   - AOC 2 - UNDERGROUND STORAGE TANK AND PETROLEUM IMPACTS
   - AOC 3 - UNDOCUMENTED VAULT
   - AOC 4 - HAZARDOUS CONCENTRATIONS OF LEAD IN SOIL
   - AOC 5 - IMPACTS RELATED TO GOWANUS CANAL SUPERFUND SITE
5. SOIL SAMPLES ARE COMPARED TO NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE NEW YORK CODES, RULES, AND REGULATIONS (6 NYCRR) PART 375 UNRESTRICTED USE AND RESTRICTED USE RESTRICTED-RESIDENTIAL SOIL CLEANUP OBJECTIVES (SCO), AND TITLE 40 OF THE CODE OF FEDERAL REGULATIONS (40 CFR) PART 261, MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC.
6. ONLY COMPOUNDS WITH CONCENTRATIONS ABOVE PART 375 UNRESTRICTED USE SCOs AND ABOVE EPA MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC ARE SHOWN.
7. RESULTS ARE NOT SHOWN FOR HISTORICAL SAMPLES FROM AKRF BORING S-7 AND LANGAN BORING SB-9 BECAUSE DETECTED CONCENTRATIONS WERE NOT ABOVE PART 375 UNRESTRICTED USE SCOs.
8. DATA FOR THE HAZARDOUS LEAD DELINEATION AREA IS SHOWN ON FIGURE 7B.
9. CONCENTRATIONS DETECTED ABOVE PART 375 UNRESTRICTED USE SCOs ARE HIGHLIGHTED.
10. CONCENTRATIONS DETECTED ABOVE NYSDEC RESTRICTED-RESIDENTIAL SCOs ARE HIGHLIGHTED AND BOLDED.
11. LEAD CONCENTRATIONS DETECTED ABOVE 40 CFR 261 LIMITS ARE HIGHLIGHTED IN AND BOLDED IN RED.
12. NYSDEC PART 375 SCOs AND TCLP LEAD CRITERION ARE PRESENTED IN THE TABLE BELOW.
13. TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE.
14. VOC = VOLATILE ORGANIC COMPOUND
15. SVOC = SEMIVOLATILE ORGANIC COMPOUND
16. PCB = POLYCHLORINATED BIPHENYL
17. mg/kg = MILLIGRAM PER KILOGRAM
18. mg/L = MILLIGRAM PER LITER
19. NA = NOT ANALYZED
20. ND = NO DETECTIONS
21. NE = NO DETECTIONS ABOVE THE RESPECTIVE CRITERION
22. J = THE COMPOUND WAS DETECTED ABOVE THE METHOD DETECTION LIMIT, BUT BELOW THE REPORTING LIMIT; THEREFORE, THE RESULT IS AN ESTIMATED CONCENTRATION.

Contaminant	Part 375 Unrestricted Use SCOs	Part 375 Restricted Use Restricted-Residential SCOs
VOCs (mg/kg)		
1,2,4-Trimethylbenzene	3.6	52
1,3,5-Trimethylbenzene	8.4	52
2-Butanone	0.12	100
Acetone	0.05	100
Benzene	0.06	4.8
Ethylbenzene	1	41
Naphthalene	12	100
Toluene	0.7	100
SVOCs (mg/kg)		
2-Methylphenol	0.33	100
3-,4-Methylphenol	0.33	100
Acenaphthene	20	100
Acenaphthylene	100	100
Benzo(a)anthracene	1	1
Benzo(a)pyrene	1	1
Benzo(b)fluoranthene	1	1
Benzo(k)fluoranthene	0.8	3.9
Chrysene	1	3.9
Dibenzo(a,h)anthracene	0.33	0.33
Dibenzofuran	7	59
Fluoranthene	100	100
Fluorene	30	100
Indeno(1,2,3-cd)pyrene	0.5	0.5
Naphthalene	12	100
Phenanthrene	100	100
Phenol	0.33	100
Pyrene	100	100
Metals (mg/kg)		
Arsenic	13	16
Cadmium	2.5	4.3
Chromium	30	180
Copper	50	270
Lead	63	400
Mercury	0.18	0.81
Nickel	30	310
Silver	2	180
Zinc	109	10,000
PCBs (mg/kg)		
Total PCBs	0.1	1
Pesticides (mg/kg)		
4,4'-DDD	0.0033	13
4,4'-DDE	0.0033	8.9
4,4'-DDT	0.0033	7.9
beta-BHC	0.036	0.36
Dibenzofuran	7	59
Dieldrin	0.005	0.2
Endrin	0.014	11
	EPA Maximum Concentration of Contaminants for the Toxicity Characteristic	
TCLP Metals (mg/L)		
Lead	5	

WARNING:
IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

20 0 5 10 20
SCALE IN FEET

LANGAN
Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BROOKLYN
KINGS COUNTY NEW YORK

Figure Title
HISTORICAL SOIL SAMPLE LOCATION AND RESULTS MAP

Project No. 170301202
Date 8/17/2020
Drawn By TCS
Checked By AT
Figure No. 3
Sheet 3 of 7

Filename: \\langan.com\data\NYC\data2\170301202\Cadd Data - 170301202\2D-DesignFiles\Environmental\BCP SMP\Figure 3 and 4 - RI Soil and GW Sample Location and Results Maps.dwg Date: 8/17/2020 Time: 09:19 User: atashji Style Table: Langan.stb Layout: Figure 3 - Soil Results Map

SampleID	TWP-5
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(a)anthracene	**1.3**
Benzo(a)pyrene	**1.3**
Benzo(b)fluoranthene	**1.5**
Benzo(k)fluoranthene	**0.8**
Chrysene	**1.7**
Indeno(1,2,3-cd)Pyrene	**1**
Total Metals (µg/l)	
Aluminum	**1060000**
Antimony	**14.8**
Arsenic	**1200**
Barium	**4460**
Beryllium	**75**
Cadmium	**64.3**
Chromium	**3250**
Copper	**20700**
Iron	**2800000**
Lead	**41600**
Magnesium	**599000**
Manganese	**58500**
Mercury	**20.4**
Nickel	**4430**
Selenium	**59.1**
Thallium	**14.9**
Zinc	**36600**

SampleID	TWP-4
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(a)anthracene	**1.9**
Benzo(a)pyrene	**1.4**
Benzo(b)fluoranthene	**2**
Benzo(k)fluoranthene	**0.79**
Chrysene	**2.2**
Indeno(1,2,3-cd)Pyrene	**1**
Total Metals (µg/l)	
Aluminum	**748000**
Antimony	**6.2**
Arsenic	**703**
Barium	**9320**
Beryllium	**57**
Cadmium	**18.9**
Chromium	**1580**
Copper	**3600**
Iron	**1800000**
Lead	**16100**
Magnesium	**381000**
Manganese	**31800**
Mercury	**34.1**
Nickel	**2120**
Selenium	**45.6**
Thallium	**12.5**
Zinc	**8590**

Sample ID	MW09_051314
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(b)fluoranthene	**0.17 J**
Chrysene	**0.13 J**
Indeno(1,2,3-cd)Pyrene	**0.18 J**
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**3520**
Magnesium	**50200**
Manganese	**1948**
Sodium	**424000**
Dissolved Metals (µg/l)	
Iron	**3390**
Manganese	**2014**
Sodium	**441000**

MW17	
Sample ID **Lab Sample ID** **Sample Date**	**MW17_030816** **L1606583-03** **3/8/2016**
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(a)pyrene	**0.21**
Benzo(b)fluoranthene	**0.28**
Benzo(k)fluoranthene	**0.09 J**
Chrysene	**0.2**
Indeno(1,2,3-cd)Pyrene	**0.11 J**
PCB (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**648**
Manganese	**406.6**
Sodium	**493000**
Dissolved Metals (µg/l)	
Manganese	**397.6**
Sodium	**290000**

Sample ID	MW03_050814
VOC (µg/l)	
Benzene	**10**
Naphthalene	**61**
SVOC (µg/l)	
2,4-Dimethylphenol	**510**
Phenol	**970**
Naphthalene	**39**
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Arsenic	**39.35**
Beryllium	**3.21**
Chromium	**55.9**
Copper	**258.5**
Iron	**55800**
Lead	**1448**
Magnesium	**86400**
Manganese	**6754**
Mercury	**5.6**
Sodium	**446000**
Dissolved Metals (µg/l)	
Antimony	**4.37**
Iron	**6450**
Manganese	**2030**
Sodium	**432000**

Sample ID	MW07_051214
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(b)fluoranthene	**0.41**
Benzo(k)fluoranthene	**0.14 J**
Chrysene	**0.3**
Indeno(1,2,3-cd)Pyrene	**0.3**
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**1260**
Sodium	**316000**
Dissolved Metals (µg/l)	
Magnesium	**35700**
Sodium	**333000**

SampleID	TWP-1
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(a)anthracene	**2.3**
Benzo(a)pyrene	**2.6**
Benzo(b)fluoranthene	**1.8**
Benzo(k)fluoranthene	**0.66**
Chrysene	**2.2**
Indeno(1,2,3-cd)Pyrene	**1.3**
Total Metals (µg/l)	
Aluminum	**65100**
Arsenic	**295**
Beryllium	**4.3**
Chromium	**222**
Iron	**156000**
Lead	**1120**
Magnesium	**87700**
Manganese	**14100**
Mercury	**13.8**
Nickel	**260**
Thallium	**1.3**

LEGEND:

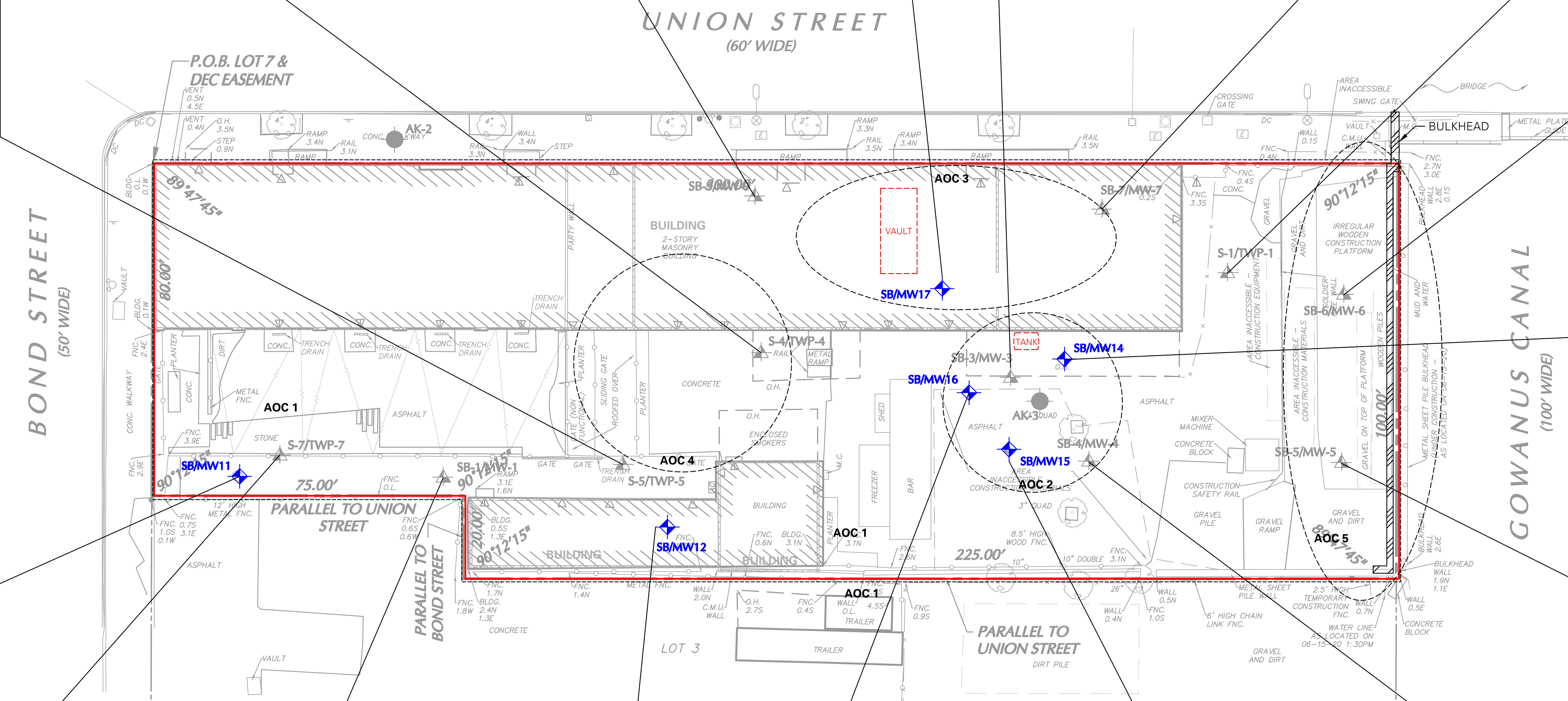
- APPROXIMATE BROWNFIELD CLEANUP PROGRAM SITE BOUNDARY
- SB/MW11 RI SOIL BORING/MONITORING WELL LOCATION (FEBRUARY 2016)
- AK-3 AKRF BORING AND MONITORING WELL LOCATION (APRIL 2002)
- SB-7/MW-7 LANGAN BORING AND MONITORING WELL LOCATION (MAY 2014)
- S-5/TWP-5 HILLMAN BORING AND MONITORING WELL LOCATION (JULY 2014)

NOTES:

1. BASE MAP IS REFERENCED FROM SITE SURVEY, PREPARED BY LANGAN, DATED JUNE 25, 2020.
2. LANGAN REMEDIAL INVESTIGATION MONITORING WELLS WERE SURVEYED ON MARCH 9, 2016.
3. RI = REMEDIAL INVESTIGATION
4. AREA OF CONCERN (AOC) KEY:
   - AOC 1 - HISTORIC FILL
   - AOC 2 - UNDERGROUND STORAGE TANK AND PETROLEUM IMPACTS
   - AOC 3 - UNDOCUMENTED VAULT
   - AOC 4 - HAZARDOUS CONCENTRATIONS OF LEAD IN SOIL
   - AOC 5 - IMPACTS RELATED TO GOWANUS CANAL SUPERFUND SITE
5. GROUNDWATER ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES (SGVS) FOR CLASS GA DRINKING WATER.
6. ONLY CONCENTRATIONS FOR COMPOUNDS DETECTED ABOVE CLASS GA SGVs ARE SHOWN.
7. CONCENTRATIONS DETECTED ABOVE TOGS SGVs ARE HIGHLIGHTED AND BOLDED.
8. TOGS CLASS GA SGVs ARE PRESENTED IN THE TABLE BELOW.
9. VOC = VOLATILE ORGANIC COMPOUND
10. SVOC = SEMIVOLATILE ORGANIC COMPOUND
11. PCB = POLYCHLORINATED BIPHENYL
12. µg/L - MICROGRAMS PER LITER
13. ND = NO DETECTED CONCENTRATIONS
14. NE = NO DETECTED CONCENTRATIONS ABOVE CLASS GA SGVs
15. J = THE COMPOUND WAS DETECTED ABOVE THE METHOD DETECTION LIMIT, BUT BELOW THE REPORTING LIMIT; THEREFORE, THE RESULT IS AN ESTIMATED CONCENTRATION.

Sample ID	MW06_051214
VOC (µg/l)	
Total VOCs	ND
SVOC (µg/l)	
Total SVOCs	ND
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Magnesium	**61900**
Sodium	**585000**
Dissolved Metals (µg/l)	
Magnesium	**76000**
Sodium	**716000**

MW11	
Sample ID **Lab Sample ID** **Sample Date**	**MW11_030816** **L1606583-04** **3/8/2016**
VOC (µg/l)	
Total VOCs	ND
SVOC (µg/l)	
Total SVOCs	NE
PCB (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**6720**
Lead	**27.3**
Manganese	**375.4**
Sodium	**58000**
Dissolved Metals (µg/l)	
Iron	**320**
Manganese	**325.8**
Sodium	**52700**



MW14		
Sample ID **Lab Sample ID** **Sample Date**	**MW14_030816** **L1606583-01** **3/8/2016**	**DUP01_030816** **L1606583-06** **3/8/2016**
VOC (µg/l)		
Naphthalene	**15**	**17**
SVOC (µg/l)		
Benzo(a)pyrene	**0.68**	**0.83**
Benzo(b)fluoranthene	**0.94**	**1.1**
Benzo(k)fluoranthene	**0.32 J**	**0.43**
Chrysene	**0.81**	**0.96**
Indeno(1,2,3-cd)Pyrene	**0.34 J**	**0.42**
Naphthalene	**11**	**11**
Phenol	**3.7 J**	**3.7 J**
PCB (µg/l)		
Total PCBs	ND	ND
Pesticides (µg/l)		
Pesticides	ND	ND
Total Metals (µg/l)		
Iron	**6970**	**6950**
Magnesium	**101000**	**82600**
Manganese	**2421**	**1982**
Sodium	**765000**	**551000**
Dissolved Metals (µg/l)		
Iron	**6090**	**6350**
Magnesium	**74400**	**76700**
Manganese	**1672**	**1745**
Sodium	**558000**	**567000**

Analyte	NYSDEC TOGS Standards and Guidance Values - GA
VOCs (µg/L)	
Benzene	1
Naphthalene	10
SVOCs (µg/L)	
2,4-Dimethylphenol	2
Benzo(a)anthracene	0.002
Benzo(a)pyrene	0.002
Benzo(b)fluoranthene	0.002
Benzo(k)fluoranthene	0.002
Chrysene	0.002
Indeno(1,2,3-cd)Pyrene	0.002
Naphthalene	10
Phenol	1
Metals (µg/L)	
Antimony	3
Arsenic	25
Barium	1000
Beryllium	3
Cadmium	5
Chromium	50
Copper	200
Iron	300
Lead	25
Magnesium	35000
Manganese	300
Mercury	0.7
Nickel	100
Selenium	10
Sodium	20000
Thallium	0.5
Zinc	2000

Sample ID	MW05_051214
VOC (µg/l)	
Total VOCs	ND
SVOC (µg/l)	
Benzo(b)fluoranthene	**0.32**
Benzo(k)fluoranthene	**0.12 J**
Chrysene	**0.26**
Indeno(1,2,3-cd)Pyrene	**0.25**
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**2340**
Lead	**113.8**
Magnesium	**151000**
Manganese	**921.6**
Sodium	**1090000**
Dissolved Metals (µg/l)	
Iron	**532**
Magnesium	**153000**
Manganese	**828**
Sodium	**941000**

SampleID	TWP-7
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(a)anthracene	**0.19**
Benzo(a)pyrene	**0.13**
Benzo(b)fluoranthene	**0.16**
Total Metals (µg/l)	
Aluminum	**467000**
Arsenic	**278**
Barium	**6010**
Beryllium	**34.7**
Cadmium	**12.1**
Chromium	**1100**
Copper	**3890**
Iron	**730000**
Lead	**11300**
Magnesium	**295000**
Manganese	**23800**
Mercury	**86.1**
Nickel	**1860**
Selenium	**25**
Thallium	**6.5**
Zinc	**6420**

Sample ID	MW01_051214
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(b)fluoranthene	**0.31**
Benzo(k)fluoranthene	**0.12 J**
Chrysene	**0.31**
Indeno(1,2,3-cd)Pyrene	**0.24**
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**3920**
Manganese	**616**
Sodium	**88800**
Dissolved Metals (µg/l)	
Iron	**862**
Manganese	**506.2**
Iron	**94400**

MW12	
Sample ID **Lab Sample ID** **Sample Date**	**MW12_030916** **L1606763-01** **3/9/2016**
VOC (µg/l)	
Total VOCs	ND
SVOC (µg/l)	
Benzo(a)pyrene	**0.45**
Benzo(b)fluoranthene	**0.56**
Benzo(k)fluoranthene	**0.16 J**
Chrysene	**0.38**
Indeno(1,2,3-cd)Pyrene	**0.27**
PCB (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**26100**
Lead	**68.7**
Manganese	**953.5**
Sodium	**70600**
Dissolved Metals (µg/l)	
Iron	**11400**
Manganese	**602.6**
Sodium	**73800**

MW16	
Sample ID **Lab Sample ID** **Sample Date**	**MW16_030816** **L1606583-02** **3/8/2016**
VOC (µg/l)	
Naphthalene	**70**
SVOC (µg/l)	
Benzo(a)pyrene	**0.74**
Benzo(b)fluoranthene	**1**
Benzo(k)fluoranthene	**0.34 J**
Chrysene	**0.9**
Indeno(1,2,3-cd)Pyrene	**0.36 J**
Naphthalene	**19**
PCB (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**12200**
Lead	**57.8**
Manganese	**1098**
Sodium	**97000**
Dissolved Metals (µg/l)	
Iron	**4160**
Manganese	**663**
Sodium	**70600**

MW15	
Sample ID **Lab Sample ID** **Sample Date**	**MW15_030816** **L1606583-05** **3/8/2016**
VOC (µg/l)	
Total VOCs	NE
SVOC (µg/l)	
Benzo(a)pyrene	**0.32 J**
Benzo(b)fluoranthene	**0.42**
Benzo(k)fluoranthene	**0.16 J**
Chrysene	**0.36 J**
Indeno(1,2,3-cd)Pyrene	**0.17 J**
PCB (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**26400**
Lead	**298.5**
Magnesium	**39200**
Manganese	**1972**
Sodium	**217000**
Dissolved Metals (µg/l)	
Iron	**4130**
Manganese	**1013**
Sodium	**169000**

Sample ID	MW04_051214
VOC (µg/l)	
Total VOCs	ND
SVOC (µg/l)	
Benzo(b)fluoranthene	**0.07 J**
PCBs (µg/l)	
Total PCBs	ND
Pesticides (µg/l)	
Pesticides	ND
Total Metals (µg/l)	
Iron	**11300**
Magnesium	**74000**
Manganese	**2064**
Sodium	**791000**
Dissolved Metals (µg/l)	
Iron	**12100**
Magnesium	**57600**
Manganese	**1751**
Sodium	**693000**

WARNING:
IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

20 0 5 10 20
SCALE IN FEET

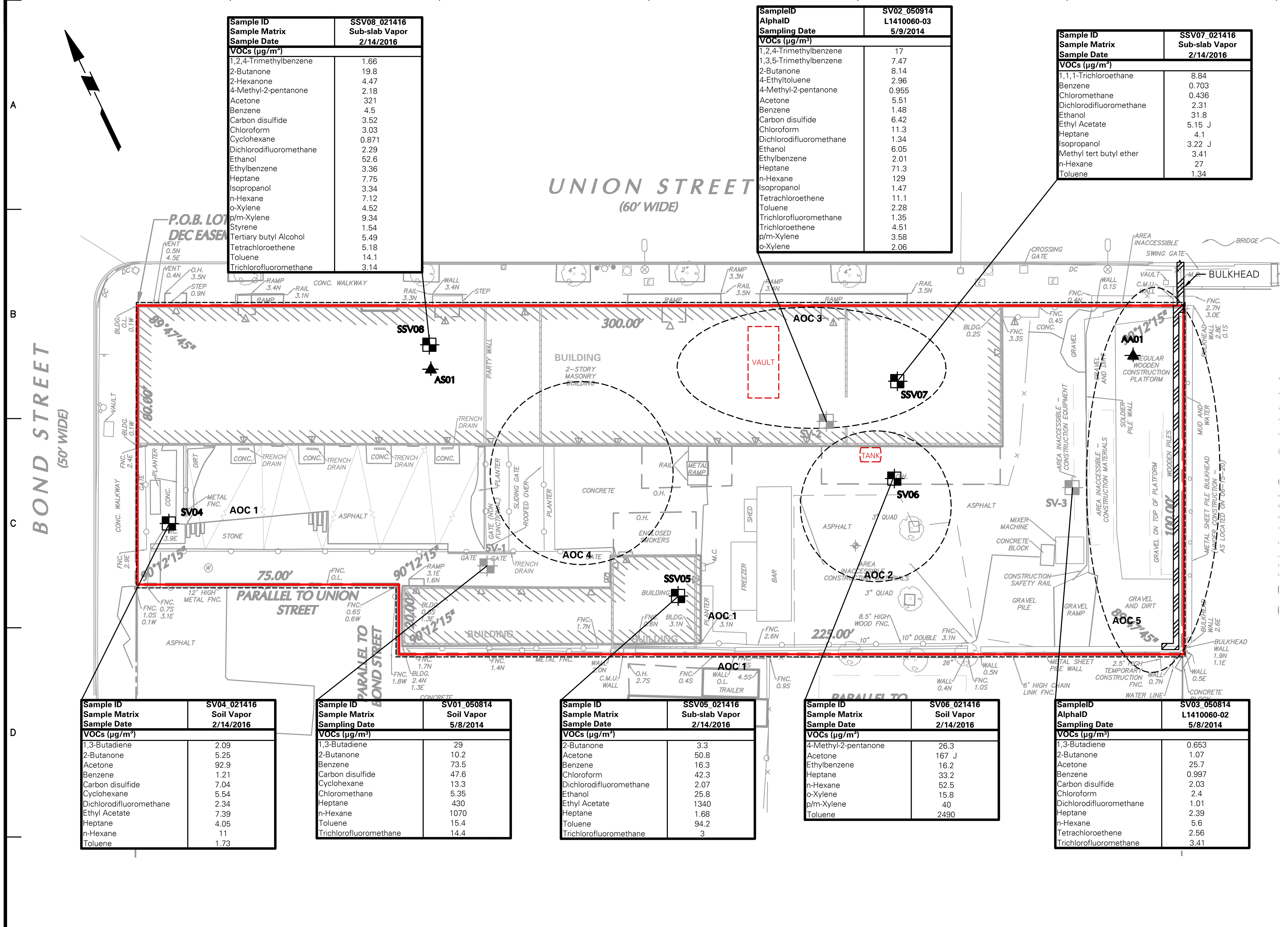
LANGAN
Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BROOKLYN
KINGS COUNTY NEW YORK

Figure Title
HISTORICAL GROUNDWATER SAMPLE LOCATION AND RESULTS MAP

Project No. 170301202
Date 8/17/2020
Drawn By TCS
Checked By AT
Figure No. 3
Sheet 3 of 7

Filename: \\langan.com\data\NYC\data2\170301202\Cadd Data - 170301202\2D-DesignFiles\Environmental\BCP SMP\Figure 3 and 4 - RI Soil and GW Sample Location and Results Maps.dwg Date: 8/17/2020 Time: 09:20 User: atashji Style Table: Langan.stb Layout: Figure 4 - GW Results Map



Sample ID Sample Matrix Sample Date	SSV08_021416 Sub-slab Vapor 2/14/2016
VOCs (µg/m³)	
1,2,4-Trimethylbenzene	1.66
2-Butanone	19.8
2-Hexanone	4.47
4-Methyl-2-pentanone	2.18
Acetone	321
Benzene	4.5
Carbon disulfide	3.52
Chloroform	3.03
Cyclohexane	0.871
Dichlorodifluoromethane	2.29
Ethanol	52.6
Ethylbenzene	3.36
Heptane	7.75
Isopropanol	3.34
n-Hexane	7.12
o-Xylene	4.52
p/m-Xylene	9.34
Styrene	1.54
Tertiary butyl Alcohol	5.49
Tetrachloroethene	5.18
Toluene	14.1
Trichlorofluoromethane	3.14

SampleID AlphaID Sampling Date	SV02_050914 L1410060-03 5/9/2014
VOCs (µg/m³)	
1,2,4-Trimethylbenzene	17
1,3,5-Trimethylbenzene	7.47
2-Butanone	8.14
4-Ethyltoluene	2.96
4-Methyl-2-pentanone	0.955
Acetone	5.51
Benzene	1.48
Carbon disulfide	6.42
Chloroform	11.3
Dichlorodifluoromethane	1.34
Ethanol	6.05
Ethylbenzene	2.01
Heptane	71.3
n-Hexane	129
Isopropanol	1.47
Tetrachloroethene	11.1
Toluene	2.28
Trichlorofluoromethane	1.35
Trichloroethene	4.51
p/m-Xylene	3.58
o-Xylene	2.06

Sample ID Sample Matrix Sample Date	SSV07_021416 Sub-slab Vapor 2/14/2016
VOCs (µg/m³)	
1,1,1-Trichloroethane	8.84
Benzene	0.703
Chloromethane	0.436
Dichlorodifluoromethane	2.31
Ethanol	31.8
Ethyl Acetate	5.15 J
Heptane	4.1
Isopropanol	3.22 J
Methyl tert butyl ether	3.41
n-Hexane	27
Toluene	1.34

LEGEND:

🟥	APPROXIMATE BROWNFIELD CLEANUP PROGRAM SITE BOUNDARY
SV04 ▣	RI SOIL OR SUB-SLAB VAPOR SAMPLE LOCATION (FEBRUARY 2016) SV = SOIL VAPOR SSV = SUB-SLAB VAPOR
AS01 ▲	RI INDOOR/AMBIENT AIR SAMPLE LOCATION (FEBRUARY 216) AS = INDOOR AIR SAMPLE AA = AMBIENT AIR SAMPLE
SV01 ▣	LANGAN SOIL VAPOR SAMPLE LOCATION (MAY 2014)

NOTES:

1. BASE MAP IS REFERENCED FROM SITE SURVEY, PREPARED BY LANGAN, DATED JUNE 25, 2020.
2. SOIL VAPOR, SUB-SUBLAB VAPOR, AND AMBIENT SAMPLE LOCATIONS ARE APPROXIMATE.
3. RI = REMEDIAL INVESTIGATION
4. ONLY DETECTED COMPOUNDS ARE SHOWN FOR SOIL VAPOR AND SUB-SLAB VAPOR SAMPLES.
5. µg/m³ - MICROGRAM PER CUBIC METER
6. AREA OF CONCERN (AOC) KEY:
   - AOC 1 - HISTORIC FILL
   - AOC 2 - UNDERGROUND STORAGE TANK AND PETROLEUM IMPACTS
   - AOC 3 - UNDOCUMENTED VAULT
   - AOC 4 - HAZARDOUS CONCENTRATIONS OF LEAD IN SOIL
   - AOC 5 - IMPACTS RELATED TO GOWANUS CANAL SUPERFUND SITE
7. SOIL VAPOR AND SUB-SLAB VAPOR SAMPLE RESULTS ARE EVALUATED AGAINST AMBIENT AIR AND INDOOR AIR SAMPLE RESULTS, RESPECTIVELY. AMBIENT AND INDOOR AIR ANALYTICAL RESULTS ARE PRESENTED IN THE TABLE BELOW.
8. U = THE COMPOUND WAS NOT DETECTED AT A LEVEL GREATER THAN OR EQUAL TO THE REPORTING LIMIT; THE VALUE SHOWN IN THE TABLE IS THE REPORTING LIMIT.

Sample ID Sample Location Sample Date	AS01_021416 Indoor Air 2/14/2016		AA01_021416 Ambient Air 2/14/2016	
VOCs (µg/m³)				
1,1,1-Trichloroethane	0.109	U	0.109	U
1,2,4-Trimethylbenzene	0.983	U	0.983	U
1,3-Butadiene	0.442	U	0.442	U
2-Butanone	1.47	U	1.47	U
2-Hexanone	0.82	U	0.82	U
4-Methyl-2-pentanone	2.05	U	2.05	U
Acetone	4.89		2.38	U
Benzene	1.13		0.639	U
Carbon disulfide	0.623	U	0.623	U
Carbon tetrachloride	0.39		0.384	
Chloroform	1.74		0.977	U
Chloromethane	0.845		0.921	
Cyclohexane	0.688	U	0.688	U
Dichlorodifluoromethane	1.69		2.23	
Ethanol	464		9.42	U
Ethyl Acetate	1.8	U	1.8	U
Ethylbenzene	0.869	U	0.869	U
Heptane	0.82	U	0.82	U
Isopropanol	4.69		1.23	U
Methyl tert butyl ether	0.721	U	0.721	U
n-Hexane	0.705	U	0.705	U
o-Xylene	0.869	U	0.869	U
p/m-Xylene	1.74	U	1.74	U
Styrene	0.852	U	0.852	U
Tertiary butyl Alcohol	1.52	U	1.52	U
Tetrachloroethene	1.46		0.136	U
Toluene	0.923		0.754	U
Trichlorofluoromethane	1.12	U	1.19	

Sample ID Sample Matrix Sample Date	SV04_021416 Soil Vapor 2/14/2016
VOCs (µg/m³)	
1,3-Butadiene	2.09
2-Butanone	5.25
Acetone	92.9
Benzene	1.21
Carbon disulfide	7.04
Cyclohexane	5.54
Dichlorodifluoromethane	2.34
Ethyl Acetate	7.39
Heptane	4.05
n-Hexane	11
Toluene	1.73

Sample ID Sample Matrix Sampling Date	SV01_050814 Soil Vapor 5/8/2014
VOCs (µg/m³)	
1,3-Butadiene	29
2-Butanone	10.2
Benzene	73.5
Carbon disulfide	47.6
Cyclohexane	13.3
Chloromethane	5.35
Heptane	430
n-Hexane	1070
Toluene	15.4
Trichlorofluoromethane	14.4

Sample ID Sample Matrix Sample Date	SSV05_021416 Sub-slab Vapor 2/14/2016
VOCs (µg/m³)	
2-Butanone	3.3
Acetone	50.8
Benzene	16.3
Chloroform	42.3
Dichlorodifluoromethane	2.07
Ethanol	25.8
Ethyl Acetate	1340
Heptane	1.68
Toluene	94.2
Trichlorofluoromethane	3

Sample ID Sample Matrix Sample Date	SV06_021416 Soil Vapor 2/14/2016
VOCs (µg/m³)	
4-Methyl-2-pentanone	26.3
Acetone	167 J
Ethylbenzene	16.2
Heptane	33.2
n-Hexane	52.5
o-Xylene	15.8
p/m-Xylene	40
Toluene	2490

SampleID AlphaID Sampling Date	SV03_050814 L1410060-02 5/8/2014
VOCs (µg/m³)	
1,3-Butadiene	0.653
2-Butanone	1.07
Acetone	25.7
Benzene	0.997
Carbon disulfide	2.03
Chloroform	2.4
Dichlorodifluoromethane	1.01
Heptane	2.39
n-Hexane	5.6
Tetrachloroethene	2.56
Trichlorofluoromethane	3.41

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

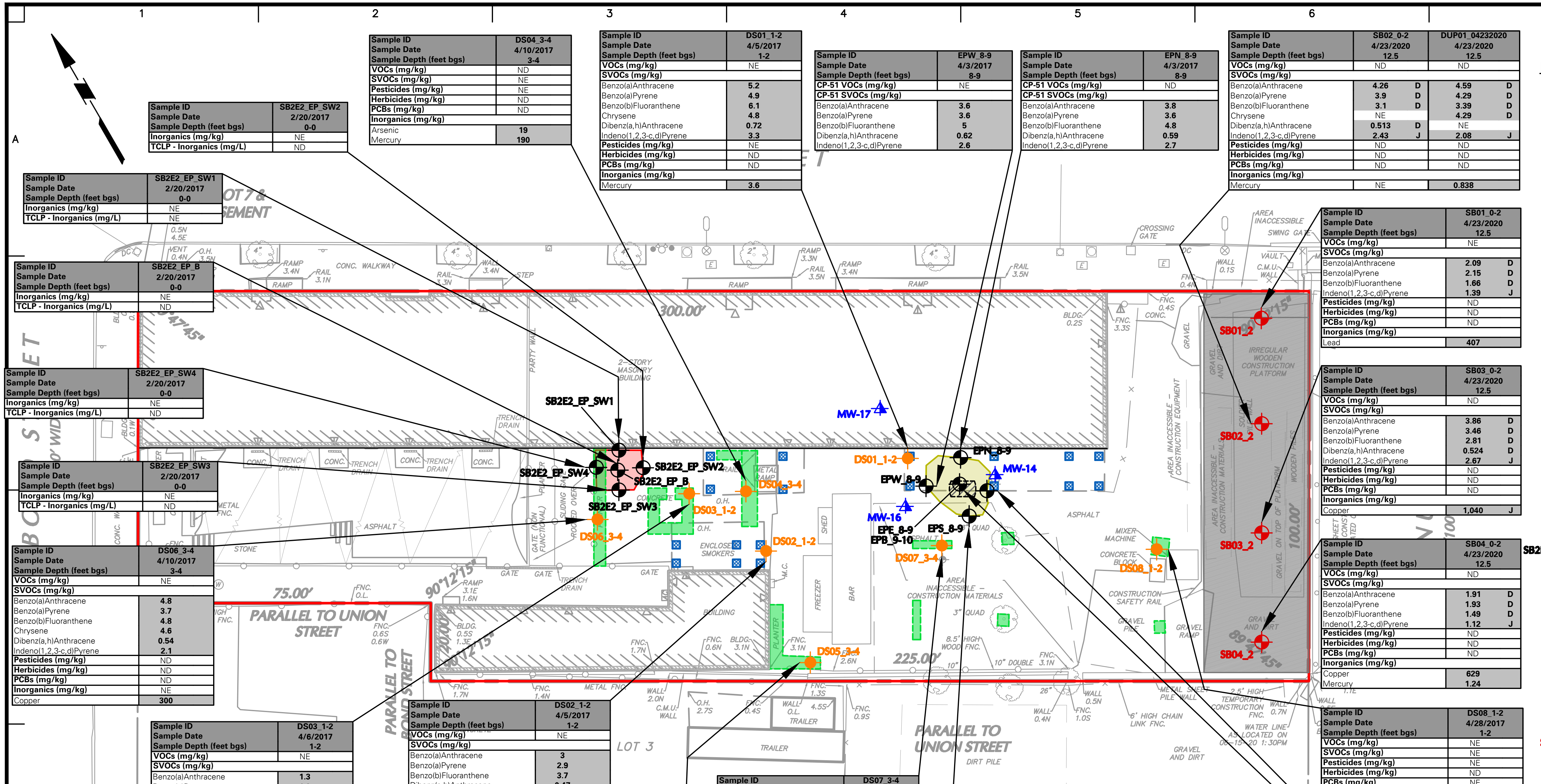
Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BROOKLYN
KINGS NEW YORK

Figure Title
HISTORICAL SOIL VAPOR LOCATION AND RESULTS MAP

Project No. 170301202
Date 8/3/2020
Drawn By TCS
Checked By AT

Figure No. **5**
Sheet 5 of 7

Filename: \\langan.com\data\NYC\data2\170301202\Cadd Data - 170301202\2D-DesignFiles\Environmental\BCP SMP\Figure 5 - RI Soil Vapor Sample Location and Results Map.dwg Date: 8/17/2020 Time: 09:27 User: atashji Style Table: Langan.stb Layout: Figure 5 - SV Tags



Sample ID Sample Date Sample Depth (feet bgs)	SB2E2_EP_SW2 2/20/2017 0-0
Inorganics (mg/kg)	NE
TCLP - Inorganics (mg/L)	ND

Sample ID Sample Date Sample Depth (feet bgs)	DS04_3-4 4/10/2017 3-4
VOCs (mg/kg)	ND
SVOCs (mg/kg)	NE
Pesticides (mg/kg)	NE
Herbicides (mg/kg)	ND
PCBs (mg/kg)	ND
Inorganics (mg/kg)	
Arsenic	**19**
Mercury	**190**

Sample ID Sample Date Sample Depth (feet bgs)	DS01_1-2 4/5/2017 1-2
VOCs (mg/kg)	NE
SVOCs (mg/kg)	
Benzo(a)Anthracene	**5.2**
Benzo(a)Pyrene	**4.9**
Benzo(b)Fluoranthene	**6.1**
Chrysene	**4.8**
Dibenz(a,h)Anthracene	**0.72**
Indeno(1,2,3-c,d)Pyrene	**3.3**
Pesticides (mg/kg)	NE
Herbicides (mg/kg)	ND
PCBs (mg/kg)	ND
Inorganics (mg/kg)	
Mercury	**3.6**

Sample ID Sample Date Sample Depth (feet bgs)	EPW_8-9 4/3/2017 8-9
CP-51 VOCs (mg/kg)	NE
CP-51 SVOCs (mg/kg)	
Benzo(a)Anthracene	**3.6**
Benzo(a)Pyrene	**3.6**
Benzo(b)Fluoranthene	**5**
Dibenz(a,h)Anthracene	**0.62**
Indeno(1,2,3-c,d)Pyrene	**2.6**

Sample ID Sample Date Sample Depth (feet bgs)	EPN_8-9 4/3/2017 8-9
CP-51 VOCs (mg/kg)	ND
CP-51 SVOCs (mg/kg)	
Benzo(a)Anthracene	**3.8**
Benzo(a)Pyrene	**3.6**
Benzo(b)Fluoranthene	**4.8**
Dibenz(a,h)Anthracene	**0.59**
Indeno(1,2,3-c,d)Pyrene	**2.7**

Sample ID Sample Date Sample Depth (feet bgs)	SB02_0-2 4/23/2020 12.5		DUP01_04232020 4/23/2020 12.5	
VOCs (mg/kg)	ND		ND	
SVOCs (mg/kg)				
Benzo(a)Anthracene	**4.26**	D	**4.59**	D
Benzo(a)Pyrene	**3.9**	D	**4.29**	D
Benzo(b)Fluoranthene	**3.1**	D	**3.39**	D
Chrysene	NE		**4.29**	D
Dibenz(a,h)Anthracene	**0.513**	D	NE	
Indeno(1,2,3-c,d)Pyrene	**2.43**	J	**2.08**	J
Pesticides (mg/kg)	ND		ND	
Herbicides (mg/kg)	ND		ND	
PCBs (mg/kg)	ND		ND	
Inorganics (mg/kg)				
Mercury	NE		**0.838**	

LEGEND:

- 🟥 BROWNFIELD CLEANUP PROGRAM SITE BOUNDARY
- ▨ APPROXIMATE LOCATION OF FORMER UNDERGROUND STORAGE TANK (UST)
- 🟨 APPROXIMATE LOCATION OF UST EXCAVATION (10 feet bgs)
- 🟥 APPROXIMATE LOCATION OF HAZARDOUS LEAD HOTSPOT EXCAVATION (5 feet bgs)
- ▣ APPROXIMATE LOCATION OF AWNING FOOTING EXCAVATIONS (2 feet bgs)
- 🟩 APPROXIMATE LOCATION OF PLANTER AND TREE PIT EXCAVATIONS (3 to 4 feet bgs)
- ⬜ APPROXIMATE EXCAVATION FOR BULKHEAD/CONTAMINANT BARRIER AND HIGH-LEVEL RELIEVING PLATFORM (12.5 feet bgs)
- ⊕ SB2E2_EP_SW1 APPROXIMATE CONFIRMATION SOIL SAMPLE LOCATIONS WITHIN (HAZARDOUS LEAD HOTSPOT AND UST EXCAVATION)
- ● DS01_1-2 APPROXIMATE 2017 IRM DOCUMENTATION SOIL SAMPLE LOCATIONS
- ▲ MW-16 APPROXIMATE MONITORING WELL LOCATIONS SAMPLED FOR FILTERED SVOC FOR SITE-SPECIFIC SCOs
- ⊕ SB04_2 APPROXIMATE 2020 IRM DOCUMENTATION SOIL SAMPLE LOCATIONS

Sample ID Sample Date Sample Depth (feet bgs)	SB2E2_EP_SW1 2/20/2017 0-0
Inorganics (mg/kg)	NE
TCLP - Inorganics (mg/L)	NE

Sample ID Sample Date Sample Depth (feet bgs)	SB2E2_EP_B 2/20/2017 0-0
Inorganics (mg/kg)	NE
TCLP - Inorganics (mg/L)	ND

Sample ID Sample Date Sample Depth (feet bgs)	SB2E2_EP_SW4 2/20/2017 0-0
Inorganics (mg/kg)	NE
TCLP - Inorganics (mg/L)	ND

Sample ID Sample Date Sample Depth (feet bgs)	SB2E2_EP_SW3 2/20/2017 0-0
Inorganics (mg/kg)	NE
TCLP - Inorganics (mg/L)	ND

Sample ID Sample Date Sample Depth (feet bgs)	DS06_3-4 4/10/2017 3-4
VOCs (mg/kg)	NE
SVOCs (mg/kg)	
Benzo(a)Anthracene	**4.8**
Benzo(a)Pyrene	**3.7**
Benzo(b)Fluoranthene	**4.8**
Chrysene	**4.6**
Dibenz(a,h)Anthracene	**0.54**
Indeno(1,2,3-c,d)Pyrene	**2.1**
Pesticides (mg/kg)	ND
Herbicides (mg/kg)	ND
PCBs (mg/kg)	ND
Inorganics (mg/kg)	NE
Copper	**300**

Sample ID Sample Date Sample Depth (feet bgs)	SB01_0-2 4/23/2020 12.5	
VOCs (mg/kg)	NE	
SVOCs (mg/kg)		
Benzo(a)Anthracene	**2.09**	D
Benzo(a)Pyrene	**2.15**	D
Benzo(b)Fluoranthene	**1.66**	D
Indeno(1,2,3-c,d)Pyrene	**1.39**	J
Pesticides (mg/kg)	ND	
Herbicides (mg/kg)	ND	
PCBs (mg/kg)	ND	
Inorganics (mg/kg)		
Lead	**407**	

Sample ID Sample Date Sample Depth (feet bgs)	SB03_0-2 4/23/2020 12.5	
VOCs (mg/kg)	ND	
SVOCs (mg/kg)		
Benzo(a)Anthracene	**3.86**	D
Benzo(a)Pyrene	**3.46**	D
Benzo(b)Fluoranthene	**2.81**	D
Dibenz(a,h)Anthracene	**0.524**	D
Indeno(1,2,3-c,d)Pyrene	**2.67**	J
Pesticides (mg/kg)	ND	
Herbicides (mg/kg)	ND	
PCBs (mg/kg)	ND	
Inorganics (mg/kg)		
Copper	**1,040**	J

Sample ID Sample Date Sample Depth (feet bgs)	SB04_0-2 4/23/2020 12.5	
VOCs (mg/kg)	ND	
SVOCs (mg/kg)		
Benzo(a)Anthracene	**1.91**	D
Benzo(a)Pyrene	**1.93**	D
Benzo(b)Fluoranthene	**1.49**	D
Indeno(1,2,3-c,d)Pyrene	**1.12**	J
Pesticides (mg/kg)	ND	
Herbicides (mg/kg)	ND	
PCBs (mg/kg)	ND	
Inorganics (mg/kg)		
Copper	**629**	
Mercury	**1.24**	

Sample ID Sample Date Sample Depth (feet bgs)	DS08_1-2 4/28/2017 1-2
VOCs (mg/kg)	NE
SVOCs (mg/kg)	NE
Pesticides (mg/kg)	NE
Herbicides (mg/kg)	ND
PCBs (mg/kg)	NE
Inorganics (mg/kg)	NE

Sample ID Sample Date Sample Depth (feet bgs)	DS03_1-2 4/6/2017 1-2
VOCs (mg/kg)	NE
SVOCs (mg/kg)	
Benzo(a)Anthracene	**1.3**
Benzo(a)Pyrene	**1.3**
Benzo(b)Fluoranthene	**1.9**
Indeno(1,2,3-c,d)Pyrene	**0.9**
Pesticides (mg/kg)	NE
Herbicides (mg/kg)	ND
PCBs (mg/kg)	ND
Inorganics (mg/kg)	NE
Copper	**440**

Sample ID Sample Date Sample Depth (feet bgs)	DS02_1-2 4/5/2017 1-2
VOCs (mg/kg)	NE
SVOCs (mg/kg)	
Benzo(a)Anthracene	**3**
Benzo(a)Pyrene	**2.9**
Benzo(b)Fluoranthene	**3.7**
Dibenz(a,h)Anthracene	**0.47**
Indeno(1,2,3-c,d)Pyrene	**1.9**
Pesticides (mg/kg)	NE
Herbicides (mg/kg)	ND
PCBs (mg/kg)	NE
Inorganics (mg/kg)	NE
Copper	**1,000**

Sample ID Sample Date Sample Depth (feet bgs)	DS07_3-4 4/28/2017 3-4
VOCs (mg/kg)	NE
SVOCs (mg/kg)	
Benzo(a)Anthracene	**2.4**
Benzo(a)Pyrene	**1.9**
Benzo(b)Fluoranthene	**2.5**
Dibenz(a,h)Anthracene	**0.34**
Indeno(1,2,3-c,d)Pyrene	**1.4**
Pesticides (mg/kg)	NE
Herbicides (mg/kg)	ND
PCBs (mg/kg)	ND
Inorganics (mg/kg)	NE
Copper	**500**
Lead	**410**
Mercury	**1.3**

Sample ID Sample Date Sample Depth (feet bgs)	DS05_3-4 4/10/2017 3-4
VOCs (mg/kg)	NE
SVOCs (mg/kg)	NE
Pesticides (mg/kg)	ND
Herbicides (mg/kg)	ND
PCBs (mg/kg)	ND
Inorganics (mg/kg)	
Mercury	**7.2**

Sample ID Sample Date Sample Depth (feet bgs)	EPS_8-9 4/3/2017 8-9
CP-51 VOCs (mg/kg)	ND
CP-51 SVOCs (mg/kg)	
Benzo(a)Anthracene	**1.5**
Benzo(a)Pyrene	**1.5**
Benzo(b)Fluoranthene	**2**
Indeno(1,2,3-c,d)Pyrene	**1.1**

Sample ID Sample Date Sample Depth (feet bgs)	EPB_8-9 4/3/2017 8-9	DUP01_040317 4/3/2017 8-9	EPB_9-10 4/3/2017 9-10
CP-51 VOCs (mg/kg)	NE	NE	NE
CP-51 SVOCs (mg/kg)			
Benzo(a)Anthracene	**4.2**	**5.9**	**3**
Benzo(a)Pyrene	**4.1**	**5.9**	**3.1**
Benzo(b)Fluoranthene	**5.6**	**8.8**	**4.2**
Chrysene	**4.2**	**6**	NE
Dibenz(a,h)Anthracene	**0.66**	**1.1**	**0.52**
Indeno(1,2,3-c,d)Pyrene	**3.1**	**4.3**	**2.3**

Sample ID Sample Date Sample Depth (feet bgs)	EPE_8-9 4/3/2017 8-9
CP-51 VOCs (mg/kg)	ND
CP-51 SVOCs (mg/kg)	
Benzo(a)Anthracene	**6.3**
Benzo(a)Pyrene	**6.1**
Benzo(b)Fluoranthene	**8.3**
Chrysene	**6.2**
Dibenz(a,h)Anthracene	**1.1**
Indeno(1,2,3-c,d)Pyrene	**4.7**

Analyte	NYSDEC Part 375 Restricted Use Restricted-Residential SCOs
SVOCs (mg/kg)	
Benzo(a)Anthracene	1
Benzo(a)Pyrene	1
Benzo(b)Fluoranthene	1
Chrysene	3.9
Dibenz(a,h)Anthracene	0.33
Indeno(1,2,3-c,d)Pyrene	0.5
Inorganics (mg/kg)	
Arsenic	16
Copper	270
Lead	400
Mercury	0.81

NOTES:

1. BASE MAP IS TAKEN FROM SITE SURVEY, PREPARED BY LANGAN ENGINEERING, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C., DATED JUNE 25, 2020.
2. ALL LOCATIONS ARE APPROXIMATE.
3. bgs = BELOW GRADE SURFACE
4. IRM = INTERIM REMEDIAL MEASURE
5. VOC = VOLATILE ORGANIC COMPOUND
6. SVOC = SEMI-VOLATILE ORGANIC COMPOUND
7. PCB = POLYCHLORINATED BIPHENYL
8. CP-51 = COMMISSIONER POLICY 51
9. J = COMPOUND WAS DETECTED AT OR ABOVE THE METHOD DETECTION LIMIT BUT BELOW THE REPORTING LIMIT; THEREFOR DATA IS ESTIMATED.
10. D = THE CONCENTRATION REPORTED IS A RESULT OF A DILUTED SAMPLE.
11. ND = NO DETECTIONS
12. NE = NO EXCEEDANCES
13. DOCUMENTATION BASE SOIL SAMPLE ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (6 NYCRR) PART 375 RESTRICTED USE RESTRICTED-RESIDENTIAL SOIL CLEANUP OBJECTIVES (SCOs).
14. ANALYTICAL RESULTS DETECTED ABOVE RESTRICTED USE RESTRICTED-RESIDENTIAL SCOs ARE BOLDED AND SHADED.
15. TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) LEAD ANALYTICAL RESULTS FOR THE LEAD EXCAVATION AREA WERE COMPARED TO TITLE 40 OF THE CODE OF FEDERAL REGULATIONS (40 CFR) PART 261 MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC. TCLP LEAD WAS NOT DETECTED ABOVE ITS RESPECTIVE STANDARD IN 40 CFR 261 TOXICITY CHARACTERISTIC LIMITS IN ANY OF THE SAMPLES.

STATE OF NEW YORK
JASON JAMES HAYES
089491
LICENSED PROFESSIONAL ENGINEER

12/18/2020

30 0 15 30
SCALE IN FEET

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

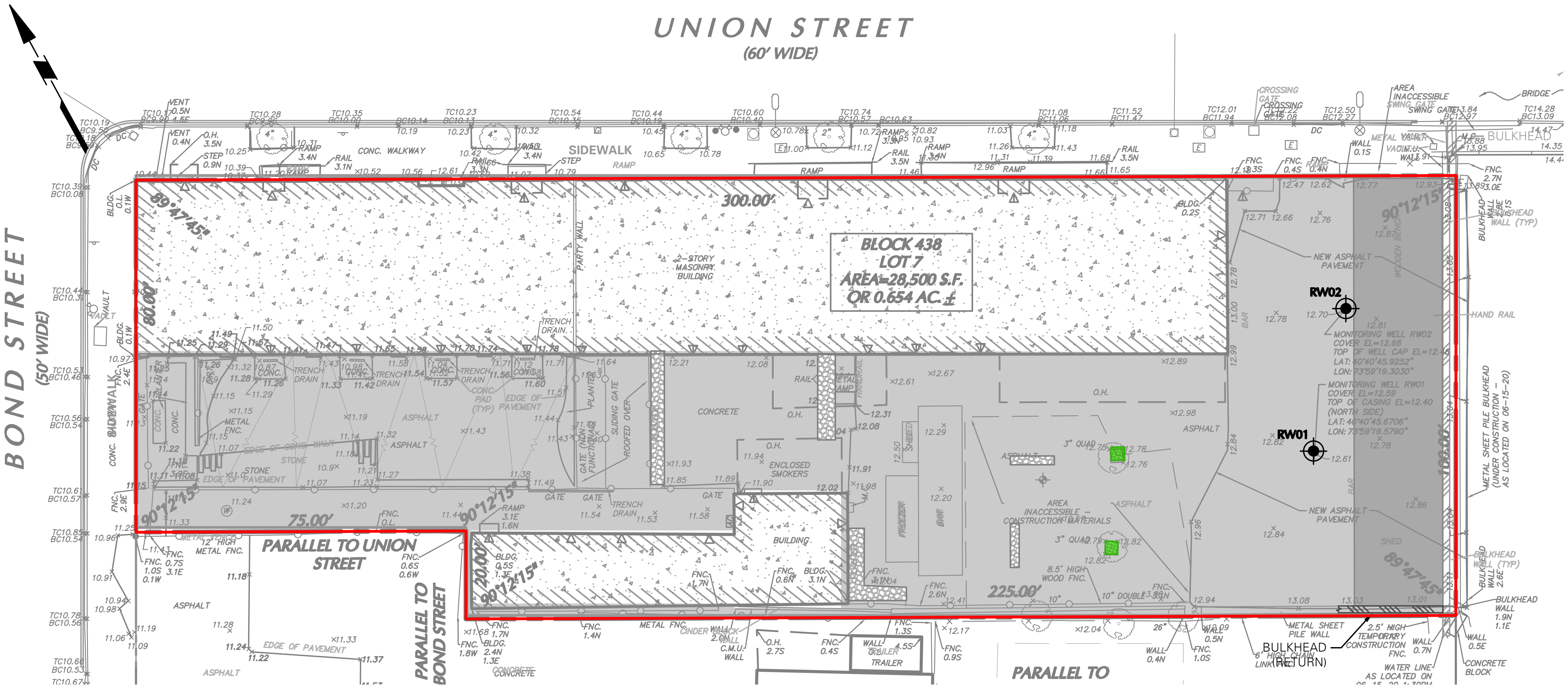
Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BROOKLYN
KINGS NEW YORK

Figure Title
CONFIRMATION AND DOCUMENTATION SOIL SAMPLE LOCATION AND RESULTS MAP

Project No. 170301202
Date 9/29/2020
Drawn By TCS
Checked By AT

Figure No.
6

Sheet 6 of 7

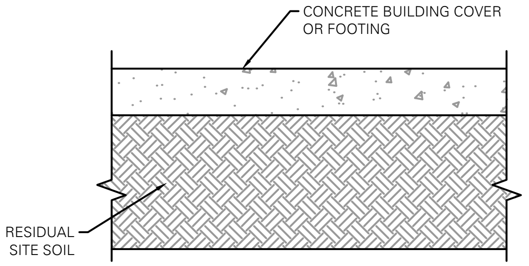


LEGEND:

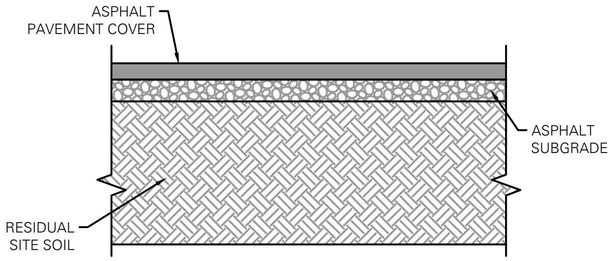
🟥	APPROXIMATE BROWNFIELD CLEANUP PROGRAM SITE BOUNDARY
▨	6- to 8-INCH THICK CONCRETE COVER - TYPE 1 (DETAIL 1)
▨	3- to 4-INCH-THICK ASPHALT COVER - TYPE 2 (DETAIL 2)
▨	2-FOOT-THICK STONE COVER - TYPE 3 (DETAIL 3)
🟩	2-FOOT-THICK CLEAN SOIL COVER - TYPE 4 (DETAIL 4)
▨	HIGH-LEVEL RELIEVING PLATFORM (DETAIL 5)
▨	BULKHEAD WALL / CONTAINMENT BARRIER
RW01 ⊕	RECOVERY WELL

NOTES:

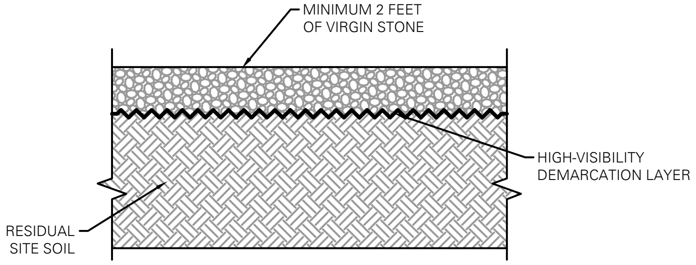
1. BASE MAP IS REFERENCED FROM THE FOLLOWING SOURCES:
   - A) BOUNDARY AND TOPOGRAPHIC SURVEY, PREPARED BY LANGAN ENGINEERING, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C., DATED JUNE 13, 2017, LAST REVISED DECEMBER 14 2020.
   - B) DEC EASEMENT SURVEY BY LANGAN ENGINEERING, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C., DATE JUNE 25, 2020.
2. ALL LOCATIONS ARE APPROXIMATE.



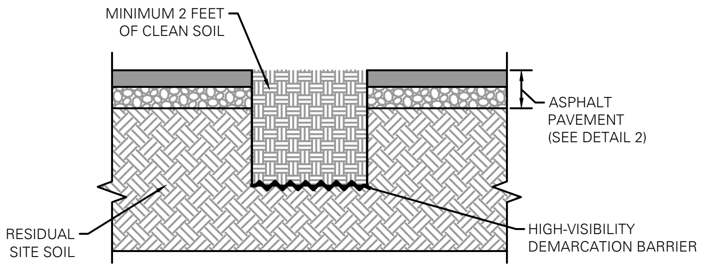
DETAIL 1: COVER TYPE 1 - TYPICAL CONCRETE COVER FOR BUILDING AND FOOTINGS
(NOT TO SCALE)



DETAIL 2: COVER TYPE 2 - TYPICAL ASPHALT COVER
(NOT TO SCALE)

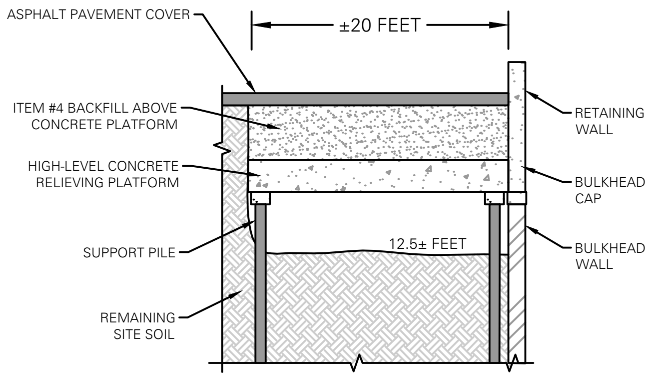


DETAIL 3: COVER TYPE 3 - TYPICAL CLEAN STONE COVER
(NOT TO SCALE)

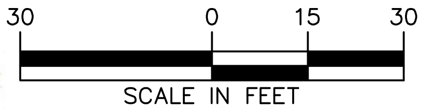


DETAIL 4: COVER TYPE 4 - TYPICAL CLEAN SOIL COVER
(NOT TO SCALE)

NOTE: DETAIL 5 IS SHOWN FOR ILLUSTRATION PURPOSES ONLY. THE BULKHEAD/CONTAMINANT BARRIER STRUCTURE WAS CONSTRUCTED BY OTHERS, AS SHOWN ON THE AS-BUILT DRAWING IN APPENDIX N.



DETAIL 5: HIGH-LEVEL RELIEVING PLATFORM
(NOT TO SCALE)



089491
9/18/2020

LANGAN
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BROOKLYN
KINGS NEW YORK

Figure Title
ENGINEERING CONTROLS LOCATION MAP AND TYPICAL DETAILS

Project No. 170301202
Date 9/29/2020
Drawn By TCS
Checked By AT

Figure No.
7
Sheet 7 of 7

Filename: \\langan.com\data\NYC\data2\170301202\Cadd Data - 170301202\2D-DesignFiles\Environmental\BCP SMP\Figure 7 - Engineering Controls Locations and Typical Details.dwg Date: 12/11/2020 Time: 14:59 User: atashji Style Table: Langan.stb Layout: Figure 3 - ENGINEERING CONTROL MAP

Table

Table 1
Soil Cleanup Objectives

450 Union Street, Brooklyn, NY
BCP Project No. C224219
Langan Project No. 170301202

Parameter	6 NYCRR Part 375 Restricted Use Restricted-Residential
VOCs (mg/kg)	
1,1,1-Trichloroethane	100
1,1-Dichloroethane	26
1,1-Dichloroethene	100
1,2,4-Trimethylbenzene	52
1,2-Dichlorobenzene	100
1,2-Dichloroethane	3.1
1,3,5- Trimethylbenzene	52
1,3-Dichlorobenzene	49
1,4-Dichlorobenzene	13
1,4-Dioxane	13
Acetone	100
Benzene	4.8
Butylbenzene	100
Carbon tetrachloride	2.4
Chlorobenzene	100
Chloroform	49
cis-1,2-Dichloroethene	100
Ethylbenzene	41
Hexachlorobenzene	1.2
Methyl ethyl ketone	100
Methyl tert-butyl ether	100
Methylene chloride	100
n-Propylbenzene	100
sec-Butylbenzene	100
tert-Butylbenzene	100
Tetrachloroethene	19
Toluene	100
trans-1,2-Dichloroethene	100
Trichloroethene	21
Vinyl chloride	0.9
Xylene (mixed)	100
SVOCs (mg/kg)	
Acenaphthene	100
Acenapthylene	100
Anthracene	100
Benz(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Benzo(g,h,i)perylene	100
Benzo(k)fluoranthene	3.9
Chrysene	3.9
Dibenz(a,h)anthracene	0.33
Fluoranthene	100
Fluorene	100
Indeno(1,2,3-cd)pyrene	0.5
m-Cresol	100
Naphthalene	100
o-Cresol	100
p-Cresol	100
Pentachlorophenol	6.7
Phenanthrene	100
Phenol	100
Pyrene	100

Parameter	6 NYCRR Part 375 Restricted Use Restricted-Residential
Metals (mg/kg)	
Arsenic	16
Barium	400
Beryllium	72
Cadmium	4.3
Chromium, hexavalent	110
Chromium, trivalent	180
Copper	270
Lead	400
Manganese	2,000
Nickel	310
Selenium	180
Silver	180
Total Cyanide	27
Total Mercury	0.81
Zinc	10,000
PCBs/Pesticides (mg/kg)	
2,4,5-TP Acid (Silvex)	100
4,4'- DDD	13
4,4'-DDE	8.9
4,4'-DDT	7.9
Aldrin	0.097
alpha-BHC	0.48
beta-BHC	0.36
Chlordane (alpha)	4.2
delta-BHC	100
Dibenzofuran	59
Dieldrin	0.2
Endosulfan I	24
Endosulfan II	24
Endosulfan sulfate	24
Endrin	11
Heptachlor	2.1
Lindane	1.3
Polychlorinated biphenyls	1

Notes:

1. The Soil Cleanup Objectives (SCOs) are the Title 6 New York Codes, Rules, and Regulations (6 NYCRR) Part 375 Restricted Use Restricted-Residential SCOs.
2. VOC: volatile organic compound
3. SVOC: semivolatile organic compound
4. PCB: polychlorinated biphenyl
5. mg/kg: milligram per kilogram

Table 2A
2017 IRMWP Hazardous Lead Area Confirmation Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

SAMPLE ID SAMPLING DATE LAB SAMPLE ID SAMPLE LOCATION SAMPLE DEPTH (feet bgs)	NYSDEC Part 375 Restricted-Residential Use SCOs	40 CFR 261 Toxicity Characteristic Limits	SB2E2_EP_SW1 2/20/2017 L1705425-01 North Sidewall 3.5-4	SB2E2_EP_SW2 2/20/2017 L1705425-02 East Sidewall 3.5-4	SB2E2_EP_SW3 2/20/2017 L1705425-03 South Sidewall 3.5-4	SB2E2_EP_SW4 2/20/2017 L1705425-04 West Sidewall 3.5-4	SB2E2_EP_B 2/20/2017 L1705425-05 Excavation Base 5
Total Metals (mg/kg)							
Lead, Total	400	~	160	250	280	200	110
TCLP Metals (mg/L)							
Lead, TCLP	~	5	0.06 J	0.5 U	0.5 U	0.5 U	0.5 U
General Chemistry							
Solids, Total (%)	~	~	91	81.1	84.4	77.3	86.8

Notes and Qualifiers:

1. Confirmation soil samples for the hazardous lead hotspot are compared to New York Codes Rules, and Regulations (6 NYCRR) Part 375-6.8(b) Restricted Use Restricted-Residential Soil Cleanup Objectives (SCOs) and Title 40 of the Code of Federal Regulations (40 CFR) Part 261 Maximum Concentration of Contaminants for the Toxicity Characteristic.
2. Total and TCLP lead was either not detected or detected below applicable standards.
3. feet bgs = feet below grade surface
4. mg/kg = milligram per kilogram
5. mg/L = milligram per liter
6. IRMWP = Interim Remedial Measure Work Plan
7. TCLP = Toxicity Characteristic Leaching Procedure
8. ~ = criterion does not exist
9. J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
10. U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).

Table 2B
2017 IRMWP UST Confirmation Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

Location	6 NYCRR Restricted-Residential Use SCOs	North Sidewall	East Sidewall	West Sidewall	South Sidewall	Base		Base (Below Groundwater)	UST Debris/Sludge
Sample ID		**EPN_8-9**	**EPE_8-9**	**EPW_8-9**	**EPS_8-9**	**EPB_8-9**	**DUP01_040317**	**EPB_9-10**	**UST01_040317**
Sample Date		**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**
Laboratory Sample ID		**L1710168-01**	**L1710168-02**	**L1710168-04**	**L1710168-03**	**L1710168-05**	**L1710168-07**	**L1710168-06**	**L1710168-08**
Sample Depth (feet bgs)		**8 to 9**	**8 to 9**	**8 to 9**	**8 to 9**	**8 to 9**	**8 to 9**	**9 to 10**	**N/A**
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	52	0.0035 U	0.0056 U	0.0031 U	0.004 U	0.00025 J	0.0029 U	0.0001 J	**320**
1,3,5-Trimethylbenzene	52	0.0035 U	0.0056 U	0.0031 U	0.004 U	0.00023 J	0.0029 U	0.0026 U	**120**
Benzene	4.8	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00023 J	**5.3**
Ethylbenzene	41	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00011 J	**210**
Isopropylbenzene	~	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	51
Methyl tert butyl ether	100	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	4 U
Naphthalene	100	0.0035 U	0.0056 U	0.00012 J	0.004 U	0.00014 J	0.00028 J	0.00043 J	**140**
n-Butylbenzene	100	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	18
n-Propylbenzene	100	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	75
o-Xylene	~	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	430
p/m-Xylene	~	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	910
p-Isopropyltoluene	~	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	18
sec-Butylbenzene	100	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	21
tert-Butylbenzene	100	0.0035 U	0.0056 U	0.0031 U	0.004 U	0.0032 U	0.0029 U	0.0026 U	4.8 J
Toluene	100	0.0011 U	0.0017 U	0.00094 U	0.0012 U	0.00098 U	0.00017 J	0.00042 J	**450**
Xylenes, Total	100	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	**1300**
SVOCs (mg/kg)									
Acenaphthene	100	0.34	0.39	0.28	0.12 J	0.36	0.79	0.18	0.43 U
Acenaphthylene	100	0.39	0.63	0.27	0.15	0.36	0.39	0.28	0.43 U
Anthracene	100	1.3	1.7	1	0.41	1.5	1.8	0.85	0.3 J
Benzo(a)anthracene	1	**3.8**	**6.3**	**3.6**	**1.5**	**4.2**	**5.9**	**3**	0.78
Benzo(a)pyrene	1	**3.6**	**6.1**	**3.6**	**1.5**	**4.1**	**5.9**	**3.1**	0.5
Benzo(b)fluoranthene	1	**4.8**	**8.3**	**5**	**2**	**5.6**	**8.8**	**4.2**	0.9
Benzo(ghi)perylene	100	2.6	4.4	2.4	1.1	3	4	2.2	0.36 J
Benzo(k)fluoranthene	3.9	1.6	2.6	1.4	0.69	1.7	2.7	1.3	0.26 J
Chrysene	3.9	3.8	**6.2**	3.6	1.6	**4.2**	**6**	3.1	0.84
Dibenzo(a,h)anthracene	0.33	**0.59**	**1.1**	**0.62**	0.26	**0.66**	**1.1**	**0.52**	0.087 J
Fluoranthene	100	7.1	13	7	3.5	9.2	14	7.7	2
Fluorene	100	0.4	0.38	0.26	0.096 J	0.4	0.71	0.17 J	0.54 U
Indeno(1,2,3-cd)pyrene	0.5	**2.7**	**4.7**	**2.6**	**1.1**	**3.1**	**4.3**	**2.3**	0.4 J
Naphthalene	100	0.15 J	0.2 J	0.16 J	0.049 J	0.14 J	0.79	0.061 J	93
Phenanthrene	100	6.5	8.3	4.7	2	6.2	9.8	4.1	1.8
Pyrene	100	6.1	10	6.2	3	7.4	12	6.4	1.6
General Chemistry									
Solids, Total	~	87	58.3	85.7	87.4	87.4	86	83.9	61.4

Notes:

1. Soil sample analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Restricted Use Restricted-Residential Soil Cleanup Objectives (SCOs).
2. Concentrations detected above Part 375 Rectricted-Residential SCOs are shaded and bolded.
3. ~ = Criteria does not exist.
4. mg/kg = milligrams per kilogram
5. bgs = below grade surface.
6. IRMWP = Interim Remedial Measure Work Plan
7. VOC = volatile organic compound
8. SVOC = semivolatile organic compound
9. UST = underground storage tank
10. J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
11. U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).

Table 2C
2017 IRMWP Documentation Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

SAMPLE ID	Track 4 Site Specific Soil Cleanup Objectives	DS01_1-2		DS02_1-2		DS03_1-2		DS04_3-4		DS05_3-4		DS06_3-4		DS07_3-4		DS08_1-2	
SAMPLING DATE		4/5/2017		4/5/2017		4/6/2017		4/10/2017		4/10/2017		4/10/2017		4/28/2017		4/28/2017	
LAB SAMPLE ID		L1710511-01		L1710511-02		L1710724-01		L1711107-01		L1711107-02		L1711107-03		L1713623-01		L1713623-02	
SAMPLE DEPTH (feet bgs)		1 to 2		1 to 2		1 to 2		3 to 4		3 to 4		3 to 4		3 to 4		1 to 2	
VOCs (mg/kg)																	
1,1,1,2-Tetrachloroethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1,1-Trichloroethane	0.68	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1,2,2-Tetrachloroethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1,2-Trichloroethane	-	0.001	U	0.001	U	0.0019	U	0.00081	U	0.00086	U	0.00081	U	0.0018	U	0.0018	U
1,1-Dichloroethane	0.27	0.001	U	0.001	U	0.0019	U	0.00081	U	0.00086	U	0.00081	U	0.0018	U	0.0018	U
1,1-Dichloroethene	0.33	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1-Dichloropropene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2,3-Trichlorobenzene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2,3-Trichloropropane	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
1,2,4,5-Tetramethylbenzene	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
1,2,4-Trichlorobenzene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2,4-Trimethylbenzene	3.6	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2-Dibromo-3-chloropropane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2-Dibromoethane	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
1,2-Dichlorobenzene	1.1	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2-Dichloroethane	0.02	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,2-Dichloroethene, Total	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,2-Dichloropropane	-	0.0023	U	0.0024	U	0.0043	U	0.0019	U	0.002	U	0.0019	U	0.0042	U	0.0042	U
1,3,5-Trimethylbenzene	8.4	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,3-Dichlorobenzene	2.4	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,3-Dichloropropane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,3-Dichloropropene, Total	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,4-Dichlorobenzene	1.8	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,4-Dioxane	0.1	0.027	U	0.027	U	0.05	U	0.022	U	0.023	U	0.022	U	0.048	U	0.048	U
2,2-Dichloropropane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
2-Butanone	0.12	0.0066	U	0.00071	J	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
2-Hexanone	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
4-Methyl-2-pentanone	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Acetone	0.05	0.0016	J	0.0058	J	0.0072	J	0.0054	U	0.0058	U	0.0054	U	0.017		0.0031	J
Acrylonitrile	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Benzene	0.06	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.00045	J	0.0012	U
Bromobenzene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Bromochloromethane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Bromodichloromethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Bromoform	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
Bromomethane	-	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Carbon disulfide	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Carbon tetrachloride	0.76	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Chlorobenzene	1.1	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Chloroethane	-	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Chloroform	0.37	0.001	U	0.00033	J	0.0019	U	0.00081	U	0.0009		0.00081	U	0.0018	U	0.00066	J
Chloromethane	-	0.0033	U	0.00054	J	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
cis-1,2-Dichloroethene	0.25	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
cis-1,3-Dichloropropene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Dibromochloromethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Dibromomethane	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Dichlorodifluoromethane	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Ethyl ether	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Ethylbenzene	1	0.00012	J	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.00033	J
Hexachlorobutadiene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Isopropylbenzene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Methyl tert butyl ether	0.93	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Methylene chloride	0.05	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
n-Butylbenzene	12	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
n-Propylbenzene	3.9	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Naphthalene	12	0.00025	J	0.0058		0.0062	U	0.0027	U	0.00052	J	0.00047	J	0.006	U	0.006	U
o-Chlorotoluene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
o-Xylene	total xylene	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.00067	J
p-Chlorotoluene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
p-Diethylbenzene	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
p-Ethyltoluene	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
p-Isopropyltoluene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
p/m-Xylene	total xylene	0.00026	J	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.00059	J	0.0017	J
sec-Butylbenzene	11	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Styrene	-	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
tert-Butylbenzene	5.9	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Tetrachloroethene	1.3	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Toluene	0.7	0.00023	J	0.001	U	0.00031	J	0.00081	U	0.00086	U	0.00081	U	0.00073	J	0.002	
trans-1,2-Dichloroethene	0.19	0.001	U	0.001	U	0.0019	U	0.00081	U	0.00086	U	0.00081	U	0.0018	U	0.0018	U
trans-1,3-Dichloropropene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
trans-1,4-Dichloro-2-butene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Trichloroethene	0.47	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Trichlorofluoromethane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Vinyl acetate	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Vinyl chloride	0.02	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Xylenes, Total	1.6	0.00026	J	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.00059	J	0.0024	J

Notes:
1. The Site-Specific Track 4 Soil Cleanup Objectives (SCOs) are the lower of New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (6 NYCRR) Part 375 Restricted Use Restricted-Residential or Protection of Groundwater SCOs for VOCs, PCBs, pesticides, herbicides, and metals, except for the metals listed below.
*1-a. Criteria for the metals arsenic, cadmium, copper, lead, and mercury are site-specific values approved in the Interim Remedial Measure Work Plan (IRMWP).
2. For SVOCs, Site-Specific Track 4 SCOs are Restricted-Residential Use SCOs.
3. VOC = volatile organic compound
4. SVOC = semivolatile organic compound
5. PCB = polychlorinated biphenyl
6. mg/kg = milligram per kilogram
7. feet bgs = feet below grade surface

Qualifiers:
J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).
P = The relative percent difference (RPD) between the results for the two chromatograph columns exceeds the method-specified criteria.
I = The lower value for the two columns was reported due to obvious interference.

Table 2C
2017 IRMWP Documentation Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

SAMPLE ID SAMPLING DATE LAB SAMPLE ID SAMPLE DEPTH (feet bgs)	Track 4 Site Specific Soil Cleanup Objectives	DS01_1-2 4/5/2017 L1710511-01 1 to 2	DS02_1-2 4/5/2017 L1710511-02 1 to 2	DS03_1-2 4/6/2017 L1710724-01 1 to 2	DS04_3-4 4/10/2017 L1711107-01 3 to 4	DS05_3-4 4/10/2017 L1711107-02 3 to 4	DS06_3-4 4/10/2017 L1711107-03 3 to 4	DS07_3-4 4/28/2017 L1713623-01 3 to 4	DS08_1-2 4/28/2017 L1713623-02 1 to 2
SVOCs (mg/kg)									
1,2,4,5-Tetrachlorobenzene	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
1,2,4-Trichlorobenzene	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
1,2-Dichlorobenzene	100	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
1,3-Dichlorobenzene	49	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
1,4-Dichlorobenzene	13	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2,4,5-Trichlorophenol	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2,4,6-Trichlorophenol	~	0.13 U	0.13 U	0.15 U	0.13 U	0.12 U	0.11 U	0.13 U	0.12 U
2,4-Dichlorophenol	~	0.19 U	0.19 U	0.23 U	0.2 U	0.18 U	0.16 U	0.2 U	0.19 U
2,4-Dimethylphenol	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2,4-Dinitrophenol	~	1 U	1 U	1.2 U	1 U	0.95 U	0.86 U	1 U	1 U
2,4-Dinitrotoluene	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2,6-Dinitrotoluene	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2-Chloronaphthalene	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2-Chlorophenol	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2-Methylnaphthalene	~	0.13 J	0.076 J	0.036 J	0.26 U	0.028 J	0.29	0.06 J	0.25 U
2-Methylphenol	100	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2-Nitroaniline	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
2-Nitrophenol	~	0.46 U	0.46 U	0.55 U	0.47 U	0.43 U	0.38 U	0.47 U	0.45 U
3,3'-Dichlorobenzidine	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
3-Methylphenol/4-Methylphenol	0.33	0.034 J	0.3 U	0.37 U	0.31 U	0.28 U	0.26 U	0.31 U	0.3 U
3-Nitroaniline	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
4,6-Dinitro-o-cresol	~	0.55 U	0.55 U	0.66 U	0.57 U	0.51 U	0.46 U	0.56 U	0.54 U
4-Bromophenyl phenyl ether	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
4-Chloroaniline	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
4-Chlorophenyl phenyl ether	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
4-Nitroaniline	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
4-Nitrophenol	~	0.3 U	0.3 U	0.36 U	0.31 U	0.28 U	0.25 U	0.3 U	0.29 U
Acenaphthene	100	0.57	0.32	0.13 J	0.038 J	0.086 J	1.1	0.13 J	0.031 J
Acenaphthylene	100	0.38	0.19	0.1 J	0.17 U	0.043 J	0.38	0.19	0.032 J
Acetophenone	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Anthracene	100	1.9	0.95	0.36	0.066 J	0.3	2.7	0.51	0.12
Benzo(a)anthracene	1	**5.2**	**3**	**1.3**	0.34	0.58	**4.8**	**2.4**	0.49
Benzo(a)pyrene	1	**4.9**	**2.9**	**1.3**	0.32	0.53	**3.7**	**1.9**	0.44
Benzo(b)fluoranthene	1	**6.1**	**3.7**	**1.9**	0.37	0.66	**4.8**	**2.5**	0.57
Benzo(ghi)perylene	100	3	1.8	0.87	0.15 J	0.25	1.9	1.2	0.3
Benzo(k)fluoranthene	3.9	2	1.2	0.67	0.14	0.22	1.6	0.86	0.21
Benzoic Acid	~	0.68 U	0.68 U	0.83 U	0.71 U	0.64 U	0.58 U	0.7 U	0.67 U
Benzyl Alcohol	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Biphenyl	~	0.056 J	0.48 U	0.58 U	0.5 U	0.45 U	0.12 J	0.5 U	0.47 U
Bis(2-chloroethoxy)methane	~	0.23 U	0.23 U	0.28 U	0.24 U	0.21 U	0.19 U	0.23 U	0.22 U
Bis(2-chloroethyl)ether	~	0.19 U	0.19 U	0.23 U	0.2 U	0.18 U	0.16 U	0.2 U	0.19 U
Bis(2-chloroisopropyl)ether	~	0.25 U	0.25 U	0.31 U	0.26 U	0.24 U	0.21 U	0.26 U	0.25 U
Bis(2-ethylhexyl)phthalate	~	0.21 U	0.21 U	0.6	0.22 U	0.2 U	0.18 U	0.17 J	0.21 U
Butyl benzyl phthalate	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Carbazole	~	0.7	0.41	0.3	0.22 U	0.11 J	0.72	0.21 J	0.051 J
Chrysene	3.9	**4.8**	3.1	1.4	0.38	0.56	**4.6**	2.4	0.5
Di-n-butylphthalate	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Di-n-octylphthalate	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Dibenzo(a,h)anthracene	0.33	**0.72**	**0.47**	0.22	0.049 J	0.072 J	**0.54**	**0.34**	0.078 J
Dibenzofuran	59	0.42	0.2 J	0.085 J	0.22 U	0.068 J	0.55	0.087 J	0.02 J
Diethyl phthalate	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Dimethyl phthalate	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Fluoranthene	100	14	7.1	2.7	0.54	1.3	8.9	4.4	0.88
Fluorene	100	0.62	0.32	0.13 J	0.033 J	0.094 J	1.2	0.12 J	0.036 J
Hexachlorobenzene	1.2	0.13 U	0.13 U	0.15 U	0.13 U	0.12 U	0.11 U	0.13 U	0.12 U
Hexachlorobutadiene	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Hexachlorocyclopentadiene	~	0.6 U	0.6 U	0.73 U	0.62 U	0.57 U	0.51 U	0.62 U	0.6 U
Hexachloroethane	~	0.17 U	0.17 U	0.2 U	0.17 U	0.16 U	0.14 U	0.17 U	0.17 U
Indeno(1,2,3-cd)pyrene	0.5	**3.3**	**1.9**	**0.9**	0.17	0.3	**2.1**	**1.4**	0.32
Isophorone	~	0.19 U	0.19 U	0.23 U	0.2 U	0.18 U	0.16 U	0.2 U	0.19 U
n-Nitrosodi-n-propylamine	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Naphthalene	100	0.21	0.13 J	0.093 J	0.22 U	0.059 J	0.23	0.11 J	0.038 J
NDPA/DPA	~	0.17 U	0.17 U	0.2 U	0.17 U	0.16 U	0.14 U	0.17 U	0.17 U
Nitrobenzene	~	0.19 U	0.19 U	0.23 U	0.2 U	0.18 U	0.16 U	0.2 U	0.19 U
p-Chloro-m-cresol	~	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Pentachlorophenol	6.7	0.17 U	0.17 U	0.2 U	0.17 U	0.16 U	0.14 U	0.17 U	0.17 U
Phenanthrene	100	10	4.9	1.7	0.56	1.1	9.3	2.3	0.44
Phenol	100	0.21 U	0.21 U	0.26 U	0.22 U	0.2 U	0.18 U	0.22 U	0.21 U
Pyrene	100	12	6.3	2.2	0.69	1.1	7.7	4.1	0.84

Notes:

1. The Site-Specific Track 4 Soil Cleanup Objectives (SCOs) are the lower of New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (6 NYCRR) Part 375 Restricted Use Restricted-Residential or Protection of Groundwater SCOs for VOCs, PCBs, pesticides, herbicides, and metals, except for the metals listed below.
*1-a. Criteria for the metals arsenic, cadmium, copper, lead, and mercury are site-specific values approved in the Interim Remedial Measure Work Plan (IRMWP).
2. For SVOCs, Site-Specific Track 4 SCOs are Restricted-Residential Use SCOs.
3. VOC = volatile organic compound
4. SVOC = semivolatile organic compound
5. PCB = polychlorinated biphenyl
6. mg/kg = milligram per kilogram
7. feet bgs = feet below grade surface

Qualifiers:

J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).
P = The relative percent difference (RPD) between the results for the two chromatograph columns exceeds the method-specified criteria.
I = The lower value for the two columns was reported due to obvious interference.

Table 2C
2017 IRMWP Documentation Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

SAMPLE ID SAMPLING DATE LAB SAMPLE ID SAMPLE DEPTH (feet bgs)	Track 4 Site Specific Soil Cleanup Objectives	DS01_1-2 4/5/2017 L1710511-01 1 to 2		DS02_1-2 4/5/2017 L1710511-02 1 to 2		DS03_1-2 4/6/2017 L1710724-01 1 to 2		DS04_3-4 4/10/2017 L1711107-01 3 to 4		DS05_3-4 4/10/2017 L1711107-02 3 to 4		DS06_3-4 4/10/2017 L1711107-03 3 to 4		DS07_3-4 4/28/2017 L1713623-01 3 to 4		DS08_1-2 4/28/2017 L1713623-02 1 to 2	
Herbicides (mg/kg)																	
2,4,5-T	-	0.213	U	0.211	U	0.259	U	0.222	U	0.195	U	0.18	U	0.215	U	0.209	U
2,4,5-TP (Silvex)	3.8	0.213	U	0.211	U	0.259	U	0.222	U	0.195	U	0.18	U	0.215	U	0.209	U
2,4-D	-	0.213	U	0.211	U	0.259	U	0.222	U	0.195	U	0.18	U	0.215	U	0.209	U
Pesticides (mg/kg)																	
4,4'-DDD	13	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00114	JPI	0.00335	P
4,4'-DDE	8.9	0.00203	U	0.0031		0.00814		0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00324	P
4,4'-DDT	7.9	0.00381	U	0.00361	U	0.00292	J	0.0039	U	0.00346	U	0.0032	U	0.00379	U	0.00664	
Aldrin	0.097	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00354	
Alpha-BHC	0.02	0.000847	U	0.000802	U	0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.000842	U	0.000808	U
Beta-BHC	0.09	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Chlordane	-	0.0165	U	0.0156	U	0.165		0.0169	U	0.015	U	0.0138	U	0.0164	U	0.0872	
cis-Chlordane	2.9	0.00254	U	0.00241	U	0.0313	P	0.0026	U	0.00231	U	0.00213	U	0.000806	J	0.0115	
Delta-BHC	0.25	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Dieldrin	0.1	0.00127	U	0.0012	U	0.0098	PI	0.0013	U	0.00116	U	0.00106	U	0.00126	U	0.0133	
Endosulfan I	24	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Endosulfan II	24	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Endosulfan sulfate	24	0.000847	U	0.000802	U	0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.000842	U	0.000808	U
Endrin	0.06	0.00377	P	0.0115		0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.00347	PI	0.000808	U
Endrin aldehyde	-	0.00254	U	0.00241	U	0.00307	U	0.0026	U	0.00231	U	0.00213	U	0.00252	U	0.00242	U
Endrin ketone	-	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.0169	P	0.00194	U
Heptachlor	0.38	0.00102	U	0.000963	U	0.00123	U	0.00104	U	0.000924	U	0.000852	U	0.00101	U	0.000969	U
Heptachlor epoxide	-	0.00381	U	0.00361	U	0.00461	U	0.0039	U	0.00346	U	0.0032	U	0.00126	J	0.00269	J
Lindane	0.1	0.000847	U	0.000802	U	0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.000842	U	0.000808	U
Methoxychlor	-	0.00381	U	0.00361	U	0.00461	U	0.0039	U	0.00346	U	0.0032	U	0.0207	PI	0.00364	U
Toxaphene	-	0.0381	U	0.0361	U	0.0461	U	0.039	U	0.0346	U	0.032	U	0.0379	U	0.0364	U
trans-Chlordane	-	0.00254	U	0.00241	U	0.0121	PI	0.000916	JPI	0.00382	P	0.00213	U	0.00221	JPI	0.00792	PI
PCBs (mg/kg)																	
Aroclor 1016	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1221	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1232	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1242	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1248	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1254	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.0232	J
Aroclor 1260	-	0.041	U	0.00848	J	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.016	J
Aroclor 1262	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1268	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
PCBs, Total	1	0.041	U	0.00848	J	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.0392	J
Total Metals (mg/kg)																	
Aluminum, Total	-	4600		5600		4900		3200		4600		5100		4700		3000	
Antimony, Total	-	6.6		1.7	J	0.46	J	7.1		4.7	U	3.1	J	3.6	J	5.1	U
Arsenic, Total	16*	7.9		7.6		4.1		**19**		4.3		7.7		14		2.5	
Barium, Total	400	88		65		63		31		31		67		79		28	
Beryllium, Total	47	0.26	J	0.28	J	0.19	J	0.36	J	0.21	J	0.31	J	0.26	J	0.08	J
Cadmium, Total	9.3*	0.86	J	2.3		0.31	J	0.38	J	0.28	J	2.2		0.93	J	0.2	J
Calcium, Total	-	9400		8600		9200		2000		1600		2200		6500		9700	
Chromium, Total	-	13		12		16		37		9		12		16		6.6	
Chromium, Hexavalent	19	0.22	J	0.28	J	1.2	U	1.9		0.36	J	0.88	U	0.91	J	0.74	J
Chromium, Trivalent	180	13	J	12	J	16		35		8.6	J	12		15	J	5.9	J
Cobalt, Total	-	4.4		5.2		4.3		9.1		4.6		5		7.7		2.4	
Copper, Total	1720*	150		1000		440		140		89		300		500		72	
Cyanide, Total	27	1.2	U	0.5	J	0.82	J	0.23	J	1.1	U	1.1	U	1.2	U	2.4	U
Iron, Total	-	11000		14000		9600		41000		10000		11000		45000		5100	
Lead, Total	1000*	270		220		50		200		66		140		410		32	
Magnesium, Total	-	1900		1800		2200		1100		2200		2100		1600		3200	
Manganese, Total	2000	220		200		230		370		200		200		450		120	
Mercury, Total	2.8*	**3.6**		0.44		0.1		**190**		**7.2**		0.62		1.3		0.18	
Nickel, Total	130	36		24		14		26		23		18		24		7	
Potassium, Total	-	1100		790		820		1400		540		1000		820		460	
Selenium, Total	4	2	U	2	U	2.4	U	2.1	U	1.9	U	1.7	U	2.1	U	2	U
Silver, Total	8.3	1	U	0.98	U	1.2	U	1	U	0.94	U	0.87	U	1	U	1	U
Sodium, Total	-	120	J	98	J	72	J	270		70	J	84	J	150	J	100	J
Thallium, Total	-	2	U	2	U	2.4	U	2.1	U	1.9	U	1.7	U	2.1	U	2	U
Vanadium, Total	-	14		14		20		48		13		18		22		8.7	
Zinc, Total	2480	370		660		180		100		240		680		510		61	
General Chemistry																	
Solids, Total (%)	-	77.4		78.3		63.9		74		83.3		90.5		76		78.7	

Notes:

1. The Site-Specific Track 4 Soil Cleanup Objectives (SCOs) are the lower of New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (6 NYCRR) Part 375 Restricted Use Restricted-Residential or Protection of Groundwater SCOs for VOCs, PCBs, pesticides, herbicides, and metals, except for the metals listed below.
*1-a. Criteria for the metals arsenic, cadmium, copper, lead, and mercury are site-specific values approved in the Interim Remedial Measure Work Plan (IRMWP).
2. For SVOCs, Site-Specific Track 4 SCOs are Restricted-Residential Use SCOs.
3. VOC = volatile organic compound
4. SVOC = semivolatile organic compound
5. PCB = polychlorinated biphenyl
6. mg/kg = milligram per kilogram
7. feet bgs = feet below grade surface

Qualifiers:

J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).
P = The relative percent difference (RPD) between the results for the two chromatograph columns exceeds the method-specified criteria.
I = The lower value for the two columns was reported due to obvious interference.

Table 3
2020 IRMWP Documentation Soil Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202

Location	NYSDEC Part 375	SB01		SB02				SB03		SB04	
Sample ID	Restricted Use	SB01_02		SB02_02		DUP01_04232020		SB03_02		SB04_02	
Sample Date	Restricted-	4/23/2020		4/23/2020		4/23/2020		4/23/2020		4/23/2020	
Sample Depth (feet bgs)	Residential SCOs	12.5		12.5		12.5		12.5		12.5	
Volatile Organic Compounds (mg/kg)											
1,1,1,2-Tetrachloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,1-Trichloroethane	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,2,2-Tetrachloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,2-Trichloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1-Dichloroethane	26	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1-Dichloroethene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,3-Trichlorobenzene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,3-Trichloropropane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,4-Trichlorobenzene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,4-Trimethylbenzene	52	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dibromo-3-Chloropropane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dibromoethane (Ethylene Dibromide)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dichlorobenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dichloroethane	3.1	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dichloropropane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,3,5-Trimethylbenzene (Mesitylene)	52	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,3-Dichlorobenzene	49	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,4-Dichlorobenzene	13	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,4-Dioxane (P-Dioxane)	13	0.054	U	0.049	U	0.059	U	0.05	U	0.052	U
2-Hexanone	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Acetone	100	0.031	B	0.0049	U	0.0059	U	0.033	B	0.0052	U
Acrolein	~	0.0054	U	0.0049	U	0.0059	U	0.005	U	0.0052	U
Acrylonitrile	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Benzene	4.8	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromochloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromodichloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromoform	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromomethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Carbon Disulfide	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Carbon Tetrachloride	2.4	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chlorobenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chloroform	49	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Cis-1,2-Dichloroethene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Cis-1,3-Dichloropropene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Cyclohexane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Dibromochloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Dibromomethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Dichlorodifluoromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Ethylbenzene	41	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Hexachlorobutadiene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Isopropylbenzene (Cumene)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
M,P-Xylene	~	0.0054	U	0.0049	U	0.0059	U	0.005	U	0.0052	U
Methyl Acetate	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Methyl Ethyl Ketone (2-Butanone)	100	0.009		0.0025	U	0.003	U	0.0025	U	0.0026	U
Methyl Isobutyl Ketone (4-Methyl-2-Penta	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Methylcyclohexane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Methylene Chloride	100	0.0054	U	0.0049	U	0.0059	U	0.005	U	0.0052	U
n-Butylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
n-Propylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
o-Xylene (1,2-Dimethylbenzene)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
p-Cymene (p-Isopropyltoluene)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Sec-Butylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Styrene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
T-Butylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Tert-Butyl Alcohol	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Tert-Butyl Methyl Ether	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Tetrachloroethene (PCE)	19	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Toluene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Total Xylenes	100	0.0081	U	0.0074	U	0.0089	U	0.0075	U	0.0077	U
Trans-1,2-Dichloroethene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Trans-1,3-Dichloropropene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Trichloroethene (TCE)	21	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Trichlorofluoromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Vinyl Chloride	0.9	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U

Notes and qualifiers are provided on page 3

Table 3
2020 IRMWP Documentation Soil Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202

Location	**NYSDEC Part 375**	**SB01**		**SB02**				**SB03**		**SB04**	
Sample ID	**Restricted Use**	**SB01_02**		**SB02_02**		**DUP01_04232020**		**SB03_02**		**SB04_02**	
Sample Date	**Restricted-**	**4/23/2020**		**4/23/2020**		**4/23/2020**		**4/23/2020**		**4/23/2020**	
Sample Depth (feet bgs)	**Residential SCOs**	**12.5**		**12.5**		**12.5**		**12.5**		**12.5**	
Semivolatile Organic Compounds (mg/kg)											
1,2,4,5-Tetrachlorobenzene	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
1,2-Diphenylhydrazine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,3,4,6-Tetrachlorophenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
2,4,5-Trichlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4,6-Trichlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4-Dichlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4-Dimethylphenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4-Dinitrophenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
2,4-Dinitrotoluene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,6-Dinitrotoluene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Chloronaphthalene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Chlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Methylnaphthalene	~	0.21	D	0.222	D	0.134	JD	0.145	D	0.0481	U
2-Methylphenol (o-Cresol)	100	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Nitroaniline	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
2-Nitrophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
3 & 4 Methylphenol (m&p Cresol)	100	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
3,3'-Dichlorobenzidine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
3-Nitroaniline	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
4,6-Dinitro-2-Methylphenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
4-Bromophenyl Phenyl Ether	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Chloro-3-Methylphenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Chloroaniline	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Chlorophenyl Phenyl Ether	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Nitroaniline	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
4-Nitrophenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
Acenaphthene	100	0.485	D	0.61	D	0.441	D	0.473	D	0.134	D
Acenaphthylene	100	0.232	D	0.505	D	0.637	D	0.42	D	0.27	D
Acetophenone	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Aniline (Phenylamine, Aminobenzene)	~	0.224	U	0.296	U	0.295	U	0.194	U	0.192	U
Anthracene	100	1.36	D	1.85	D	1.7	D	1.6	D	0.528	D
Atrazine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzaldehyde	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzidine	~	0.224	U	0.296	U	0.295	U	0.194	U	0.192	U
Benzo(a)Anthracene	1	**2.09**	D	**4.26**	D	**4.59**	D	**3.86**	D	**1.91**	D
Benzo(a)Pyrene	1	**2.15**	D	**3.9**	D	**4.29**	D	**3.46**	D	**1.93**	D
Benzo(b)Fluoranthene	1	**1.66**	D	**3.1**	D	**3.39**	D	**2.81**	D	**1.49**	D
Benzo(g,h,i)Perylene	100	1.12	D	1.76	D	1.85	D	2.12	D	0.99	D
Benzo(k)Fluoranthene	3.9	1.43	D	3.12	D	3.79	D	2.86	D	1.53	D
Benzoic Acid	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzyl Alcohol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzyl Butyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Biphenyl (Diphenyl)	~	0.0824	JD	0.0755	JD	0.0738	U	0.0485	U	0.0481	U
Bis(2-Chloroethoxy) Methane	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Et	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Bis(2-Chloroisopropyl) Ether	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Bis(2-Ethylhexyl) Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0572	JD	0.0481	U
Caprolactam	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
Carbazole	~	0.382	D	0.749	D	0.653	D	0.491	D	0.173	D
Chrysene	3.9	2	D	3.87	D	**4.29**	D	3.7	D	1.83	D
Dibenz(a,h)Anthracene	0.33	0.11	JD	**0.513**	D	0.232	D	**0.524**	D	0.248	D
Dibenzofuran	59	0.366	D	0.427	D	0.33	D	0.0485	U	0.0982	D
Diethyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Dimethyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Di-N-Butyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Di-N-Octylphthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Diphenylamine	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
Fluoranthene	100	5.54	D	9.24	D	9.51	D	9.01	D	3.81	D
Fluorene	100	0.611	D	0.754	D	0.676	D	0.541	D	0.19	D
Hexachlorobenzene	1.2	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Hexachlorobutadiene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Hexachlorocyclopentadiene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Hexachloroethane	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Indeno(1,2,3-c,d)Pyrene	0.5	**1.39**	D	**2.43**	D	**2.08**	D	**2.67**	D	**1.12**	D
Isophorone	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Naphthalene	100	0.42	D	0.437	D	0.219	D	0.254	D	0.089	JD
Nitrobenzene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
n-Nitrosodimethylamine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
n-Nitrosodi-N-Propylamine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
n-Nitrosodiphenylamine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Pentachlorophenol	6.7	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Phenanthrene	100	5.41	D	7.1	D	6.23	D	6.97	D	2.16	D
Phenol	100	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Pyrene	100	4.56	D	6.99	D	7.53	D	7.45	D	3.28	D
Pyridine	~	0.224	U	0.296	U	0.295	U	0.194	U	0.192	U

Notes and qualifiers are provided on page 3

Table 3
2020 IRMWP Documentation Soil Sample Results

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202

Location	NYSDEC Part 375 Restricted Use Restricted-Residential SCOs	SB01		SB02				SB03		SB04	
Sample ID		SB01_02		SB02_02		DUP01_04232020		SB03_02		SB04_02	
Sample Date		4/23/2020		4/23/2020		4/23/2020		4/23/2020		4/23/2020	
Sample Depth (feet bgs)		12.5		12.5		12.5		12.5		12.5	
Pesticides (mg/kg)											
4,4'-DDD	13	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
4,4'-DDE	8.9	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
4,4'-DDT	7.9	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Aldrin	0.097	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Alpha BHC (Alpha Hexachlorocyclohexane	0.48	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Alpha Chlordane	4.2	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Alpha Endosulfan	24	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Beta Bhc (Beta Hexachlorocyclohexane)	0.36	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Beta Endosulfan	24	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Chlordane (alpha and gamma)	~	0.0443	U	0.0389	U	0.0388	U	0.0388	U	0.0376	U
Delta Bhc (Delta Hexachlorocyclohexane)	100	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Dieldrin	0.2	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Endosulfan Sulfate	24	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Endrin	11	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Endrin Aldehyde	~	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Endrin Ketone	~	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Gamma Bhc (Lindane)	1.3	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Gamma-Chlordane	~	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Heptachlor	2.1	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Heptachlor Epoxide	~	0.00222	U	0.00194	U	0.00194	U	0.00194	U	0.00188	U
Methoxychlor	~	0.0111	U	0.00972	U	0.00969	U	0.00969	U	0.0094	U
Toxaphene	~	0.112	U	0.0984	U	0.0981	U	0.0981	U	0.0951	U
Herbicides (mg/kg)											
2,4,5-T (Trichlorophenoxyacetic Acid)	~	0.0268	U	0.0233	U	0.0232	U	0.0234	U	0.0228	U
2,4-D (Dichlorophenoxyacetic Acid)	~	0.0268	U	0.0233	U	0.0232	U	0.0234	U	0.0228	U
Silvex (2,4,5-Tp)	100	0.0268	U	0.0233	U	0.0232	U	0.0234	U	0.0228	U
Polychlorinated Biphenyls (mg/kg)											
PCB-1016 (Aroclor 1016)	~	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
PCB-1221 (Aroclor 1221)	~	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
PCB-1232 (Aroclor 1232)	~	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
PCB-1242 (Aroclor 1242)	~	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
PCB-1248 (Aroclor 1248)	~	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
PCB-1254 (Aroclor 1254)	~	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
PCB-1260 (Aroclor 1260)	~	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
Total PCBs	1	0.0224	U	0.0196	U	0.0196	U	0.0196	U	0.019	U
Inorganics (mg/kg)											
Aluminum	~	20,100		7,200		7,060		6,920		7,340	
Antimony	~	3.37	U	2.97	U	2.96	U	2.95	U	2.89	U
Arsenic	16	7.42		7.43		7.33		9.93		8.16	
Barium	400	124		54.8		44.7		80.5		66	
Beryllium	72	0.067	U	0.059	U	0.059	U	0.059	U	0.058	U
Cadmium	4.3	0.404	U	0.356	U	0.355	U	0.938		1.22	
Calcium	~	4,850		10,500		6,560		15,900		4,710	
Chromium, Hexavalent	110	0.674	U	0.593	U	0.591	U	0.59	U	0.577	U
Chromium, Total	~	39.6		12.5		12.5		22		15.9	
Chromium, Trivalent	180	39.6		12.5		12.5		22		15.9	
Cobalt	~	17.6		13.5		13.7		8.57		4.4	
Copper	270	101		119		102		**1,040**		**629**	
Cyanide	27	0.674	U	0.593	U	0.591	U	0.59	U	0.577	U
Iron	~	39,100		17,300		17,900		19,700		16,400	
Lead	400	**407**		161		169		347		255	
Magnesium	~	7,070		4,360		4,490		4,140		1,990	
Manganese	2,000	311		305		312		321		110	
Mercury	0.81	0.0941		0.511		**0.838**		0.755		**1.24**	
Nickel	310	47.4		25.6		25.8		35.9		19	
Potassium	~	3,210		1,070		1,180		1,210		1,450	
Selenium	180	3.37	U	2.97	U	2.96	U	2.95	U	2.89	U
Silver	180	0.674	U	0.593	U	0.591	U	0.59	U	0.577	U
Sodium	~	3,530		1,490		1,400		900		1,130	
Thallium	~	3.37	U	2.97	U	2.96	U	2.95	U	2.89	U
Vanadium	~	43.1		14.5		16.4		20.7		18.9	
Zinc	10,000	234		170		170		713		468	
General Chemistry (%)											
Solids, Percent	~	74.2		84.3		84.5		84.8		86.6	

Table 4
Site Management Schedule

450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

	Task	Frequency
Inspections and Monitoring	Site-wide Inspection	Annual
	Site Cover Inspection	Annual and following severe weather events
	Bulkhead Monitoring	Annual
Operations and Maintenance	DNAPL Recovery	Monthly
Reporting	DNAPL Recovery Reporting	Quarterly
	Periodic Review Report	Annual
Sampling	Soil Vapor Intrusion Evaluation	Prior to any proposed occupancy for a new or previously unoccupied building

Notes:
1. DNAPL = Dense Non-Aqueous Phase Liquid
2. The start of the DNAPL recovery and bulkhead monitoring program will be coordinated with the NYSDEC.

Appendix A

Environmental Easement, Site Survey and Metes-Bounds Description

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument.The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.

2020092301057001002E2652

RECORDING AND ENDORSEMENT COVER PAGE

PAGE 1 OF 10

Document ID: 2020092301057001 Document Date: 09-10-2020 Preparation Date: 09-24-2020
Document Type: EASEMENT
Document Page Count: 9

PRESENTER:
ROYAL REGISTERED PROPERTY REPORTS
(183227)MB
125 PARK AVENUE, SUITE 1610
NEW YORK, NY 10017
212-376-0900
MBASALATAN@ROYALABSTRACT.COM

RETURN TO:
ROYAL REGISTERED PROPERTY REPORTS
(183227)MB
125 PARK AVENUE, SUITE 1610
NEW YORK, NY 10017
212-376-0900
MBASALATAN@ROYALABSTRACT.COM

PROPERTY DATA

Borough	Block	Lot	Unit	Address
BROOKLYN	438	7 Entire Lot		452 UNION STREET

Property Type: COMMERCIAL REAL ESTATE

CROSS REFERENCE DATA

CRFN_______ *or* DocumentID________ *or* ________ Year_____ Reel____ Page_____ *or* File Number__________

PARTIES

GRANTOR/SELLER:
450 UNION LLC
10 GLENVILLE STREET, SUITE 1
GREENWICH, CT 06831

GRANTEE/BUYER:
THE PEOPLE OF THE STATE OF NEW YORK
NYSDEC, 625 BROADWAY
ALBANY, NY 12233

FEES AND TAXES

Mortgage :

Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	82.00
Affidavit Fee:	$	0.00

Filing Fee:	$	0.00
NYC Real Property Transfer Tax:	$	0.00
NYS Real Estate Transfer Tax:	$	0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK

Recorded/Filed 10-05-2020 17:17
City Register File No.(CRFN):
2020000271467

1625

Annette M Hill

City Register Official Signature

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made as of this 10th day of September, 2020 between Owner, 450 Union LLC, having a mailing address of 10 Glenville Street, Suite 1, Greenwich, Connecticut 06831, County of Fairfield, State of Connecticut (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 450 Union Street in the City of New York, County of Kings and State of New York, known and designated on the tax map of the New York City Department of Finance as tax map parcel number: Block 438 Lot 7, being the same as that property conveyed to Grantor by deed dated September 9, 2014 and recorded in the City Register of the City of New York as CRFN #2014000329318. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 0.654 +/- acres, and is hereinafter more fully described in the Land Title Survey dated June 25, 2020 prepared by Paul D. Fisher, L.L.S. of Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: C224219-06-15, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv)

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the New York City Department of Health and Mental Hygiene to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held by the New York State Department of Environmental Conservation

---

pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5) the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C224219
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

450 Union LLC:

By: ________________

Print Name: ERIC SCHWARTZ

Title: Manager Date: 8/25/20

Grantor's Acknowledgment

L.A. STATE OF ~~NEW YOR~~K CONNECTICUT)
) ss:
COUNTY OF Fairfield)

On the 25th day of August, in the year 2020, before me, the undersigned, personally appeared Eric Schwartz, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Lynn Amler
Notary Public - State of New York

LYNN AMLER
Notary Public, State of Connecticut
My Commission Expires Aug. 31, 2022

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting by and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: ______________________
George W. Heitzman, Assistant Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 10th day of September, in the year 2020 before me, the undersigned, personally appeared George W. Heitzman, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

____
Notary Public - State of New York

JENNIFER ANDALORO
Notary Public, State of New York
No. 02AN6098246
Qualified in Albany County
Commission Expires January 14, 2024

Block 438
Lot 7
County of Kings

183226

SCHEDULE "A" PROPERTY DESCRIPTION

ENVIRONMENTAL EASEMENT LEGAL DESCRIPTION
450 UNION STREET

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE BOROUGH OF BROOKLYN, CITY AND STATE OF NEW YORK, COUNTY OF KINGS, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF BOND AND UNION STREETS;

RUNNING THENCE EASTERLY AND ALONG THE SOUTHERLY SIDE OF UNION STREET, THREE HUNDRED (300) FEET TO THE WESTERLY SIDE OF GOWANUS CANAL;

THENCE SOUTHERLY AND ALONG SAID WESTERLY SIDE OF GOWANUS CANAL, ONE HUNDRED (100) FEET;

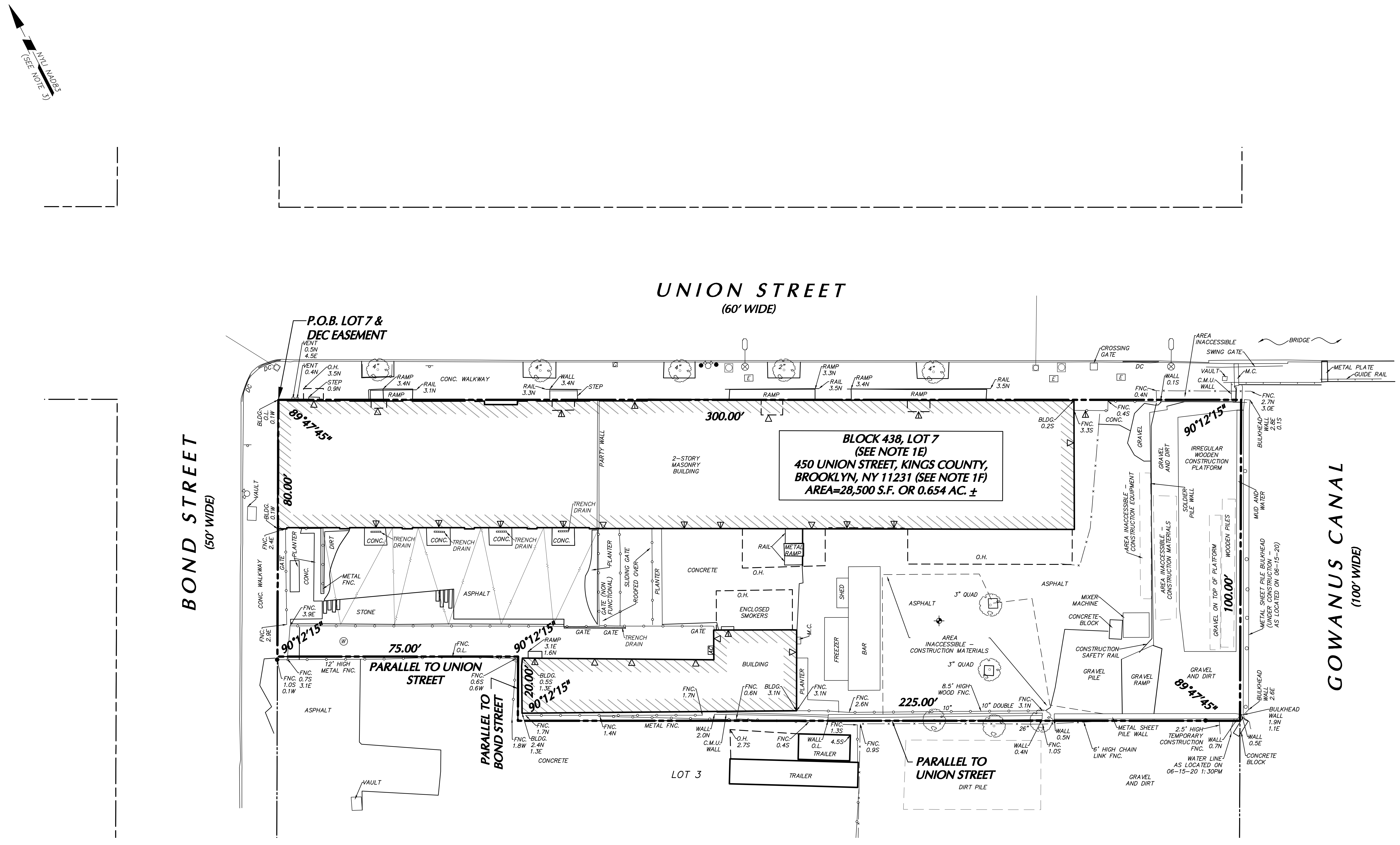
THENCE WESTERLY PARALLEL WITH THE SAID SOUTHERLY SIDE OF UNION STREET, TWO HUNDRED TWENTY-FIVE (255) FEET;

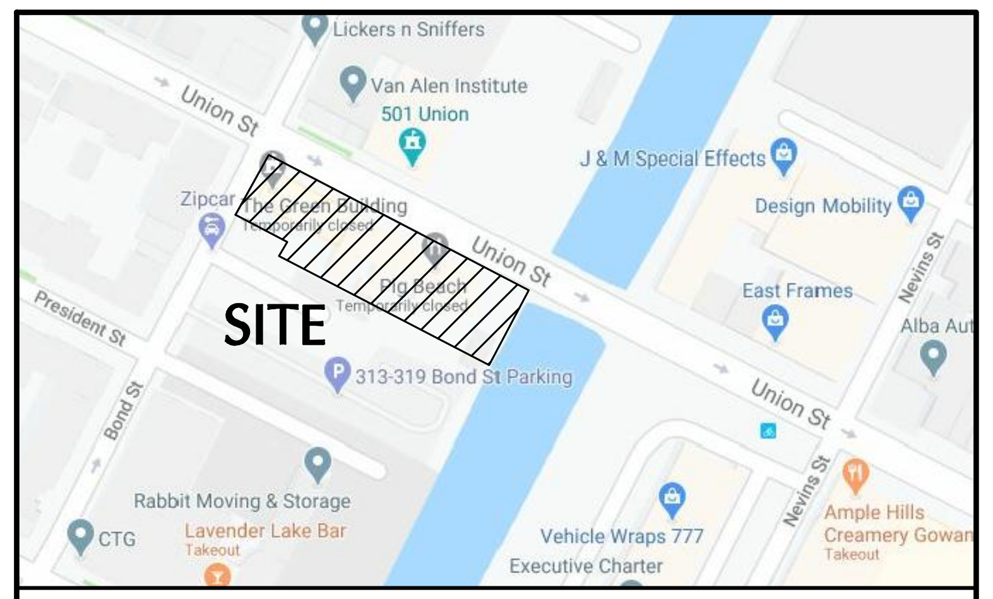
THENCE NORTHERLY AND PARALLEL WITH THE SAID SOUTHERLY SIDE OF BOND STREET, TWENTY (20) FEET;

THENCE WESTERLY AND PARALLEL WITH THE SAID SOUTHERLY SIDE OF UNION STREET, SEVENTY-FIVE (75) FEET TO THE EASTERLY SIDE OF BOND STREET; AND

THENCE NORTHERLY AND ALONG THE SAID EASTERLY SIDE OF BOND STREET, EIGHTY FEET (80) TO THE POINT OR PLACE OF BEGINNING.

ENCOMPASSING AN AREA OF 28,500 SQUARE FEET OR 0.654 ACRES, MORE OR LESS.





PROJECT LOCATION MAP

SCALE: NOT TO SCALE

SOURCE:
GOOGLE MAPS

LEGEND (NOT SHOWN TO SCALE)

- HYDRANT
- STAND PIPE
- ROOF DRAIN
- FLAG POLE
- PEDESTAL LIGHT
- STREET LIGHT
- AREA LIGHT
- SIGNAL POLE
- POWER POLE
- GUY WIRE
- ANCHOR POLE
- MANHOLE (TYPE AS LABELED)
- WATER VALVE
- GAS VALVE
- UNKNOWN VALVE
- CATCH BASIN
- CLEAN OUT
- TREE
- SIGN
- BOLLARD
- ELECTRIC BOX
- ELECTRIC METER
- GAS METER
- WATER METER
- TELEPHONE BOX
- TRAFFIC SIGNAL POLE
- MONITOR WELL
- BENCH
- DOOR
- DOUBLE DOOR
- ROLL UP DOOR
- YARD DRAIN
- MAILBOX

DC	DROP CURB
P.O.B.	POINT OF BEGINNING
C.M.U.	CONCRETE MASONRY UNIT
BLDG.	BUILDING
TYP.	TYPICAL
FNC.	FENCE
O.H.	OVERHANG
M.C.	METAL COVER
S.F.	SQUARE FEET
AC.	ACRES
O.L.	ON LINE
N	NORTH
S	SOUTH
W	WEST
E	EAST

- OVERHEAD WIRE
- GUIDE RAIL WOOD
- GUIDE RAIL METAL
- TREE LINE
- CHAINLINK FENCE
- STOCKADE FENCE
- IRON FENCE
- EASEMENT LINE
- PROPERTY LINE
- RIGHT-OF-WAY LINE

NOTES

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:
   - A. BOROUGH OF BROOKLYN SECTION MAP NO. 23 AND 24.
   - B. CURRENT NEW YORK CITY TAX MAP OF BROOKLYN.
   - C. "BOUNDARY AND TOPOGRAPHIC SURVEY, 450 UNION STREET", BY LANGAN, PROJECT NO. 170301202, DRAWING NO. VT-101, DATED 06/13/17, LAST REVISED 12/04/19.
   - D. TITLE NO. KIN-246501-L, BY OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY, EFFECTIVE DATE 05/26/14 AT 9:00AM.
   - E. CRFN 2004000753755, RECORDED/FILED 12-07-2004 11:58 [DEED] (PLOTTED)
   - F. BROWNFIELD SITE CLEANUP AGREEMENT, INDEX NO.: C224219-06-15, SIGNED BY ROBERT W. SCHICK, P.E., DIRECTOR, DIVISION OF ENVIRONMENTAL REMEDIATION, DATED 09/01/15.
2. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE FOLLOWING FACTS AS REVEALED BY THE HEREON REFERENCED INFORMATION. THE INFORMATION SHOWN HEREON DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT.
3. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW YORK LONG ISLAND COORDINATE SYSTEM, NYLI NAD 83 (2011) DERIVED USING LEICA GS-15 AND CS-15 GPS EQUIPMENT AND THE LEICA SMARTNET NETWORK.
4. STREET NAMES, R.O.W. WIDTHS, BLOCK, AND LOT NUMBERS AS PER MAPS REFERENCED IN NOTES 1A THROUGH 1C.
5. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DURING JUNE OF 2020.
6. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.
7. WETLANDS, ENVIRONMENTAL AND/OR HAZARDOUS MATERIALS LOCATION, IF ANY, NOT COVERED UNDER THIS CONTRACT.
8. UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES/CATCH BASINS, ETC). CONDITIONS CAN VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND THE LOCATIONS WHERE DATA WAS OBTAINED. DESPITE MEETING THE REQUIRED STANDARD OF CARE THE SURVEYOR CANNOT AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES.

   ADDITIONAL UTILITY (WATER, GAS, ELECTRIC ETC...) DATA MAY BE SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING STRUCTURES, AND/OR FROM EXISTING DRAWINGS.

   UNLESS SPECIFICALLY NOTED HEREON THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEES THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON.

   PRIOR TO ANY DESIGN OR CONSTRUCTION THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.

   UNLESS NOTED BELOW SUPPLEMENTAL DOCUMENTS WERE NOT USED TO COMPILE THE SUBSURFACE UTILITY INFORMATION SHOWN HEREON.
9. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
10. THIS PLAN NOT VALID UNLESS EMBOSSED OR BLUE INK STAMPED WITH THE SEAL OF THE PROFESSIONAL.

BLOCK 438 LOT 7 & DEC EASEMENT WRITTEN DESCRIPTION (SEE NOTE 1E)

ALL THAT CERTAIN PLOT, PIECE OR PARCEL OF LAND, SITUATE, LYING AND BEING IN THE BOROUGH OF BROOKLYN, CITY AND STATE OF NEW YORK, COUNTY OF KINGS, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEASTERLY CORNER OF BOND AND UNION STREETS;

RUNNING THENCE EASTERLY AND ALONG THE SOUTHERLY SIDE OF UNION STREET, THREE HUNDRED (300) FEET TO THE WESTERLY SIDE OF GOWANUS CANAL;

THENCE SOUTHERLY AND ALONG SAID WESTERLY SIDE OF GOWANUS CANAL, ONE HUNDRED (100) FEET;

THENCE WESTERLY PARALLEL WITH THE SAID SOUTHERLY SIDE OF UNION STREET, TWO HUNDRED TWENTY-FIVE (225) FEET;

THENCE NORTHERLY AND PARALLEL WITH SAID EASTERLY SIDE OF BOND STREET, TWENTY (20) FEET;

THENCE WESTERLY AND PARALLEL WITH THE SAID SOUTHERLY SDE OF UNION STREET, SEVENT-FIVE (75) FEET TO THE EASTERLY SIDE OF BOND STREET; AND

THENCE NORTHERLY AND ALONG THE SAID EASTERLY SIDE OF BOND STREET, EIGHTY FEET (80) TO THE POINT OR PLACE OF BEGINNING.

ENCOMPASSING AN AREA OF 28,500 SQUARE FEET OR 0.654 ACRES, MORE OR LESS.

6.096 0 1.524 3.048 6.096
SCALE: 1 INCH = 6.096 METERS

20 0 5 10 20
SCALE: 1 INCH = 20 FEET

THIS PROPERTY IS SUBJECT TO AN ENVIRONMENTAL EASEMENT HELD BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION PURSUANT TO TITLE 36 OF ARTICLE 71 OF THE NEW YORK ENVIRONMENTAL CONSERVATION LAW. THE ENGINEERING AND INSTITUTIONAL CONTROLS FOR THIS EASEMENT ARE SET FORTH IN MORE DETAIL IN THE SITE MANAGEMENT PLAN (SMP). A COPY OF THE SMP MUST BE OBTAINED BY ANY PARTY WITH AN INTEREST IN THE PROPERTY. THE SMP CAN BE OBTAINED FROM NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION, DIVISION OF ENVIRONMENTAL REMEDIATION, SITE CONTROL SECTION, 625 BROADWAY, ALBANY, NY 12233 OR AT derweb@dec.ny.gov.

Date	Description	No.

REVISIONS

"I hereby state that this plan is based on a field survey made by me or under my immediate supervision in accordance with NYSPLS Code of Practice for Land Surveys, and to the best of my professional knowledge, information and belief, and in my professional opinion, correctly represents the conditions found on the date of the field survey of the subject property".

050784-1

6-25-2020

SIGNATURE DATE SIGNED

PAUL FISHER

PROFESSIONAL LAND SURVEYOR NY Lic. No. 050784-1

LANGAN

Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001

T: 212.479.5400 F: 212.479.5444 www.langan.com

Project

450 UNION STREET

BLOCK No. 438, LOT No. 7
BOROUGH OF BROOKLYN
CITY OF NEW YORK

KINGS COUNTY **NEW YORK**

Drawing Title

DEC EASEMENT SURVEY

Project No.	170301202
Date	06/25/20
Scale	1"=20'
Drawn By	LB, DS
Checked By	PDF

Drawing No.

DEC101

Sheet 001 of 001

PROJECT NO. 170301202

LANGAN

Appendix B

Site Contact List

Appendix B – Site Contact List

The contact information for the current owner of the brownfield site is:

450 Union LLC and 450 Union Developer LLC
c/o Pilot Real Estate Group LLC
10 Glenville Street, 1st Floor
Greenwich, CT 06831
(203) 813-3273

The contact information for the current operators of the brownfield site is:

Gowanus Hospitality Group
452 Union Street
Brooklyn, NY 11231

480 Union PB LLC
480 Union Street
Brooklyn, NY 11231

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Jane O'Connell, P.G.
NYSDEC - Regional Remediation Engineer
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101
Tel: (718) 482-4599
Email: jane.oconnell@dec.ny.gov

Nigel Crawford, P.E.
NYSDEC - Project Manager
Division of Environmental Remediation
47-40 21st Street
Long Island City, NY 11101
(718) 482-7778
Email: nigel.crawford@dec.ny.gov

New York State Department of Health (NYSDOH):

Angela Martin
Bureau of Environmental Exposure Investigation
NYSDOH – Project Manager
Empire State Plaza
Corning Tower, Room 1787
Albany, NY 12237
Email: angela.martin@health.ny.gov
Tel: (518) 402-7860

Remediation Personnel:

Jason Hayes, P.E.
Michael Burke, P.G.
Mimi Raygorodetsky
Albert Tashji, P.E
Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, DPC
Principal/Vice President
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, NY 10001
(212) 479-5400

Appendix C

Confirmation and Documentation Sample Analytical Results

Hazardous Lead Hotspot Confirmation Soil Sample Results
450 Union Street, Brooklyn, New York
Langan Project No. 170301202
BCP Site No. C224219

SAMPLE ID SAMPLING DATE LAB SAMPLE ID SAMPLE LOCATION SAMPLE DEPTH (feet bgs)	NYSDEC Part 375 Restricted-Residential Use SCOs	40 CFR 261 Toxicity Characteristic Limits	SB2E2_EP_SW1 2/20/2017 L1705425-01 North Sidewall 3.5-4		SB2E2_EP_SW2 2/20/2017 L1705425-02 East Sidewall 3.5-4		SB2E2_EP_SW3 2/20/2017 L1705425-03 South Sidewall 3.5-4		SB2E2_EP_SW4 2/20/2017 L1705425-04 West Sidewall 3.5-4		SB2E2_EP_B 2/20/2017 L1705425-05 Excavation Base 5	
Total Metals (mg/kg)												
Lead, Total	400	~	160		250		280		200		110	
TCLP Metals (mg/L)												
Lead, TCLP	~	5	0.06	J	0.5	U	0.5	U	0.5	U	0.5	U
General Chemistry												
Solids, Total (%)	~	~	91		81.1		84.4		77.3		86.8	

Notes and Qualifiers:

1. Confirmation soil samples for the hazardous lead hotspot are compared to New York Codes Rules, and Regulations (6 NYCRR) Part 375-6.8(b) Restricted Use Restricted-Residential Soil Cleanup Objectives (SCOs) and Title 40 of the Code of Federal Regulations (40 CFR) Part 261 Maximum Concentration of Contaminants for the Toxicity Characteristic.
2. Total and TCLP lead was either not detected or detected below applicable standards.
3. feet bgs = feet below grade surface
4. mg/kg = milligram per kilogram
5. mg/L = milligram per liter
6. TCLP = Toxicity Characteristic Leaching Procedure
7. ~ = criterion does not exist
8. J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
9. U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).

UST Confirmation Sample Results
Construction Completion Report
450 Union Street, Brooklyn, New York
Project No. 170301202
BCP Site No. C224219

Location	**6 NYCRR Restricted-Residential Use SCOs**	**North Sidewall**	**East Sidewall**	**West Sidewall**	**South Sidewall**	**Base**		**Base (Below Groundwater)**	**UST Debris/Sludge**
Sample ID		**EPN_8-9**	**EPE_8-9**	**EPW_8-9**	**EPS_8-9**	**EPB_8-9**	**DUP01_040317**	**EPB_9-10**	**UST01_040317**
Sample Date		**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**	**4/3/2017**
Laboratory Sample ID		**L1710168-01**	**L1710168-02**	**L1710168-04**	**L1710168-03**	**L1710168-05**	**L1710168-07**	**L1710168-06**	**L1710168-08**
Sample Depth (feet bgs)		**8 to 9**	**8 to 9**	**8 to 9**	**8 to 9**	**8 to 9**	**8 to 9**	**9 to 10**	**N/A**
VOCs (mg/kg)									
1,2,4-Trimethylbenzene	52	0.0035 U	0.0056 U	0.0031 U	0.004 U	0.00025 J	0.0029 U	0.0001 J	**320**
1,3,5-Trimethylbenzene	52	0.0035 U	0.0056 U	0.0031 U	0.004 U	0.00023 J	0.0029 U	0.0026 U	**120**
Benzene	4.8	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00023 J	**5.3**
Ethylbenzene	41	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00011 J	**210**
Isopropylbenzene	~	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	51
Methyl tert butyl ether	100	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	4 U
Naphthalene	100	0.0035 U	0.0056 U	0.00012 J	0.004 U	0.00014 J	0.00028 J	0.00043 J	**140**
n-Butylbenzene	100	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	18
n-Propylbenzene	100	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	75
o-Xylene	~	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	430
p/m-Xylene	~	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	910
p-Isopropyltoluene	~	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	18
sec-Butylbenzene	100	0.00071 U	0.0011 U	0.00063 U	0.00079 U	0.00065 U	0.00058 U	0.00052 U	21
tert-Butylbenzene	100	0.0035 U	0.0056 U	0.0031 U	0.004 U	0.0032 U	0.0029 U	0.0026 U	4.8 J
Toluene	100	0.0011 U	0.0017 U	0.00094 U	0.0012 U	0.00098 U	0.00017 J	0.00042 J	**450**
Xylenes, Total	100	0.0014 U	0.0022 U	0.0012 U	0.0016 U	0.0013 U	0.0012 U	0.001 U	**1300**
SVOCs (mg/kg)									
Acenaphthene	100	0.34	0.39	0.28	0.12 J	0.36	0.79	0.18	0.43 U
Acenaphthylene	100	0.39	0.63	0.27	0.15	0.36	0.39	0.28	0.43 U
Anthracene	100	1.3	1.7	1	0.41	1.5	1.8	0.85	0.3 J
Benzo(a)anthracene	1	**3.8**	**6.3**	**3.6**	**1.5**	**4.2**	**5.9**	**3**	0.78
Benzo(a)pyrene	1	**3.6**	**6.1**	**3.6**	**1.5**	**4.1**	**5.9**	**3.1**	0.5
Benzo(b)fluoranthene	1	**4.8**	**8.3**	**5**	**2**	**5.6**	**8.8**	**4.2**	0.9
Benzo(ghi)perylene	100	2.6	4.4	2.4	1.1	3	4	2.2	0.36 J
Benzo(k)fluoranthene	3.9	1.6	2.6	1.4	0.69	1.7	2.7	1.3	0.26 J
Chrysene	3.9	3.8	**6.2**	3.6	1.6	**4.2**	**6**	3.1	0.84
Dibenzo(a,h)anthracene	0.33	**0.59**	**1.1**	**0.62**	0.26	**0.66**	**1.1**	**0.52**	0.087 J
Fluoranthene	100	7.1	13	7	3.5	9.2	14	7.7	2
Fluorene	100	0.4	0.38	0.26	0.096 J	0.4	0.71	0.17 J	0.54 U
Indeno(1,2,3-cd)pyrene	0.5	**2.7**	**4.7**	**2.6**	**1.1**	**3.1**	**4.3**	**2.3**	0.4 J
Naphthalene	100	0.15 J	0.2 J	0.16 J	0.049 J	0.14 J	0.79	0.061 J	93
Phenanthrene	100	6.5	8.3	4.7	2	6.2	9.8	4.1	1.8
Pyrene	100	6.1	10	6.2	3	7.4	12	6.4	1.6
General Chemistry									
Solids, Total	~	87	58.3	85.7	87.4	87.4	86	83.9	61.4

Notes:

1. Soil sample analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Restricted Use Restricted-Residential Soil Cleanup Objectives (SCOs).
2. Concentrations detected above Part 375 Rectricted-Residential SCOs are shaded and bolded.
3. ~ = Criteria does not exist.
4. mg/kg = milligrams per kilogram
5. bgs = below grade surface.
6. VOC = volatile organic compound
7. SVOC = semivolatile organic compound
8. UST = underground storage tank
9. J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
10. U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).

2017 IRM Documentation Soil Sample Results
450 Union Street, Brooklyn, New York
Langan Project No. 170301202
BCP Site No. C224219

SAMPLE ID	Track 4 Site Specific Soil Cleanup Objectives	DS01_1-2		DS02_1-2		DS03_1-2		DS04_3-4		DS05_3-4		DS06_3-4		DS07_3-4		DS08_1-2	
SAMPLING DATE		4/5/2017		4/5/2017		4/6/2017		4/10/2017		4/10/2017		4/10/2017		4/28/2017		4/28/2017	
LAB SAMPLE ID		L1710511-01		L1710511-02		L1710724-01		L1711107-01		L1711107-02		L1711107-03		L1713623-01		L1713623-02	
SAMPLE DEPTH (feet bgs)		1 to 2		1 to 2		1 to 2		3 to 4		3 to 4		3 to 4		3 to 4		1 to 2	
VOCs (mg/kg)																	
1,1,1,2-Tetrachloroethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1,1-Trichloroethane	0.68	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1,2,2-Tetrachloroethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1,2-Trichloroethane	-	0.001	U	0.001	U	0.0019	U	0.00081	U	0.00086	U	0.00081	U	0.0018	U	0.0018	U
1,1-Dichloroethane	0.27	0.001	U	0.001	U	0.0019	U	0.00081	U	0.00086	U	0.00081	U	0.0018	U	0.0018	U
1,1-Dichloroethene	0.33	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,1-Dichloropropene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2,3-Trichlorobenzene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2,3-Trichloropropane	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
1,2,4,5-Tetramethylbenzene	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
1,2,4-Trichlorobenzene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2,4-Trimethylbenzene	3.6	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2-Dibromo-3-chloropropane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2-Dibromoethane	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
1,2-Dichlorobenzene	1.1	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,2-Dichloroethane	0.02	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,2-Dichloroethene, Total	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,2-Dichloropropane	-	0.0023	U	0.0024	U	0.0043	U	0.0019	U	0.002	U	0.0019	U	0.0042	U	0.0042	U
1,3,5-Trimethylbenzene	8.4	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,3-Dichlorobenzene	2.4	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,3-Dichloropropane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,3-Dichloropropene, Total	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
1,4-Dichlorobenzene	1.8	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
1,4-Dioxane	0.1	0.027	U	0.027	U	0.05	U	0.022	U	0.023	U	0.022	U	0.048	U	0.048	U
2,2-Dichloropropane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
2-Butanone	0.12	0.0066	U	0.00071	J	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
2-Hexanone	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
4-Methyl-2-pentanone	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Acetone	0.05	0.0016	J	0.0058	J	0.0072	J	0.0054	U	0.0058	U	0.0054	U	0.017		0.0031	J
Acrylonitrile	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Benzene	0.06	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.00045	J	0.0012	U
Bromobenzene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Bromochloromethane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Bromodichloromethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Bromoform	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
Bromomethane	-	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Carbon disulfide	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Carbon tetrachloride	0.76	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Chlorobenzene	1.1	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Chloroethane	-	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Chloroform	0.37	0.001	U	0.00033	J	0.0019	U	0.00081	U	0.0009		0.00081	U	0.0018	U	0.00066	J
Chloromethane	-	0.0033	U	0.00054	J	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
cis-1,2-Dichloroethene	0.25	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
cis-1,3-Dichloropropene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Dibromochloromethane	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Dibromomethane	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Dichlorodifluoromethane	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Ethyl ether	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Ethylbenzene	1	0.00012	J	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.00033	J
Hexachlorobutadiene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Isopropylbenzene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Methyl tert butyl ether	0.93	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Methylene chloride	0.05	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
n-Butylbenzene	12	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
n-Propylbenzene	3.9	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Naphthalene	12	0.00025	J	0.0058		0.0062	U	0.0027	U	0.00052	J	0.00047	J	0.006	U	0.006	U
o-Chlorotoluene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
o-Xylene	total xylene	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.00067	J
p-Chlorotoluene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
p-Diethylbenzene	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
p-Ethyltoluene	-	0.0027	U	0.0027	U	0.005	U	0.0022	U	0.0023	U	0.0022	U	0.0048	U	0.0048	U
p-Isopropyltoluene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
p/m-Xylene	total xylene	0.00026	J	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.00059	J	0.0017	J
sec-Butylbenzene	11	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Styrene	-	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
tert-Butylbenzene	5.9	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Tetrachloroethene	1.3	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Toluene	0.7	0.00023	J	0.001	U	0.00031	J	0.00081	U	0.00086	U	0.00081	U	0.00073	J	0.002	
trans-1,2-Dichloroethene	0.19	0.001	U	0.001	U	0.0019	U	0.00081	U	0.00086	U	0.00081	U	0.0018	U	0.0018	U
trans-1,3-Dichloropropene	-	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
trans-1,4-Dichloro-2-butene	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Trichloroethene	0.47	0.00066	U	0.00068	U	0.0012	U	0.00054	U	0.00058	U	0.00054	U	0.0012	U	0.0012	U
Trichlorofluoromethane	-	0.0033	U	0.0034	U	0.0062	U	0.0027	U	0.0029	U	0.0027	U	0.006	U	0.006	U
Vinyl acetate	-	0.0066	U	0.0068	U	0.012	U	0.0054	U	0.0058	U	0.0054	U	0.012	U	0.012	U
Vinyl chloride	0.02	0.0013	U	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.0024	U	0.0024	U
Xylenes, Total	1.6	0.00026	J	0.0014	U	0.0025	U	0.0011	U	0.0012	U	0.0011	U	0.00059	J	0.0024	J

Notes:

1. The Site-Specific Track 4 Soil Cleanup Objectives (SCOs) are the lower of New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (6 NYCRR) Part 375 Restricted Use Restricted-Residential or Protection of Groundwater SCOs for VOCs, PCBs, pesticides, herbicides, and metals, except for the metals listed below.
*1-a. Criteria for the metals arsenic, cadmium, copper, lead, and mercury are site-specific values approved in the Interim Remedial Measure Work Plan (IRMWP).
2. For SVOCs, Site-Specific Track 4 SCOs are Restricted-Residential Use SCOs.
3. VOC = volatile organic compound
4. SVOC = semivolatile organic compound
5. PCB = polychlorinated biphenyl
6. mg/kg = milligram per kilogram
7. feet bgs = feet below grade surface

Qualifiers:

J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).
P = The relative percent difference (RPD) between the results for the two chromatograph columns exceeds the method-specified criteria.
I = The lower value for the two columns was reported due to obvious interference.

2017 IRM Documentation Soil Sample Results
450 Union Street, Brooklyn, New York
Langan Project No. 170301202
BCP Site No. C224219

SAMPLE ID SAMPLING DATE LAB SAMPLE ID SAMPLE DEPTH (feet bgs)	Track 4 Site Specific Soil Cleanup Objectives	DS01_1-2 4/5/2017 L1710511-01 1 to 2		DS02_1-2 4/5/2017 L1710511-02 1 to 2		DS03_1-2 4/6/2017 L1710724-01 1 to 2		DS04_3-4 4/10/2017 L1711107-01 3 to 4		DS05_3-4 4/10/2017 L1711107-02 3 to 4		DS06_3-4 4/10/2017 L1711107-03 3 to 4		DS07_3-4 4/28/2017 L1713623-01 3 to 4		DS08_1-2 4/28/2017 L1713623-02 1 to 2	
SVOCs (mg/kg)																	
1,2,4,5-Tetrachlorobenzene	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
1,2,4-Trichlorobenzene	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
1,2-Dichlorobenzene	100	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
1,3-Dichlorobenzene	49	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
1,4-Dichlorobenzene	13	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2,4,5-Trichlorophenol	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2,4,6-Trichlorophenol	~	0.13	U	0.13	U	0.15	U	0.13	U	0.12	U	0.11	U	0.13	U	0.12	U
2,4-Dichlorophenol	~	0.19	U	0.19	U	0.23	U	0.2	U	0.18	U	0.16	U	0.2	U	0.19	U
2,4-Dimethylphenol	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2,4-Dinitrophenol	~	1	U	1	U	1.2	U	1	U	0.95	U	0.86	U	1	U	1	U
2,4-Dinitrotoluene	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2,6-Dinitrotoluene	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2-Chloronaphthalene	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2-Chlorophenol	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2-Methylnaphthalene	~	0.13	J	0.076	J	0.036	J	0.26	U	0.028	J	0.29		0.06	J	0.25	U
2-Methylphenol	100	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2-Nitroaniline	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
2-Nitrophenol	~	0.46	U	0.46	U	0.55	U	0.47	U	0.43	U	0.38	U	0.47	U	0.45	U
3,3'-Dichlorobenzidine	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
3-Methylphenol/4-Methylphenol	0.33	0.034	J	0.3	U	0.37	U	0.31	U	0.28	U	0.26	U	0.31	U	0.3	U
3-Nitroaniline	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
4,6-Dinitro-o-cresol	~	0.55	U	0.55	U	0.66	U	0.57	U	0.51	U	0.46	U	0.56	U	0.54	U
4-Bromophenyl phenyl ether	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
4-Chloroaniline	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
4-Chlorophenyl phenyl ether	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
4-Nitroaniline	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
4-Nitrophenol	~	0.3	U	0.3	U	0.36	U	0.31	U	0.28	U	0.25	U	0.3	U	0.29	U
Acenaphthene	100	0.57		0.32		0.13	J	0.038	J	0.086	J	1.1		0.13	J	0.031	J
Acenaphthylene	100	0.38		0.19		0.1	J	0.17	U	0.043	J	0.38		0.19		0.032	J
Acetophenone	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Anthracene	100	1.9		0.95		0.36		0.066	J	0.3		2.7		0.51		0.12	
Benzo(a)anthracene	1	**5.2**		**3**		**1.3**		0.34		0.58		**4.8**		**2.4**		0.49	
Benzo(a)pyrene	1	**4.9**		**2.9**		**1.3**		0.32		0.53		**3.7**		**1.9**		0.44	
Benzo(b)fluoranthene	1	**6.1**		**3.7**		**1.9**		0.37		0.66		**4.8**		**2.5**		0.57	
Benzo(ghi)perylene	100	3		1.8		0.87		0.15	J	0.25		1.9		1.2		0.3	
Benzo(k)fluoranthene	3.9	2		1.2		0.67		0.14		0.22		1.6		0.86		0.21	
Benzoic Acid	~	0.68	U	0.68	U	0.83	U	0.71	U	0.64	U	0.58	U	0.7	U	0.67	U
Benzyl Alcohol	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Biphenyl	~	0.056	J	0.48	U	0.58	U	0.5	U	0.45	U	0.12	J	0.5	U	0.47	U
Bis(2-chloroethoxy)methane	~	0.23	U	0.23	U	0.28	U	0.24	U	0.21	U	0.19	U	0.23	U	0.22	U
Bis(2-chloroethyl)ether	~	0.19	U	0.19	U	0.23	U	0.2	U	0.18	U	0.16	U	0.2	U	0.19	U
Bis(2-chloroisopropyl)ether	~	0.25	U	0.25	U	0.31	U	0.26	U	0.24	U	0.21	U	0.26	U	0.25	U
Bis(2-ethylhexyl)phthalate	~	0.21	U	0.21	U	0.6		0.22	U	0.2	U	0.18	U	0.17	J	0.21	U
Butyl benzyl phthalate	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Carbazole	~	0.7		0.41		0.3		0.22	U	0.11	J	0.72		0.21	J	0.051	J
Chrysene	3.9	**4.8**		3.1		1.4		0.38		0.56		**4.6**		2.4		0.5	
Di-n-butylphthalate	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Di-n-octylphthalate	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Dibenzo(a,h)anthracene	0.33	**0.72**		**0.47**		0.22		0.049	J	0.072	J	**0.54**		**0.34**		0.078	J
Dibenzofuran	59	0.42		0.2	J	0.085	J	0.22	U	0.068	J	0.55		0.087	J	0.02	J
Diethyl phthalate	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Dimethyl phthalate	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Fluoranthene	100	14		7.1		2.7		0.54		1.3		8.9		4.4		0.88	
Fluorene	100	0.62		0.32		0.13	J	0.033	J	0.094	J	1.2		0.12	J	0.036	J
Hexachlorobenzene	1.2	0.13	U	0.13	U	0.15	U	0.13	U	0.12	U	0.11	U	0.13	U	0.12	U
Hexachlorobutadiene	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Hexachlorocyclopentadiene	~	0.6	U	0.6	U	0.73	U	0.62	U	0.57	U	0.51	U	0.62	U	0.6	U
Hexachloroethane	~	0.17	U	0.17	U	0.2	U	0.17	U	0.16	U	0.14	U	0.17	U	0.17	U
Indeno(1,2,3-cd)pyrene	0.5	**3.3**		**1.9**		**0.9**		0.17		0.3		**2.1**		**1.4**		0.32	
Isophorone	~	0.19	U	0.19	U	0.23	U	0.2	U	0.18	U	0.16	U	0.2	U	0.19	U
n-Nitrosodi-n-propylamine	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Naphthalene	100	0.21		0.13	J	0.093	J	0.22	U	0.059	J	0.23		0.11	J	0.038	J
NDPA/DPA	~	0.17	U	0.17	U	0.2	U	0.17	U	0.16	U	0.14	U	0.17	U	0.17	U
Nitrobenzene	~	0.19	U	0.19	U	0.23	U	0.2	U	0.18	U	0.16	U	0.2	U	0.19	U
p-Chloro-m-cresol	~	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Pentachlorophenol	6.7	0.17	U	0.17	U	0.2	U	0.17	U	0.16	U	0.14	U	0.17	U	0.17	U
Phenanthrene	100	10		4.9		1.7		0.56		1.1		9.3		2.3		0.44	
Phenol	100	0.21	U	0.21	U	0.26	U	0.22	U	0.2	U	0.18	U	0.22	U	0.21	U
Pyrene	100	12		6.3		2.2		0.69		1.1		7.7		4.1		0.84	

Notes:

1. The Site-Specific Track 4 Soil Cleanup Objectives (SCOs) are the lower of New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (6 NYCRR) Part 375 Restricted Use Restricted-Residential or Protection of Groundwater SCOs for VOCs, PCBs, pesticides, herbicides, and metals, except for the metals listed below.
*1-a. Criteria for the metals arsenic, cadmium, copper, lead, and mercury are site-specific values approved in the Interim Remedial Measure Work Plan (IRMWP).
2. For SVOCs, Site-Specific Track 4 SCOs are Restricted-Residential Use SCOs.
3. VOC = volatile organic compound
4. SVOC = semivolatile organic compound
5. PCB = polychlorinated biphenyl
6. mg/kg = milligram per kilogram
7. feet bgs = feet below grade surface

Qualifiers:

J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).
P = The relative percent difference (RPD) between the results for the two chromatograph columns exceeds the method-specified criteria.
I = The lower value for the two columns was reported due to obvious interference.

2017 IRM Documentation Soil Sample Results
450 Union Street, Brooklyn, New York
Langan Project No. 170301202
BCP Site No. C224219

SAMPLE ID	Track 4 Site Specific Soil Cleanup Objectives	DS01_1-2		DS02_1-2		DS03_1-2		DS04_3-4		DS05_3-4		DS06_3-4		DS07_3-4		DS08_1-2	
SAMPLING DATE		4/5/2017		4/5/2017		4/6/2017		4/10/2017		4/10/2017		4/10/2017		4/28/2017		4/28/2017	
LAB SAMPLE ID		L1710511-01		L1710511-02		L1710724-01		L1711107-01		L1711107-02		L1711107-03		L1713623-01		L1713623-02	
SAMPLE DEPTH (feet bgs)		1 to 2		1 to 2		1 to 2		3 to 4		3 to 4		3 to 4		3 to 4		1 to 2	
Herbicides (mg/kg)																	
2,4,5-T	-	0.213	U	0.211	U	0.259	U	0.222	U	0.195	U	0.18	U	0.215	U	0.209	U
2,4,5-TP (Silvex)	3.8	0.213	U	0.211	U	0.259	U	0.222	U	0.195	U	0.18	U	0.215	U	0.209	U
2,4-D	-	0.213	U	0.211	U	0.259	U	0.222	U	0.195	U	0.18	U	0.215	U	0.209	U
Pesticides (mg/kg)																	
4,4'-DDD	13	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00114	JPI	0.00335	P
4,4'-DDE	8.9	0.00203	U	0.0031		0.00814		0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00324	P
4,4'-DDT	7.9	0.00381	U	0.00361	U	0.00292	J	0.0039	U	0.00346	U	0.0032	U	0.00379	U	0.00664	
Aldrin	0.097	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00354	
Alpha-BHC	0.02	0.000847	U	0.000802	U	0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.000842	U	0.000808	U
Beta-BHC	0.09	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Chlordane	-	0.0165	U	0.0156	U	0.165		0.0169	U	0.015	U	0.0138	U	0.0164	U	0.0872	
cis-Chlordane	2.9	0.00254	U	0.00241	U	0.0313	P	0.0026	U	0.00231	U	0.00213	U	0.000806	J	0.0115	
Delta-BHC	0.25	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Dieldrin	0.1	0.00127	U	0.0012	U	0.0098	PI	0.0013	U	0.00116	U	0.00106	U	0.00126	U	0.0133	
Endosulfan I	24	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Endosulfan II	24	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.00202	U	0.00194	U
Endosulfan sulfate	24	0.000847	U	0.000802	U	0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.000842	U	0.000808	U
Endrin	0.06	0.00377	P	0.0115		0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.00347	PI	0.000808	U
Endrin aldehyde	-	0.00254	U	0.00241	U	0.00307	U	0.0026	U	0.00231	U	0.00213	U	0.00252	U	0.00242	U
Endrin ketone	-	0.00203	U	0.00192	U	0.00246	U	0.00208	U	0.00185	U	0.0017	U	0.0169	P	0.00194	U
Heptachlor	0.38	0.00102	U	0.000963	U	0.00123	U	0.00104	U	0.000924	U	0.000852	U	0.00101	U	0.000969	U
Heptachlor epoxide	-	0.00381	U	0.00361	U	0.00461	U	0.0039	U	0.00346	U	0.0032	U	0.00126	J	0.00269	J
Lindane	0.1	0.000847	U	0.000802	U	0.00102	U	0.000867	U	0.00077	U	0.00071	U	0.000842	U	0.000808	U
Methoxychlor	-	0.00381	U	0.00361	U	0.00461	U	0.0039	U	0.00346	U	0.0032	U	0.0207	PI	0.00364	U
Toxaphene	-	0.0381	U	0.0361	U	0.0461	U	0.039	U	0.0346	U	0.032	U	0.0379	U	0.0364	U
trans-Chlordane	-	0.00254	U	0.00241	U	0.0121	PI	0.000916	JPI	0.00382	P	0.00213	U	0.00221	JPI	0.00792	PI
PCBs (mg/kg)																	
Aroclor 1016	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1221	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1232	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1242	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1248	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1254	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.0232	J
Aroclor 1260	-	0.041	U	0.00848	J	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.016	J
Aroclor 1262	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
Aroclor 1268	-	0.041	U	0.0419	U	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.041	U
PCBs, Total	1	0.041	U	0.00848	J	0.0492	U	0.0436	U	0.0389	U	0.0362	U	0.0419	U	0.0392	J
Total Metals (mg/kg)																	
Aluminum, Total	-	4600		5600		4900		3200		4600		5100		4700		3000	
Antimony, Total	-	6.6		1.7	J	0.46	J	7.1		4.7	U	3.1	J	3.6	J	5.1	U
Arsenic, Total	16*	7.9		7.6		4.1		**19**		4.3		7.7		14		2.5	
Barium, Total	400	88		65		63		31		31		67		79		28	
Beryllium, Total	47	0.26	J	0.28	J	0.19	J	0.36	J	0.21	J	0.31	J	0.26	J	0.08	J
Cadmium, Total	9.3*	0.86	J	2.3		0.31	J	0.38	J	0.28	J	2.2		0.93	J	0.2	J
Calcium, Total	-	9400		8600		9200		2000		1600		2200		6500		9700	
Chromium, Total	-	13		12		16		37		9		12		16		6.6	
Chromium, Hexavalent	19	0.22	J	0.28	J	1.2	U	1.9		0.36	J	0.88	U	0.91	J	0.74	J
Chromium, Trivalent	180	13	J	12	J	16		35		8.6	J	12		15	J	5.9	J
Cobalt, Total	-	4.4		5.2		4.3		9.1		4.6		5		7.7		2.4	
Copper, Total	1720*	150		1000		440		140		89		300		500		72	
Cyanide, Total	27	1.2	U	0.5	J	0.82	J	0.23	J	1.1	U	1.1	U	1.2	U	2.4	U
Iron, Total	-	11000		14000		9600		41000		10000		11000		45000		5100	
Lead, Total	1000*	270		220		50		200		66		140		410		32	
Magnesium, Total	-	1900		1800		2200		1100		2200		2100		1600		3200	
Manganese, Total	2000	220		200		230		370		200		200		450		120	
Mercury, Total	2.8*	**3.6**		0.44		0.1		**190**		**7.2**		0.62		1.3		0.18	
Nickel, Total	130	36		24		14		26		23		18		24		7	
Potassium, Total	-	1100		790		820		1400		540		1000		820		460	
Selenium, Total	4	2	U	2	U	2.4	U	2.1	U	1.9	U	1.7	U	2.1	U	2	U
Silver, Total	8.3	1	U	0.98	U	1.2	U	1	U	0.94	U	0.87	U	1	U	1	U
Sodium, Total	-	120	J	98	J	72	J	270		70	J	84	J	150	J	100	J
Thallium, Total	-	2	U	2	U	2.4	U	2.1	U	1.9	U	1.7	U	2.1	U	2	U
Vanadium, Total	-	14		14		20		48		13		18		22		8.7	
Zinc, Total	2480	370		660		180		100		240		680		510		61	
General Chemistry																	
Solids, Total (%)	-	77.4		78.3		63.9		74		83.3		90.5		76		78.7	

Notes:

1. The Site-Specific Track 4 Soil Cleanup Objectives (SCOs) are the lower of New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (6 NYCRR) Part 375 Restricted Use Restricted-Residential or Protection of Groundwater SCOs for VOCs, PCBs, pesticides, herbicides, and metals, except for the metals listed below.

*1-a. Criteria for the metals arsenic, cadmium, copper, lead, and mercury are site-specific values approved in the Interim Remedial Measure Work Plan (IRMWP).

2. For SVOCs, Site-Specific Track 4 SCOs are Restricted-Residential Use SCOs.
3. VOC = volatile organic compound
4. SVOC = semivolatile organic compound
5. PCB = polychlorinated biphenyl
6. mg/kg = milligram per kilogram
7. feet bgs = feet below grade surface

Qualifiers:

J = Compound was detected at or above the method detection limit but below the reporting limit; therefore data is estimated.
U = Compound was analyzed for, but was not detected at a level greater than or equal to the reporting limit (value shown).
P = The relative percent difference (RPD) between the results for the two chromatograph columns exceeds the method-specified criteria.
I = The lower value for the two columns was reported due to obvious interference.

2020 IRM Documentation Soil Sample Results
450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

Location	**NYSDEC Part 375**	**SB01**		**SB02**				**SB03**		**SB04**	
Sample ID	**Restricted Use**	**SB01_02**		**SB02_02**		**DUP01_04232020**		**SB03_02**		**SB04_02**	
Sample Date	**Restricted-**	**4/23/2020**		**4/23/2020**		**4/23/2020**		**4/23/2020**		**4/23/2020**	
Sample Depth (feet bgs)	**Residential SCOs**	**12.5**		**12.5**		**12.5**		**12.5**		**12.5**	
Volatile Organic Compounds (mg/kg)											
1,1,1,2-Tetrachloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,1-Trichloroethane	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,2,2-Tetrachloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1,2-Trichloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1-Dichloroethane	26	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,1-Dichloroethene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,3-Trichlorobenzene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,3-Trichloropropane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,4-Trichlorobenzene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2,4-Trimethylbenzene	52	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dibromo-3-Chloropropane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dibromoethane (Ethylene Dibromide)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dichlorobenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dichloroethane	3.1	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,2-Dichloropropane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,3,5-Trimethylbenzene (Mesitylene)	52	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,3-Dichlorobenzene	49	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,4-Dichlorobenzene	13	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
1,4-Dioxane (P-Dioxane)	13	0.054	U	0.049	U	0.059	U	0.05	U	0.052	U
2-Hexanone	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Acetone	100	0.031	B	0.0049	U	0.0059	U	0.033	B	0.0052	U
Acrolein	~	0.0054	U	0.0049	U	0.0059	U	0.005	U	0.0052	U
Acrylonitrile	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Benzene	4.8	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromochloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromodichloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromoform	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Bromomethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Carbon Disulfide	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Carbon Tetrachloride	2.4	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chlorobenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chloroethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chloroform	49	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Chloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Cis-1,2-Dichloroethene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Cis-1,3-Dichloropropene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Cyclohexane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Dibromochloromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Dibromomethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Dichlorodifluoromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Ethylbenzene	41	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Hexachlorobutadiene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Isopropylbenzene (Cumene)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
M,P-Xylene	~	0.0054	U	0.0049	U	0.0059	U	0.005	U	0.0052	U
Methyl Acetate	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Methyl Ethyl Ketone (2-Butanone)	100	0.009		0.0025	U	0.003	U	0.0025	U	0.0026	U
Methyl Isobutyl Ketone (4-Methyl-2-Penta	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Methylcyclohexane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Methylene Chloride	100	0.0054	U	0.0049	U	0.0059	U	0.005	U	0.0052	U
n-Butylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
n-Propylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
o-Xylene (1,2-Dimethylbenzene)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
p-Cymene (p-Isopropyltoluene)	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Sec-Butylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Styrene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
T-Butylbenzene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Tert-Butyl Alcohol	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Tert-Butyl Methyl Ether	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Tetrachloroethene (PCE)	19	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Toluene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Total Xylenes	100	0.0081	U	0.0074	U	0.0089	U	0.0075	U	0.0077	U
Trans-1,2-Dichloroethene	100	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Trans-1,3-Dichloropropene	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Trichloroethene (TCE)	21	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Trichlorofluoromethane	~	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U
Vinyl Chloride	0.9	0.0027	U	0.0025	U	0.003	U	0.0025	U	0.0026	U

Notes and qualifiers are provided on page 4

2020 IRM Documentation Soil Sample Results
450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

Location	**NYSDEC Part 375**	**SB01**		**SB02**				**SB03**		**SB04**	
Sample ID	**Restricted Use**	**SB01_02**		**SB02_02**		**DUP01_04232020**		**SB03_02**		**SB04_02**	
Sample Date	**Restricted-**	**4/23/2020**		**4/23/2020**		**4/23/2020**		**4/23/2020**		**4/23/2020**	
Sample Depth (feet bgs)	**Residential SCOs**	**12.5**		**12.5**		**12.5**		**12.5**		**12.5**	
Semivolatile Organic Compounds (mg/kg)											
1,2,4,5-Tetrachlorobenzene	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
1,2-Diphenylhydrazine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,3,4,6-Tetrachlorophenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
2,4,5-Trichlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4,6-Trichlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4-Dichlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4-Dimethylphenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,4-Dinitrophenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
2,4-Dinitrotoluene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2,6-Dinitrotoluene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Chloronaphthalene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Chlorophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Methylnaphthalene	~	0.21	D	0.222	D	0.134	JD	0.145	D	0.0481	U
2-Methylphenol (o-Cresol)	100	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
2-Nitroaniline	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
2-Nitrophenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
3 & 4 Methylphenol (m&p Cresol)	100	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
3,3'-Dichlorobenzidine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
3-Nitroaniline	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
4,6-Dinitro-2-Methylphenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
4-Bromophenyl Phenyl Ether	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Chloro-3-Methylphenol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Chloroaniline	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Chlorophenyl Phenyl Ether	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
4-Nitroaniline	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
4-Nitrophenol	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
Acenaphthene	100	0.485	D	0.61	D	0.441	D	0.473	D	0.134	D
Acenaphthylene	100	0.232	D	0.505	D	0.637	D	0.42	D	0.27	D
Acetophenone	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Aniline (Phenylamine, Aminobenzene)	~	0.224	U	0.296	U	0.295	U	0.194	U	0.192	U
Anthracene	100	1.36	D	1.85	D	1.7	D	1.6	D	0.528	D
Atrazine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzaldehyde	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzidine	~	0.224	U	0.296	U	0.295	U	0.194	U	0.192	U
Benzo(a)Anthracene	1	**2.09**	D	**4.26**	D	**4.59**	D	**3.86**	D	**1.91**	D
Benzo(a)Pyrene	1	**2.15**	D	**3.9**	D	**4.29**	D	**3.46**	D	**1.93**	D
Benzo(b)Fluoranthene	1	**1.66**	D	**3.1**	D	**3.39**	D	**2.81**	D	**1.49**	D
Benzo(g,h,i)Perylene	100	1.12	D	1.76	D	1.85	D	2.12	D	0.99	D
Benzo(k)Fluoranthene	3.9	1.43	D	3.12	D	3.79	D	2.86	D	1.53	D
Benzoic Acid	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzyl Alcohol	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Benzyl Butyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Biphenyl (Diphenyl)	~	0.0824	JD	0.0755	JD	0.0738	U	0.0485	U	0.0481	U
Bis(2-Chloroethoxy) Methane	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Bis(2-Chloroethyl) Ether (2-Chloroethyl Et	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Bis(2-Chloroisopropyl) Ether	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Bis(2-Ethylhexyl) Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0572	JD	0.0481	U
Caprolactam	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
Carbazole	~	0.382	D	0.749	D	0.653	D	0.491	D	0.173	D
Chrysene	3.9	2	D	3.87	D	**4.29**	D	3.7	D	1.83	D
Dibenz(a,h)Anthracene	0.33	0.11	JD	**0.513**	D	0.232	D	**0.524**	D	0.248	D
Dibenzofuran	59	0.366	D	0.427	D	0.33	D	0.0485	U	0.0982	D
Diethyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Dimethyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Di-N-Butyl Phthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Di-N-Octylphthalate	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Diphenylamine	~	0.112	U	0.148	U	0.147	U	0.0967	U	0.0959	U
Fluoranthene	100	5.54	D	9.24	D	9.51	D	9.01	D	3.81	D
Fluorene	100	0.611	D	0.754	D	0.676	D	0.541	D	0.19	D
Hexachlorobenzene	1.2	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Hexachlorobutadiene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Hexachlorocyclopentadiene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Hexachloroethane	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Indeno(1,2,3-c,d)Pyrene	0.5	**1.39**	D	**2.43**	D	**2.08**	D	**2.67**	D	**1.12**	D
Isophorone	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Naphthalene	100	0.42	D	0.437	D	0.219	D	0.254	D	0.089	JD
Nitrobenzene	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
n-Nitrosodimethylamine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
n-Nitrosodi-N-Propylamine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
n-Nitrosodiphenylamine	~	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Pentachlorophenol	6.7	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Phenanthrene	100	5.41	D	7.1	D	6.23	D	6.97	D	2.16	D
Phenol	100	0.0562	U	0.074	U	0.0738	U	0.0485	U	0.0481	U
Pyrene	100	4.56	D	6.99	D	7.53	D	7.45	D	3.28	D
Pyridine	~	0.224	U	0.296	U	0.295	U	0.194	U	0.192	U

Notes and qualifiers are provided on page 4

2020 IRM Documentation Soil Sample Results
450 Union Street, Brooklyn, New York
Langan Project No.: 170301202
BCP Site No. C224219

Location	**NYSDEC Part 375 Restricted Use Restricted-Residential SCOs**	**SB01**	**SB02**		**SB03**	**SB04**
Sample ID		**SB01_02**	**SB02_02**	**DUP01_04232020**	**SB03_02**	**SB04_02**
Sample Date		**4/23/2020**	**4/23/2020**	**4/23/2020**	**4/23/2020**	**4/23/2020**
Sample Depth (feet bgs)		**12.5**	**12.5**	**12.5**	**12.5**	**12.5**
Pesticides (mg/kg)						
4,4'-DDD	13	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
4,4'-DDE	8.9	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
4,4'-DDT	7.9	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Aldrin	0.097	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Alpha BHC (Alpha Hexachlorocyclohexane	0.48	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Alpha Chlordane	4.2	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Alpha Endosulfan	24	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Beta Bhc (Beta Hexachlorocyclohexane)	0.36	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Beta Endosulfan	24	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Chlordane (alpha and gamma)	~	0.0443 U	0.0389 U	0.0388 U	0.0388 U	0.0376 U
Delta Bhc (Delta Hexachlorocyclohexane)	100	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Dieldrin	0.2	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Endosulfan Sulfate	24	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Endrin	11	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Endrin Aldehyde	~	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Endrin Ketone	~	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Gamma Bhc (Lindane)	1.3	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Gamma-Chlordane	~	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Heptachlor	2.1	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Heptachlor Epoxide	~	0.00222 U	0.00194 U	0.00194 U	0.00194 U	0.00188 U
Methoxychlor	~	0.0111 U	0.00972 U	0.00969 U	0.00969 U	0.0094 U
Toxaphene	~	0.112 U	0.0984 U	0.0981 U	0.0981 U	0.0951 U
Herbicides (mg/kg)						
2,4,5-T (Trichlorophenoxyacetic Acid)	~	0.0268 U	0.0233 U	0.0232 U	0.0234 U	0.0228 U
2,4-D (Dichlorophenoxyacetic Acid)	~	0.0268 U	0.0233 U	0.0232 U	0.0234 U	0.0228 U
Silvex (2,4,5-Tp)	100	0.0268 U	0.0233 U	0.0232 U	0.0234 U	0.0228 U
Polychlorinated Biphenyls (mg/kg)						
PCB-1016 (Aroclor 1016)	~	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
PCB-1221 (Aroclor 1221)	~	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
PCB-1232 (Aroclor 1232)	~	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
PCB-1242 (Aroclor 1242)	~	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
PCB-1248 (Aroclor 1248)	~	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
PCB-1254 (Aroclor 1254)	~	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
PCB-1260 (Aroclor 1260)	~	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
Total PCBs	1	0.0224 U	0.0196 U	0.0196 U	0.0196 U	0.019 U
Inorganics (mg/kg)						
Aluminum	~	20,100	7,200	7,060	6,920	7,340
Antimony	~	3.37 U	2.97 U	2.96 U	2.95 U	2.89 U
Arsenic	16	7.42	7.43	7.33	9.93	8.16
Barium	400	124	54.8	44.7	80.5	66
Beryllium	72	0.067 U	0.059 U	0.059 U	0.059 U	0.058 U
Cadmium	4.3	0.404 U	0.356 U	0.355 U	0.938	1.22
Calcium	~	4,850	10,500	6,560	15,900	4,710
Chromium, Hexavalent	110	0.674 U	0.593 U	0.591 U	0.59 U	0.577 U
Chromium, Total	~	39.6	12.5	12.5	22	15.9
Chromium, Trivalent	180	39.6	12.5	12.5	22	15.9
Cobalt	~	17.6	13.5	13.7	8.57	4.4
Copper	270	101	119	102	**1,040**	**629**
Cyanide	27	0.674 U	0.593 U	0.591 U	0.59 U	0.577 U
Iron	~	39,100	17,300	17,900	19,700	16,400
Lead	400	**407**	161	169	347	255
Magnesium	~	7,070	4,360	4,490	4,140	1,990
Manganese	2,000	311	305	312	321	110
Mercury	0.81	0.0941	0.511	**0.838**	0.755	**1.24**
Nickel	310	47.4	25.6	25.8	35.9	19
Potassium	~	3,210	1,070	1,180	1,210	1,450
Selenium	180	3.37 U	2.97 U	2.96 U	2.95 U	2.89 U
Silver	180	0.674 U	0.593 U	0.591 U	0.59 U	0.577 U
Sodium	~	3,530	1,490	1,400	900	1,130
Thallium	~	3.37 U	2.97 U	2.96 U	2.95 U	2.89 U
Vanadium	~	43.1	14.5	16.4	20.7	18.9
Zinc	10,000	234	170	170	713	468
General Chemistry (%)						
Solids, Percent	~	74.2	84.3	84.5	84.8	86.6

Notes and qualifiers are provided on page 4

Notes:

1. Soil sample analytical results are compared to the New York State Department of Environmental Conservation (NYSDEC) Title 6 of the Official Compilation of New York Codes, Rules, and Regulations (NYCRR) Part 375 Restricted Use Restricted-Residential Soil Cleanup Objectives (SCO).
2. Only detected analytes are shown in the table.
3. Detected analytical results above Restricted Use Restricted-Residential SCOs are bolded shaded.
4. Analytical results with reporting limits (RL) above the lowest applicable criteria are italicized.
5. Sample DUP01_04232020 is a duplicate sample of SB02_0-2.
6. ~ = Regulatory limit for this analyte does not exist
7. bgs = below grade surface
8. mg/kg = milligrams per kilogram
9. % = percent
10. BCP = Brownfield Cleanup Program

Qualifiers:

D = The concentration reported is a result of a diluted sample.
J = The analyte was detected above the Method Detection Limit (MDL), but below the RL; therefore, the result is an estimated concentration.
U = The analyte was analyzed for, but was not detected at a level greater than or equal to the RL; the value shown in the table is the RL.
B = The analyte was found in the associated analysis batch blank.

ANALYTICAL REPORT

Lab Number:	L1705425
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	450 UNION STREET
Project Number:	170301202
Report Date:	02/23/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1705425-01	SB2E2_EP_SW1	SOIL	450 UNION STREET, BROOKLYN, NY	02/20/17 13:30	02/21/17
L1705425-02	SB2E2_EP_SW2	SOIL	450 UNION STREET, BROOKLYN, NY	02/20/17 13:20	02/21/17
L1705425-03	SB2E2_EP_SW3	SOIL	450 UNION STREET, BROOKLYN, NY	02/20/17 13:25	02/21/17
L1705425-04	SB2E2_EP_SW4	SOIL	450 UNION STREET, BROOKLYN, NY	02/20/17 13:27	02/21/17
L1705425-05	SB2E2_EP_B	SOIL	450 UNION STREET, BROOKLYN, NY	02/20/17 13:35	02/21/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Metals

The WG980157-4 Laboratory Duplicate RPD, performed on L1705425-01, is outside the acceptance criteria for lead (22%). The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 02/23/17

METALS

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-01	Date Collected:	02/20/17 13:30
Client ID:	SB2E2_EP_SW1	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	02/22/17 14:48
Percent Solids:	91%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	0.06	J	mg/l	0.50	0.03	1	02/23/17 09:58	02/23/17 11:03	EPA 3015	1,6010C	PS

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-01	Date Collected:	02/20/17 13:30
Client ID:	SB2E2_EP_SW1	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	91%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	160		mg/kg	2.2	0.12	1	02/22/17 18:31	02/23/17 00:21	EPA 3050B	1,6010C	MC

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-02	Date Collected:	02/20/17 13:20
Client ID:	SB2E2_EP_SW2	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	02/22/17 14:48
Percent Solids:	81%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.50	0.03	1	02/23/17 09:58	02/23/17 11:19	EPA 3015	1,6010C	PS

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-02	Date Collected:	02/20/17 13:20
Client ID:	SB2E2_EP_SW2	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	81%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	250		mg/kg	2.4	0.13	1	02/22/17 18:31	02/23/17 02:14	EPA 3050B	1,6010C	MC

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-03	Date Collected:	02/20/17 13:25
Client ID:	SB2E2_EP_SW3	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	02/22/17 14:48
Percent Solids:	84%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.50	0.03	1	02/23/17 09:58	02/23/17 11:23	EPA 3015	1,6010C	PS

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-03	Date Collected:	02/20/17 13:25
Client ID:	SB2E2_EP_SW3	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	84%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	280		mg/kg	2.3	0.12	1	02/22/17 18:31	02/23/17 02:18	EPA 3050B	1,6010C	MC

Project Name: 450 UNION STREET

Lab Number: L1705425

Project Number: 170301202

Report Date: 02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-04	Date Collected:	02/20/17 13:27
Client ID:	SB2E2_EP_SW4	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	02/22/17 14:48
Percent Solids:	77%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.50	0.03	1	02/23/17 09:58	02/23/17 11:28	EPA 3015	1,6010C	PS

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-04	Date Collected:	02/20/17 13:27
Client ID:	SB2E2_EP_SW4	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	77%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	200		mg/kg	2.6	0.14	1	02/22/17 18:31	02/23/17 02:42	EPA 3050B	1,6010C	MC

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-05	Date Collected:	02/20/17 13:35
Client ID:	SB2E2_EP_B	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	02/22/17 14:48
Percent Solids:	87%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	ND		mg/l	0.50	0.03	1	02/23/17 09:58	02/23/17 12:09	EPA 3015	1,6010C	PS

Project Name:	450 UNION STREET	**Lab Number:**	L1705425
Project Number:	170301202	**Report Date:**	02/23/17

SAMPLE RESULTS

Lab ID:	L1705425-05	Date Collected:	02/20/17 13:35
Client ID:	SB2E2_EP_B	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	87%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Lead, Total	110		mg/kg	2.2	0.12	1	02/22/17 18:31	02/23/17 02:46	EPA 3050B	1,6010C	MC

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-05 Batch: WG980157-1										
Lead, Total	ND		mg/kg	2.0	0.11	1	02/22/17 18:31	02/23/17 00:13	1,6010C	MC

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-05 Batch: WG980325-1										
Lead, TCLP	ND		mg/l	0.50	0.03	1	02/23/17 09:58	02/23/17 10:55	1,6010C	PS

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 02/22/17 14:48

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1705425

Report Date: 02/23/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG980157-2 SRM Lot Number: D091-540								
Lead, Total	110		-		82-118	-		
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-05 Batch: WG980325-2								
Lead, TCLP	96		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1705425
Report Date: 02/23/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG980157-3 QC Sample: L1705425-01 Client ID: SB2E2_EP_SW1												
Lead, Total	160	44.3	200	90		-	-		75-125	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG980325-3 QC Sample: L1705425-01 Client ID: SB2E2_EP_SW1												
Lead, TCLP	0.06J	5.1	5.0	98		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1705425
Report Date: 02/23/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG980157-4 QC Sample: L1705425-01 Client ID: SB2E2_EP_SW1						
Lead, Total	160	200	mg/kg	**22**	Q	20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG980325-4 QC Sample: L1705425-01 Client ID: SB2E2_EP_SW1						
Lead, TCLP	0.06J	0.05J	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

SAMPLE RESULTS

Lab ID: L1705425-01
Client ID: SB2E2_EP_SW1
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Date Collected: 02/20/17 13:30
Date Received: 02/21/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	02/22/17 04:57	121,2540G	SH

SAMPLE RESULTS

Lab ID: L1705425-02
Client ID: SB2E2_EP_SW2
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil

Date Collected: 02/20/17 13:20
Date Received: 02/21/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.1		%	0.100	NA	1	-	02/22/17 04:57	121,2540G	SH

SAMPLE RESULTS

Lab ID: L1705425-03
Client ID: SB2E2_EP_SW3
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil

Date Collected: 02/20/17 13:25
Date Received: 02/21/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	02/22/17 04:57	121,2540G	SH

SAMPLE RESULTS

Lab ID: L1705425-04
Client ID: SB2E2_EP_SW4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Date Collected: 02/20/17 13:27
Date Received: 02/21/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.3		%	0.100	NA	1	-	02/22/17 04:57	121,2540G	SH

SAMPLE RESULTS

Lab ID:	L1705425-05	Date Collected:	02/20/17 13:35
Client ID:	SB2E2_EP_B	Date Received:	02/21/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.8		%	0.100	NA	1	-	02/22/17 04:57	121,2540G	SH

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1705425
Report Date: 02/23/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG979884-1 QC Sample: L1705404-02 Client ID: DUP Sample						
Solids, Total	94.0	90.7	%	4		20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Cooler	**Custody Seal**
A	Absent

Container Information

Container ID	**Container Type**	**Cooler**	**pH**	**Temp deg C**	**Pres**	**Seal**	**Analysis(*)**
L1705425-01A	Metals Only - Glass 60mL/2oz unp	A	N/A	2.0	Y	Absent	PB-TI(180)
L1705425-01B	Glass 250ml/8oz unpreserved	A	N/A	2.0	Y	Absent	TS(7)
L1705425-01X	Plastic 120ml HNO3 preserved Ext	A	<2	2.0	Y	Absent	PB-CI(180)
L1705425-01X9	Tumble Vessel	A	N/A	2.0	Y	Absent	-
L1705425-02A	Metals Only - Glass 60mL/2oz unp	A	N/A	2.0	Y	Absent	PB-TI(180)
L1705425-02B	Glass 250ml/8oz unpreserved	A	N/A	2.0	Y	Absent	TS(7)
L1705425-02X	Plastic 120ml HNO3 preserved Ext	A	<2	2.0	Y	Absent	PB-CI(180)
L1705425-02X9	Tumble Vessel	A	N/A	2.0	Y	Absent	-
L1705425-03A	Metals Only - Glass 60mL/2oz unp	A	N/A	2.0	Y	Absent	PB-TI(180)
L1705425-03B	Glass 250ml/8oz unpreserved	A	N/A	2.0	Y	Absent	TS(7)
L1705425-03X	Plastic 120ml HNO3 preserved Ext	A	<2	2.0	Y	Absent	PB-CI(180)
L1705425-03X9	Tumble Vessel	A	N/A	2.0	Y	Absent	-
L1705425-04A	Metals Only - Glass 60mL/2oz unp	A	N/A	2.0	Y	Absent	PB-TI(180)
L1705425-04B	Glass 250ml/8oz unpreserved	A	N/A	2.0	Y	Absent	TS(7)
L1705425-04X	Plastic 120ml HNO3 preserved Ext	A	<2	2.0	Y	Absent	PB-CI(180)
L1705425-04X9	Tumble Vessel	A	N/A	2.0	Y	Absent	-
L1705425-05A	Metals Only - Glass 60mL/2oz unp	A	N/A	2.0	Y	Absent	PB-TI(180)
L1705425-05B	Glass 250ml/8oz unpreserved	A	N/A	2.0	Y	Absent	TS(7)
L1705425-05X	Plastic 120ml HNO3 preserved Ext	A	<2	2.0	Y	Absent	PB-CI(180)
L1705425-05X9	Tumble Vessel	A	N/A	2.0	Y	Absent	-

*Values in parentheses indicate holding time in days

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. ID No.:**17873**
Facility: **Company-wide** Revision 10
Department: **Quality Assurance** Published Date: 1/16/2017 11:00:05 AM
Title: **Certificate/Approval Program Summary** Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 2 of 2

Date Rec'd in Lab 2/21/17

ALPHA Job # L1705405

Project Information

Project Name: 450 Union Street
Project Location: 450 Union Street, Brooklyn, NY
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: Nicole Rice
ALPHAQuote #:

Turn-Around Time

~~Standard ☑~~ KT
Rush (only if pre approved) ☑
Due Date:
\# of Days: 3

Client Information

Client: Langan Engineering
Address: 360 W 31st Street,
Manhattan, NY
Phone: 212-479-5400
Fax:
Email: nrice@langan.com

Deliverables

☐ ASP-A ☑ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☐ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ **Done**
☐ **Lab to do**
Preservation
☐ **Lab to do**
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	Total lead	TCLP lead						Sample Specific Comments	Total Bottle
05405-01	SB2E2_EP_SW1	2/20/17	1330	Soil	KT	X	X							
02	SB2E2_EP_SW2		1320		KT	X	X							
03	SB2E2_EP_SW3		1325		KT	X	X							
04	SB2E2_EP_SW4		1327		KT	X	X							
05	SB2E2_EP_B	↓	1335	↓	KT	X	X							

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type	A	A						
Preservative	A	A						

Relinquished By:	Date/Time	Received By:	Date/Time
	2/21/17 12:26	Bob Jaman / AAL	2/21/17 12:26
Bob Jaman	2/21/17 18:45	Tom Tobin	2-21-17 1850
Tom Tobin	2-21-17 2245		2/21/17 2248

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1710168
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	450 UNION STREET
Project Number:	170301202
Report Date:	04/20/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1710168-01	EPN_8-9	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 15:15	04/03/17
L1710168-02	EPE_8-9	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 15:20	04/03/17
L1710168-03	EPS_8-9	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 15:30	04/03/17
L1710168-04	EPW_8-9	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 15:25	04/03/17
L1710168-05	EPB_8-9	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 15:35	04/03/17
L1710168-06	EPB_9-10	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 16:45	04/03/17
L1710168-07	DUP01_040317	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 16:15	04/03/17
L1710168-08	UST01_040317	SOIL	450 UNION STREET, BROOKLYN, NY	04/03/17 18:30	04/03/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission
This report replaces the report issued April 04, 2017. Upon further review of the Semivolatile Organics analysis, it was determined that the internal standard on the original analysis of sample L1710168-08 recovered slightly below acceptance criteria, the results for Indenopyrene, Dibenz(a,h)Anthracene, and Benzo(ghi)perylene were reported biased high. The sample was re-analyzed and yielded internal standards within acceptance criteria; the results of the re-analysis for those compounds are reported.

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics
L1710168-07: The internal standard (IS) response(s) for 1,4-dichlorobenzene-d4 (42) and the surrogate recovery for 4-bromofluorobenzene (132%) were outside the acceptance criteria; however, re-analysis achieved similar results: 1,4-dichlorobenzene-d4 (47%). The results of both analyses are reported; however, since the IS response was below method criteria, all associated compounds and surrogate recoveries are considered to have a potentially high bias.
L1710168-08: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (133%); however, the sample was not re-analyzed due to coelution with obvious interferences. A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

Semivolatile Organics
The WG990697-2/-3 LCS/LCSD recoveries, associated with L1710168-01 through -08, are below the acceptance criteria for benzoic acid (0%/0%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Lisa Westerlind

Title: Technical Director/Representative Date: 04/20/17

ORGANICS

VOLATILES

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

SAMPLE RESULTS

Lab ID:	L1710168-01	Date Collected:	04/03/17 15:15
Client ID:	EPN_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 09:08		
Analyst:	MV		
Percent Solids:	87%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	0.71	0.14	1
Toluene	ND		ug/kg	1.1	0.14	1
Ethylbenzene	ND		ug/kg	0.71	0.12	1
Methyl tert butyl ether	ND		ug/kg	1.4	0.11	1
p/m-Xylene	ND		ug/kg	1.4	0.25	1
o-Xylene	ND		ug/kg	1.4	0.24	1
Xylenes, Total	ND		ug/kg	1.4	0.24	1
n-Butylbenzene	ND		ug/kg	0.71	0.16	1
sec-Butylbenzene	ND		ug/kg	0.71	0.15	1
tert-Butylbenzene	ND		ug/kg	3.5	0.18	1
Isopropylbenzene	ND		ug/kg	0.71	0.14	1
p-Isopropyltoluene	ND		ug/kg	0.71	0.14	1
Naphthalene	ND		ug/kg	3.5	0.10	1
n-Propylbenzene	ND		ug/kg	0.71	0.15	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.5	0.11	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.5	0.13	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	95		70-130

SAMPLE RESULTS

Lab ID:	L1710168-02	Date Collected:	04/03/17 15:20
Client ID:	EPE_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 09:35		
Analyst:	MV		
Percent Solids:	58%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	1.1	0.21	1
Toluene	ND		ug/kg	1.7	0.22	1
Ethylbenzene	ND		ug/kg	1.1	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.17	1
p/m-Xylene	ND		ug/kg	2.2	0.39	1
o-Xylene	ND		ug/kg	2.2	0.38	1
Xylenes, Total	ND		ug/kg	2.2	0.38	1
n-Butylbenzene	ND		ug/kg	1.1	0.25	1
sec-Butylbenzene	ND		ug/kg	1.1	0.24	1
tert-Butylbenzene	ND		ug/kg	5.6	0.28	1
Isopropylbenzene	ND		ug/kg	1.1	0.22	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.22	1
Naphthalene	ND		ug/kg	5.6	0.15	1
n-Propylbenzene	ND		ug/kg	1.1	0.24	1
1,3,5-Trimethylbenzene	ND		ug/kg	5.6	0.18	1
1,2,4-Trimethylbenzene	ND		ug/kg	5.6	0.21	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

SAMPLE RESULTS

Lab ID:	L1710168-03	Date Collected:	04/03/17 15:30
Client ID:	EPS_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 10:01		
Analyst:	MV		
Percent Solids:	87%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	0.79	0.15	1
Toluene	ND		ug/kg	1.2	0.15	1
Ethylbenzene	ND		ug/kg	0.79	0.14	1
Methyl tert butyl ether	ND		ug/kg	1.6	0.12	1
p/m-Xylene	ND		ug/kg	1.6	0.28	1
o-Xylene	ND		ug/kg	1.6	0.27	1
Xylenes, Total	ND		ug/kg	1.6	0.27	1
n-Butylbenzene	ND		ug/kg	0.79	0.18	1
sec-Butylbenzene	ND		ug/kg	0.79	0.17	1
tert-Butylbenzene	ND		ug/kg	4.0	0.20	1
Isopropylbenzene	ND		ug/kg	0.79	0.15	1
p-Isopropyltoluene	ND		ug/kg	0.79	0.16	1
Naphthalene	ND		ug/kg	4.0	0.11	1
n-Propylbenzene	ND		ug/kg	0.79	0.17	1
1,3,5-Trimethylbenzene	ND		ug/kg	4.0	0.13	1
1,2,4-Trimethylbenzene	ND		ug/kg	4.0	0.15	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	102		70-130

SAMPLE RESULTS

Lab ID:	L1710168-04	Date Collected:	04/03/17 15:25
Client ID:	EPW_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 10:28		
Analyst:	MV		
Percent Solids:	86%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	0.63	0.12	1
Toluene	ND		ug/kg	0.94	0.12	1
Ethylbenzene	ND		ug/kg	0.63	0.11	1
Methyl tert butyl ether	ND		ug/kg	1.2	0.10	1
p/m-Xylene	ND		ug/kg	1.2	0.22	1
o-Xylene	ND		ug/kg	1.2	0.21	1
Xylenes, Total	ND		ug/kg	1.2	0.21	1
n-Butylbenzene	ND		ug/kg	0.63	0.14	1
sec-Butylbenzene	ND		ug/kg	0.63	0.14	1
tert-Butylbenzene	ND		ug/kg	3.1	0.15	1
Isopropylbenzene	ND		ug/kg	0.63	0.12	1
p-Isopropyltoluene	ND		ug/kg	0.63	0.13	1
Naphthalene	0.12	J	ug/kg	3.1	0.09	1
n-Propylbenzene	ND		ug/kg	0.63	0.13	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.1	0.10	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.1	0.12	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	101		70-130

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

SAMPLE RESULTS

Lab ID:	L1710168-05	Date Collected:	04/03/17 15:35
Client ID:	EPB_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 09:58		
Analyst:	MV		
Percent Solids:	87%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	0.65	0.12	1
Toluene	ND		ug/kg	0.98	0.13	1
Ethylbenzene	ND		ug/kg	0.65	0.11	1
Methyl tert butyl ether	ND		ug/kg	1.3	0.10	1
p/m-Xylene	ND		ug/kg	1.3	0.23	1
o-Xylene	ND		ug/kg	1.3	0.22	1
Xylenes, Total	ND		ug/kg	1.3	0.22	1
n-Butylbenzene	ND		ug/kg	0.65	0.15	1
sec-Butylbenzene	ND		ug/kg	0.65	0.14	1
tert-Butylbenzene	ND		ug/kg	3.2	0.16	1
Isopropylbenzene	ND		ug/kg	0.65	0.13	1
p-Isopropyltoluene	ND		ug/kg	0.65	0.13	1
Naphthalene	0.14	J	ug/kg	3.2	0.09	1
n-Propylbenzene	ND		ug/kg	0.65	0.14	1
1,3,5-Trimethylbenzene	0.23	J	ug/kg	3.2	0.10	1
1,2,4-Trimethylbenzene	0.25	J	ug/kg	3.2	0.12	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	125		70-130
Dibromofluoromethane	96		70-130

SAMPLE RESULTS

Lab ID:	L1710168-06	Date Collected:	04/03/17 16:45
Client ID:	EPB_9-10	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 11:42		
Analyst:	MV		
Percent Solids:	84%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	0.23	J	ug/kg	0.52	0.10	1
Toluene	0.42	J	ug/kg	0.78	0.10	1
Ethylbenzene	0.11	J	ug/kg	0.52	0.09	1
Methyl tert butyl ether	ND		ug/kg	1.0	0.08	1
p/m-Xylene	ND		ug/kg	1.0	0.18	1
o-Xylene	ND		ug/kg	1.0	0.18	1
Xylenes, Total	ND		ug/kg	1.0	0.18	1
n-Butylbenzene	ND		ug/kg	0.52	0.12	1
sec-Butylbenzene	ND		ug/kg	0.52	0.11	1
tert-Butylbenzene	ND		ug/kg	2.6	0.13	1
Isopropylbenzene	ND		ug/kg	0.52	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.52	0.10	1
Naphthalene	0.43	J	ug/kg	2.6	0.07	1
n-Propylbenzene	ND		ug/kg	0.52	0.11	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.6	0.08	1
1,2,4-Trimethylbenzene	0.10	J	ug/kg	2.6	0.10	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	127		70-130
Dibromofluoromethane	102		70-130

SAMPLE RESULTS

Lab ID:	L1710168-07	Date Collected:	04/03/17 16:15
Client ID:	DUP01_040317	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 10:50		
Analyst:	MV		
Percent Solids:	86%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	0.64	0.12	1
Toluene	0.18	J	ug/kg	0.97	0.12	1
Ethylbenzene	ND		ug/kg	0.64	0.11	1
Methyl tert butyl ether	ND		ug/kg	1.3	0.10	1
p/m-Xylene	ND		ug/kg	1.3	0.23	1
o-Xylene	ND		ug/kg	1.3	0.22	1
Xylenes, Total	ND		ug/kg	1.3	0.22	1
n-Butylbenzene	ND		ug/kg	0.64	0.15	1
sec-Butylbenzene	ND		ug/kg	0.64	0.14	1
tert-Butylbenzene	ND		ug/kg	3.2	0.16	1
Isopropylbenzene	ND		ug/kg	0.64	0.12	1
p-Isopropyltoluene	ND		ug/kg	0.64	0.13	1
Naphthalene	0.30	J	ug/kg	3.2	0.09	1
n-Propylbenzene	ND		ug/kg	0.64	0.14	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.2	0.10	1
1,2,4-Trimethylbenzene	0.12	J	ug/kg	3.2	0.12	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	112		70-130
4-Bromofluorobenzene	**132**	Q	70-130
Dibromofluoromethane	108		70-130

SAMPLE RESULTS

Lab ID: L1710168-07 R
Client ID: DUP01_040317
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 04/04/17 12:09
Analyst: MV
Percent Solids: 86%

Date Collected: 04/03/17 16:15
Date Received: 04/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	ND		ug/kg	0.58	0.11	1
Toluene	0.17	J	ug/kg	0.87	0.11	1
Ethylbenzene	ND		ug/kg	0.58	0.10	1
Methyl tert butyl ether	ND		ug/kg	1.2	0.09	1
p/m-Xylene	ND		ug/kg	1.2	0.20	1
o-Xylene	ND		ug/kg	1.2	0.20	1
Xylenes, Total	ND		ug/kg	1.2	0.20	1
n-Butylbenzene	ND		ug/kg	0.58	0.13	1
sec-Butylbenzene	ND		ug/kg	0.58	0.13	1
tert-Butylbenzene	ND		ug/kg	2.9	0.14	1
Isopropylbenzene	ND		ug/kg	0.58	0.11	1
p-Isopropyltoluene	ND		ug/kg	0.58	0.12	1
Naphthalene	0.28	J	ug/kg	2.9	0.08	1
n-Propylbenzene	ND		ug/kg	0.58	0.12	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.9	0.09	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.9	0.11	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	128		70-130
Dibromofluoromethane	107		70-130

SAMPLE RESULTS

Lab ID:	L1710168-08 D	Date Collected:	04/03/17 18:30
Client ID:	UST01_040317	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/04/17 11:16		
Analyst:	MV		
Percent Solids:	61%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Benzene	5300		ug/kg	2000	390	20
Toluene	450000		ug/kg	3000	390	20
Ethylbenzene	210000		ug/kg	2000	340	20
Methyl tert butyl ether	ND		ug/kg	4000	310	20
p/m-Xylene	910000		ug/kg	4000	700	20
o-Xylene	430000		ug/kg	4000	680	20
Xylenes, Total	1300000		ug/kg	4000	680	20
n-Butylbenzene	18000		ug/kg	2000	460	20
sec-Butylbenzene	21000		ug/kg	2000	440	20
tert-Butylbenzene	4800	J	ug/kg	10000	500	20
Isopropylbenzene	51000		ug/kg	2000	390	20
p-Isopropyltoluene	18000		ug/kg	2000	400	20
Naphthalene	140000		ug/kg	10000	280	20
n-Propylbenzene	75000		ug/kg	2000	430	20
1,3,5-Trimethylbenzene	120000		ug/kg	10000	320	20
1,2,4-Trimethylbenzene	320000		ug/kg	10000	370	20

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	**133**	Q	70-130
Dibromofluoromethane	99		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/04/17 08:41
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-04 Batch: WG990856-5					
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	ND		ug/kg	5.0	0.14
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	101		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/04/17 08:39
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05-07 Batch: WG990867-5					
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	ND		ug/kg	5.0	0.14
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	102		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/04/17 08:39
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 08 Batch: WG990885-5					
Benzene	ND		ug/kg	50	9.6
Toluene	ND		ug/kg	75	9.8
Ethylbenzene	ND		ug/kg	50	8.5
Methyl tert butyl ether	ND		ug/kg	100	7.6
p/m-Xylene	ND		ug/kg	100	18.
o-Xylene	ND		ug/kg	100	17.
Xylenes, Total	ND		ug/kg	100	17.
n-Butylbenzene	ND		ug/kg	50	11.
sec-Butylbenzene	ND		ug/kg	50	11.
tert-Butylbenzene	ND		ug/kg	250	12.
Isopropylbenzene	ND		ug/kg	50	9.7
p-Isopropyltoluene	ND		ug/kg	50	10.
Naphthalene	ND		ug/kg	250	6.9
n-Propylbenzene	ND		ug/kg	50	11.
1,3,5-Trimethylbenzene	ND		ug/kg	250	8.0
1,2,4-Trimethylbenzene	ND		ug/kg	250	9.3

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710168
Project Number: 170301202
Report Date: 04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-04 Batch: WG990856-3 WG990856-4								
Benzene	97		94		70-130	3		30
Toluene	94		90		70-130	4		30
Ethylbenzene	97		93		70-130	4		30
Methyl tert butyl ether	97		97		66-130	0		30
p/m-Xylene	99		95		70-130	4		30
o-Xylene	100		96		70-130	4		30
n-Butylbenzene	100		96		70-130	4		30
sec-Butylbenzene	99		94		70-130	5		30
tert-Butylbenzene	98		93		70-130	5		30
Isopropylbenzene	95		91		70-130	4		30
p-Isopropyltoluene	98		94		70-130	4		30
Naphthalene	93		97		70-130	4		30
n-Propylbenzene	97		92		70-130	5		30
1,3,5-Trimethylbenzene	97		93		70-130	4		30
1,2,4-Trimethylbenzene	99		94		70-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Lab Number: L1710168

Project Number: 170301202

Report Date: 04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-04 Batch: WG990856-3 WG990856-4

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	111		111		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	104		105		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710168

Report Date: 04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05-07 Batch: WG990867-3 WG990867-4								
Benzene	98		102		70-130	4		30
Toluene	96		100		70-130	4		30
Ethylbenzene	94		98		70-130	4		30
Methyl tert butyl ether	104		108		66-130	4		30
p/m-Xylene	95		98		70-130	3		30
o-Xylene	94		97		70-130	3		30
n-Butylbenzene	98		101		70-130	3		30
sec-Butylbenzene	96		100		70-130	4		30
tert-Butylbenzene	95		98		70-130	3		30
Isopropylbenzene	95		99		70-130	4		30
p-Isopropyltoluene	96		99		70-130	3		30
Naphthalene	99		102		70-130	3		30
n-Propylbenzene	95		99		70-130	4		30
1,3,5-Trimethylbenzene	95		99		70-130	4		30
1,2,4-Trimethylbenzene	94		98		70-130	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05-07 Batch: WG990867-3 WG990867-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		102		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	102		104		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710168
Project Number: 170301202
Report Date: 04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 08 Batch: WG990885-3 WG990885-4								
Benzene	98		102		70-130	4		30
Toluene	96		100		70-130	4		30
Ethylbenzene	94		98		70-130	4		30
Methyl tert butyl ether	104		108		66-130	4		30
p/m-Xylene	95		98		70-130	3		30
o-Xylene	94		97		70-130	3		30
n-Butylbenzene	98		101		70-130	3		30
sec-Butylbenzene	96		100		70-130	4		30
tert-Butylbenzene	95		98		70-130	3		30
Isopropylbenzene	95		99		70-130	4		30
p-Isopropyltoluene	96		99		70-130	3		30
Naphthalene	99		102		70-130	3		30
n-Propylbenzene	95		99		70-130	4		30
1,3,5-Trimethylbenzene	95		99		70-130	4		30
1,2,4-Trimethylbenzene	94		98		70-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710168

Report Date: 04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 08 Batch: WG990885-3 WG990885-4								

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*
1,2-Dichloroethane-d4	101		102		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	102		104		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG990856-6 WG990856-7 QC Sample: L1710168-04 Client ID: EPW_8-9												
Benzene	ND	17.2	14	79		8.8	**62**	Q	70-130	**42**	Q	30
Toluene	ND	17.2	12	72		6.7	**47**	Q	70-130	**60**	Q	30
Ethylbenzene	ND	17.2	11	**63**	Q	5.3	**37**	Q	70-130	**69**	Q	30
Methyl tert butyl ether	ND	17.2	14	81		12	86		66-130	13		30
p/m-Xylene	ND	34.3	21	**62**	Q	10	**36**	Q	70-130	**70**	Q	30
o-Xylene	ND	34.3	21	**62**	Q	12	**42**	Q	70-130	**56**	Q	30
n-Butylbenzene	ND	17.2	7.0	**41**	Q	2.8	**20**	Q	70-130	**85**	Q	30
sec-Butylbenzene	ND	17.2	9.4	**54**	Q	4.8	**33**	Q	70-130	**65**	Q	30
tert-Butylbenzene	ND	17.2	9.8	**57**	Q	5.4	**38**	Q	70-130	**58**	Q	30
Isopropylbenzene	ND	17.2	11	**64**	Q	5.8	**41**	Q	70-130	**60**	Q	30
p-Isopropyltoluene	ND	17.2	8.2	**48**	Q	4.2	**30**	Q	70-130	**65**	Q	30
Naphthalene	0.12J	17.2	2.7J	**16**	Q	2.1J	**15**	Q	70-130	24		30
n-Propylbenzene	ND	17.2	9.3	**54**	Q	4.3	**30**	Q	70-130	**74**	Q	30
1,3,5-Trimethylbenzene	ND	17.2	9.3	**54**	Q	5.3	**37**	Q	70-130	**55**	Q	30
1,2,4-Trimethylbenzene	ND	17.2	8.1	**47**	Q	4.5	**32**	Q	70-130	**57**	Q	30

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
1,2-Dichloroethane-d4	114		115		70-130
4-Bromofluorobenzene	106		112		70-130
Dibromofluoromethane	104		104		70-130
Toluene-d8	99		101		70-130

SEMIVOLATILES

SAMPLE RESULTS

Lab ID:	L1710168-01	Date Collected:	04/03/17 15:15
Client ID:	EPN_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 10:49		
Analyst:	RC		
Percent Solids:	87%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	340		ug/kg	150	20.	1
Fluoranthene	9700	E	ug/kg	110	22.	1
Naphthalene	150	J	ug/kg	190	23.	1
Benzo(a)anthracene	3800		ug/kg	110	22.	1
Benzo(a)pyrene	3600		ug/kg	150	47.	1
Benzo(b)fluoranthene	4800		ug/kg	110	32.	1
Benzo(k)fluoranthene	1600		ug/kg	110	30.	1
Chrysene	3800		ug/kg	110	20.	1
Acenaphthylene	390		ug/kg	150	29.	1
Anthracene	1300		ug/kg	110	37.	1
Benzo(ghi)perylene	2600		ug/kg	150	22.	1
Fluorene	400		ug/kg	190	18.	1
Phenanthrene	6500		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	590		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	2700		ug/kg	150	27.	1
Pyrene	8300	E	ug/kg	110	19.	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	74		30-120
4-Terphenyl-d14	76		18-120

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

SAMPLE RESULTS

Lab ID:	L1710168-01 D	Date Collected:	04/03/17 15:15
Client ID:	EPN_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 13:23		
Analyst:	RC		
Percent Solids:	87%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	7100		ug/kg	230	44.	2
Pyrene	6100		ug/kg	230	38.	2

SAMPLE RESULTS

Lab ID:	L1710168-02	Date Collected:	04/03/17 15:20
Client ID:	EPE_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 11:15		
Analyst:	RC		
Percent Solids:	58%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	390		ug/kg	220	29.	1
Fluoranthene	16000	E	ug/kg	170	32.	1
Naphthalene	200	J	ug/kg	280	34.	1
Benzo(a)anthracene	6300		ug/kg	170	31.	1
Benzo(a)pyrene	6100		ug/kg	220	68.	1
Benzo(b)fluoranthene	8300		ug/kg	170	47.	1
Benzo(k)fluoranthene	2600		ug/kg	170	45.	1
Chrysene	6200		ug/kg	170	29.	1
Acenaphthylene	630		ug/kg	220	43.	1
Anthracene	1700		ug/kg	170	54.	1
Benzo(ghi)perylene	4400		ug/kg	220	33.	1
Fluorene	380		ug/kg	280	27.	1
Phenanthrene	8300		ug/kg	170	34.	1
Dibenzo(a,h)anthracene	1100		ug/kg	170	32.	1
Indeno(1,2,3-cd)pyrene	4700		ug/kg	220	39.	1
Pyrene	13000	E	ug/kg	170	28.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	88		23-120
2-Fluorobiphenyl	78		30-120
4-Terphenyl-d14	73		18-120

SAMPLE RESULTS

Lab ID:	L1710168-02 D	Date Collected:	04/03/17 15:20
Client ID:	EPE_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 13:49		
Analyst:	RC		
Percent Solids:	58%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	13000		ug/kg	340	64.	2
Pyrene	10000		ug/kg	340	56.	2

SAMPLE RESULTS

Lab ID:	L1710168-03	Date Collected:	04/03/17 15:30
Client ID:	EPS_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 11:40		
Analyst:	RC		
Percent Solids:	87%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	120	J	ug/kg	150	19.	1
Fluoranthene	3500		ug/kg	110	21.	1
Naphthalene	49	J	ug/kg	180	23.	1
Benzo(a)anthracene	1500		ug/kg	110	21.	1
Benzo(a)pyrene	1500		ug/kg	150	45.	1
Benzo(b)fluoranthene	2000		ug/kg	110	31.	1
Benzo(k)fluoranthene	690		ug/kg	110	30.	1
Chrysene	1600		ug/kg	110	19.	1
Acenaphthylene	150		ug/kg	150	29.	1
Anthracene	410		ug/kg	110	36.	1
Benzo(ghi)perylene	1100		ug/kg	150	22.	1
Fluorene	96	J	ug/kg	180	18.	1
Phenanthrene	2000		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	260		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	1100		ug/kg	150	26.	1
Pyrene	3000		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	78		18-120

SAMPLE RESULTS

Lab ID:	L1710168-04	Date Collected:	04/03/17 15:25
Client ID:	EPW_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 14:15		
Analyst:	PS		
Percent Solids:	86%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	280		ug/kg	150	20.	1
Fluoranthene	7000		ug/kg	110	22.	1
Naphthalene	160	J	ug/kg	190	23.	1
Benzo(a)anthracene	3600		ug/kg	110	22.	1
Benzo(a)pyrene	3600		ug/kg	150	47.	1
Benzo(b)fluoranthene	5000		ug/kg	110	32.	1
Benzo(k)fluoranthene	1400		ug/kg	110	31.	1
Chrysene	3600		ug/kg	110	20.	1
Acenaphthylene	270		ug/kg	150	30.	1
Anthracene	1000		ug/kg	110	37.	1
Benzo(ghi)perylene	2400		ug/kg	150	22.	1
Fluorene	260		ug/kg	190	19.	1
Phenanthrene	4700		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	620		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	2600		ug/kg	150	27.	1
Pyrene	6200		ug/kg	110	19.	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	77		18-120

SAMPLE RESULTS

Lab ID:	L1710168-05	Date Collected:	04/03/17 15:35
Client ID:	EPB_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 12:06		
Analyst:	RC		
Percent Solids:	87%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	360		ug/kg	150	19.	1
Fluoranthene	11000	E	ug/kg	110	22.	1
Naphthalene	140	J	ug/kg	190	23.	1
Benzo(a)anthracene	4200		ug/kg	110	21.	1
Benzo(a)pyrene	4100		ug/kg	150	46.	1
Benzo(b)fluoranthene	5600		ug/kg	110	32.	1
Benzo(k)fluoranthene	1700		ug/kg	110	30.	1
Chrysene	4200		ug/kg	110	20.	1
Acenaphthylene	360		ug/kg	150	29.	1
Anthracene	1500		ug/kg	110	37.	1
Benzo(ghi)perylene	3000		ug/kg	150	22.	1
Fluorene	400		ug/kg	190	18.	1
Phenanthrene	7600	E	ug/kg	110	23.	1
Dibenzo(a,h)anthracene	660		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	3100		ug/kg	150	26.	1
Pyrene	9000	E	ug/kg	110	19.	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	90		30-120
4-Terphenyl-d14	85		18-120

SAMPLE RESULTS

Lab ID: L1710168-05 D
Client ID: EPB_8-9
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/04/17 14:14
Analyst: RC
Percent Solids: 87%

Date Collected: 04/03/17 15:35
Date Received: 04/03/17
Field Prep: Not Specified
Extraction Method:EPA 3546
Extraction Date: 04/04/17 04:27

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	9200		ug/kg	220	43.	2
Phenanthrene	6200		ug/kg	220	46.	2
Pyrene	7400		ug/kg	220	37.	2

SAMPLE RESULTS

Lab ID:	L1710168-06	Date Collected:	04/03/17 16:45
Client ID:	EPB_9-10	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 12:31		
Analyst:	RC		
Percent Solids:	84%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	180		ug/kg	160	20.	1
Fluoranthene	7700		ug/kg	120	23.	1
Naphthalene	61	J	ug/kg	200	24.	1
Benzo(a)anthracene	3000		ug/kg	120	22.	1
Benzo(a)pyrene	3100		ug/kg	160	48.	1
Benzo(b)fluoranthene	4200		ug/kg	120	33.	1
Benzo(k)fluoranthene	1300		ug/kg	120	32.	1
Chrysene	3100		ug/kg	120	20.	1
Acenaphthylene	280		ug/kg	160	30.	1
Anthracene	850		ug/kg	120	38.	1
Benzo(ghi)perylene	2200		ug/kg	160	23.	1
Fluorene	170	J	ug/kg	200	19.	1
Phenanthrene	4100		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	520		ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	2300		ug/kg	160	28.	1
Pyrene	6400		ug/kg	120	20.	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	72		30-120
4-Terphenyl-d14	75		18-120

SAMPLE RESULTS

Lab ID:	L1710168-07	Date Collected:	04/03/17 16:15
Client ID:	DUP01_040317	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 14:44		
Analyst:	ALS		
Percent Solids:	86%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	790		ug/kg	150	20.	1
Fluoranthene	10000	E	ug/kg	110	22.	1
Naphthalene	790		ug/kg	190	23.	1
Benzo(a)anthracene	5900		ug/kg	110	21.	1
Benzo(a)pyrene	5900		ug/kg	150	46.	1
Benzo(b)fluoranthene	8600	E	ug/kg	110	32.	1
Benzo(k)fluoranthene	2700		ug/kg	110	30.	1
Chrysene	6000		ug/kg	110	20.	1
Acenaphthylene	390		ug/kg	150	29.	1
Anthracene	1800		ug/kg	110	37.	1
Benzo(ghi)perylene	4000		ug/kg	150	22.	1
Fluorene	710		ug/kg	190	18.	1
Phenanthrene	8000	E	ug/kg	110	23.	1
Dibenzo(a,h)anthracene	1100		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	4300		ug/kg	150	26.	1
Pyrene	9200	E	ug/kg	110	19.	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	84		30-120
4-Terphenyl-d14	83		18-120

SAMPLE RESULTS

Lab ID:	L1710168-07 D	Date Collected:	04/03/17 16:15
Client ID:	DUP01_040317	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:27
Analytical Date:	04/04/17 15:36		
Analyst:	MW		
Percent Solids:	86%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	14000		ug/kg	570	110	5
Benzo(b)fluoranthene	8800		ug/kg	570	160	5
Phenanthrene	9800		ug/kg	570	120	5
Pyrene	12000		ug/kg	570	95.	5

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

SAMPLE RESULTS

Lab ID:	L1710168-08 R\D	Date Collected:	04/03/17 18:30
Client ID:	UST01_040317	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:43
Analytical Date:	04/17/17 15:23		
Analyst:	MW		
Percent Solids:	61%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(ghi)perylene	360	J	ug/kg	430	64.	2
Dibenzo(a,h)anthracene	87	J	ug/kg	320	62.	2
Indeno(1,2,3-cd)pyrene	400	J	ug/kg	430	75.	2

SAMPLE RESULTS

Lab ID: L1710168-08 D2
Client ID: UST01_040317
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/04/17 16:02
Analyst: MW
Percent Solids: 61%

Date Collected: 04/03/17 18:30
Date Received: 04/03/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/04/17 04:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	93000		ug/kg	5400	660	20

SAMPLE RESULTS

Lab ID:	L1710168-08 D	Date Collected:	04/03/17 18:30
Client ID:	UST01_040317	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/04/17 04:43
Analytical Date:	04/04/17 15:10		
Analyst:	ALS		
Percent Solids:	61%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	430	56.	2
Fluoranthene	2000		ug/kg	320	62.	2
Naphthalene	67000	E	ug/kg	540	66.	2
Benzo(a)anthracene	780		ug/kg	320	61.	2
Benzo(a)pyrene	500		ug/kg	430	130	2
Benzo(b)fluoranthene	900		ug/kg	320	91.	2
Benzo(k)fluoranthene	260	J	ug/kg	320	86.	2
Chrysene	840		ug/kg	320	56.	2
Acenaphthylene	ND		ug/kg	430	84.	2
Anthracene	300	J	ug/kg	320	100	2
Fluorene	ND		ug/kg	540	52.	2
Phenanthrene	1800		ug/kg	320	66.	2
Pyrene	1600		ug/kg	320	54.	2

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
Nitrobenzene-d5	**693**	Q	23-120
2-Fluorobiphenyl	54		30-120
4-Terphenyl-d14	42		18-120

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8270D	Extraction Method:	EPA 3546
Analytical Date:	04/04/17 11:32	Extraction Date:	04/04/17 03:12
Analyst:	PS		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG990697-1					
Acenaphthene	ND		ug/kg	130	17.
Fluoranthene	ND		ug/kg	99	19.
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.

Surrogate	**%Recovery**	**Qualifier**	**Acceptance Criteria**
2-Fluorophenol	63		25-120
Phenol-d6	69		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	62		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	80		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710168
Project Number: 170301202
Report Date: 04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG990697-2 WG990697-3								
Acenaphthene	74		80		31-137	8		50
Fluoranthene	79		86		40-140	8		50
Naphthalene	81		83		40-140	2		50
Benzo(a)anthracene	77		83		40-140	8		50
Benzo(a)pyrene	86		92		40-140	7		50
Benzo(b)fluoranthene	85		93		40-140	9		50
Benzo(k)fluoranthene	81		88		40-140	8		50
Chrysene	80		85		40-140	6		50
Acenaphthylene	84		88		40-140	5		50
Anthracene	83		90		40-140	8		50
Benzo(ghi)perylene	81		87		40-140	7		50
Fluorene	80		87		40-140	8		50
Phenanthrene	83		89		40-140	7		50
Dibenzo(a,h)anthracene	83		88		40-140	6		50
Indeno(1,2,3-cd)pyrene	84		89		40-140	6		50
Pyrene	80		86		35-142	7		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710168

Report Date: 04/20/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG990697-2 WG990697-3								

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*
2-Fluorophenol	89		88		25-120
Phenol-d6	92		96		10-120
Nitrobenzene-d5	88		91		23-120
2-Fluorobiphenyl	84		88		30-120
2,4,6-Tribromophenol	95		98		10-136
4-Terphenyl-d14	83		87		18-120

Matrix Spike Analysis

Batch Quality Control

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG990697-4 WG990697-5 QC Sample: L1710168-04 Client ID: EPW_8-9

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Acenaphthene	280	1540	1400	72		1600	86		31-137	13		50
Fluoranthene	7000	1540	11000	**260**	Q	14000	**460**	Q	40-140	24		50
Naphthalene	160J	1540	1200	78		1400	91		40-140	15		50
Benzo(a)anthracene	3600	1540	5500	120		7300	**240**	Q	40-140	28		50
Benzo(a)pyrene	3600	1540	5400	120		7400	**250**	Q	40-140	31		50
Benzo(b)fluoranthene	5000	1540	7500	**160**	Q	9500	**290**	Q	40-140	24		50
Benzo(k)fluoranthene	1400	1540	2800	91		4200	**180**	Q	40-140	40		50
Chrysene	3600	1540	5700	140		7600	**260**	Q	40-140	29		50
Acenaphthylene	270	1540	1300	67		1600	87		40-140	21		50
Anthracene	1000	1540	2700	110		3100	140		40-140	14		50
Benzo(ghi)perylene	2400	1540	4200	120		5500	**200**	Q	40-140	27		50
Fluorene	260	1540	1500	80		1600	87		40-140	6		50
Phenanthrene	4700	1540	8700	**260**	Q	9600	**320**	Q	40-140	10		50
Dibenzo(a,h)anthracene	620	1540	1800	76		2200	100		40-140	20		50
Indeno(1,2,3-cd)pyrene	2600	1540	4400	120		5800	**210**	Q	40-140	27		50
Pyrene	6200	1540	9300	**200**	Q	12000	**380**	Q	35-142	25		50

Surrogate	*MS % Recovery*	*MS Qualifier*	*MSD % Recovery*	*MSD Qualifier*	*Acceptance Criteria*
2-Fluorobiphenyl	62		74		30-120
4-Terphenyl-d14	60		72		18-120

Matrix Spike Analysis

Batch Quality Control

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG990697-4 WG990697-5 QC Sample: L1710168-04 Client ID: EPW_8-9												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		88		23-120

INORGANICS
&
MISCELLANEOUS

SAMPLE RESULTS

Lab ID:	L1710168-01	Date Collected:	04/03/17 15:15
Client ID:	EPN_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

SAMPLE RESULTS

Lab ID:	L1710168-02	Date Collected:	04/03/17 15:20
Client ID:	EPE_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	58.3		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

SAMPLE RESULTS

Lab ID:	L1710168-03	Date Collected:	04/03/17 15:30
Client ID:	EPS_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.4		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

SAMPLE RESULTS

Lab ID:	L1710168-04	Date Collected:	04/03/17 15:25
Client ID:	EPW_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

SAMPLE RESULTS

Lab ID:	L1710168-05	Date Collected:	04/03/17 15:35
Client ID:	EPB_8-9	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.4		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

SAMPLE RESULTS

Lab ID:	L1710168-06	Date Collected:	04/03/17 16:45
Client ID:	EPB_9-10	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

SAMPLE RESULTS

Lab ID: L1710168-07
Client ID: DUP01_040317
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Date Collected: 04/03/17 16:15
Date Received: 04/03/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

Project Name:	450 UNION STREET	**Lab Number:**	L1710168
Project Number:	170301202	**Report Date:**	04/20/17

SAMPLE RESULTS

Lab ID:	L1710168-08	Date Collected:	04/03/17 18:30
Client ID:	UST01_040317	Date Received:	04/03/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	61.4		%	0.100	NA	1	-	04/04/17 04:13	121,2540G	CG

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710168

Report Date: 04/20/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG990692-1 QC Sample: L1710168-04 Client ID: EPW_8-9						
Solids, Total	85.7	85.7	%	0		20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 04/04/2017 04:06

Cooler Information

Cooler	**Custody Seal**
A	Absent

Container Information

Container ID	**Container Type**	**Cooler**	**pH**	**Temp deg C**	**Pres**	**Seal**	**Analysis(*)**
L1710168-01A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-01B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-01C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-01D	Vial unpreserved	A	N/A	2.7	Y	Absent	TS(7)
L1710168-01E	Glass 250ml/8oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-02A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-02B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-02C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-02D	Vial unpreserved	A	N/A	2.7	Y	Absent	TS(7)
L1710168-02E	Glass 250ml/8oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-03A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-03B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-03C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-03D	Vial unpreserved	A	N/A	2.7	Y	Absent	TS(7)
L1710168-03E	Glass 250ml/8oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-04A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04A1	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04A2	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04B1	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04B2	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04C1	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04C2	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-04D	Vial unpreserved	A	N/A	2.7	Y	Absent	TS(7)
L1710168-04D1	Plastic 2oz unpreserved for TS	A	N/A	2.7	Y	Absent	TS(7)
L1710168-04D2	Plastic 2oz unpreserved for TS	A	N/A	2.7	Y	Absent	TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710168-04E	Glass 250ml/8oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-04E1	Glass 500ml/16oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-04E2	Glass 500ml/16oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-05A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-05B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-05C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-05D	Vial unpreserved	A	N/A	2.7	Y	Absent	TS(7)
L1710168-05E	Glass 250ml/8oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-06A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-06B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-06C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-06D	Plastic 2oz unpreserved for TS	A	N/A	2.7	Y	Absent	TS(7)
L1710168-06E	Glass 500ml/16oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-07A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-07B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-07C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-07D	Plastic 2oz unpreserved for TS	A	N/A	2.7	Y	Absent	TS(7)
L1710168-07E	Glass 500ml/16oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)
L1710168-08A	Vial MeOH preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-08B	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-08C	Vial water preserved	A	N/A	2.7	Y	Absent	NYTCL-8260HLW(14)
L1710168-08D	Plastic 2oz unpreserved for TS	A	N/A	2.7	Y	Absent	TS(7)
L1710168-08E	Glass 500ml/16oz unpreserved	A	N/A	2.7	Y	Absent	NYTCL-8270(14)

*Values in parentheses indicate holding time in days

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

REFERENCES

1	Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
121	Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Alpha Analytical, Inc. ID No.:**17873**
Facility: **Company-wide** Revision 10
Department: **Quality Assurance** Published Date: 1/16/2017 11:00:05 AM
Title: **Certificate/Approval Program Summary** Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of ~~X~~ 1 (KT)

Date Rec'd in Lab 4/4/17

ALPHA Job # L1710168

Project Information

Project Name: 450 Union Street
Project Location: 450 Union Street ~~the~~ (KT), Brooklyn, NY
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: Nicole Rice
ALPHAQuote #:

Turn-Around Time

Standard ☐
Rush (only if pre approved) ☑
Due Date:
# of Days: ~~ASAP~~ (KT) 2 day TAT

Client Information

Client: Langan Engineering
Address: 360 W 31st Street, Manhattan, NY
Phone: 212-479-5400
Fax:
Email: nrice@langan.com

Deliverables

☐ ASP-A ☑ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: CP-51 VOC's and	SVOC's	Sample Specific Comments	Total Bottle
10168-01	EPN_8-9	4/3/17	15:15	Soil	KT	X	X		
02	EPE_8-9		15:20		KT	X	X		
03	EPS_8-9		15:30		KT	X	X		
04	EPW_8-9		15:25		KT	X	X		
05	EPB_8-9		15:35		KT	X	X		
06	EPB_9-10		16:45		KT	X	X		
07	DUP01_040317		16:15		KT	X	X		
04	EPW_8-9_MS		16:40		KT	X	X		
04	EPW_8-9_MSD		16:42		KT	X	X		
08	UST01_040317		18:30		KT	X	X		
					Container Type	V	A/G		
					Preservative	F	A		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
/ Kyle Twomby	4/3/17 19:00	Daniel Fischer AAL	4/3/17 19:00
Daniel Fischer AAL	4/3/17 22:00		4-3-17 2200
	4-4-17 0215	Danielle Mott	4/4/17 02:15

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

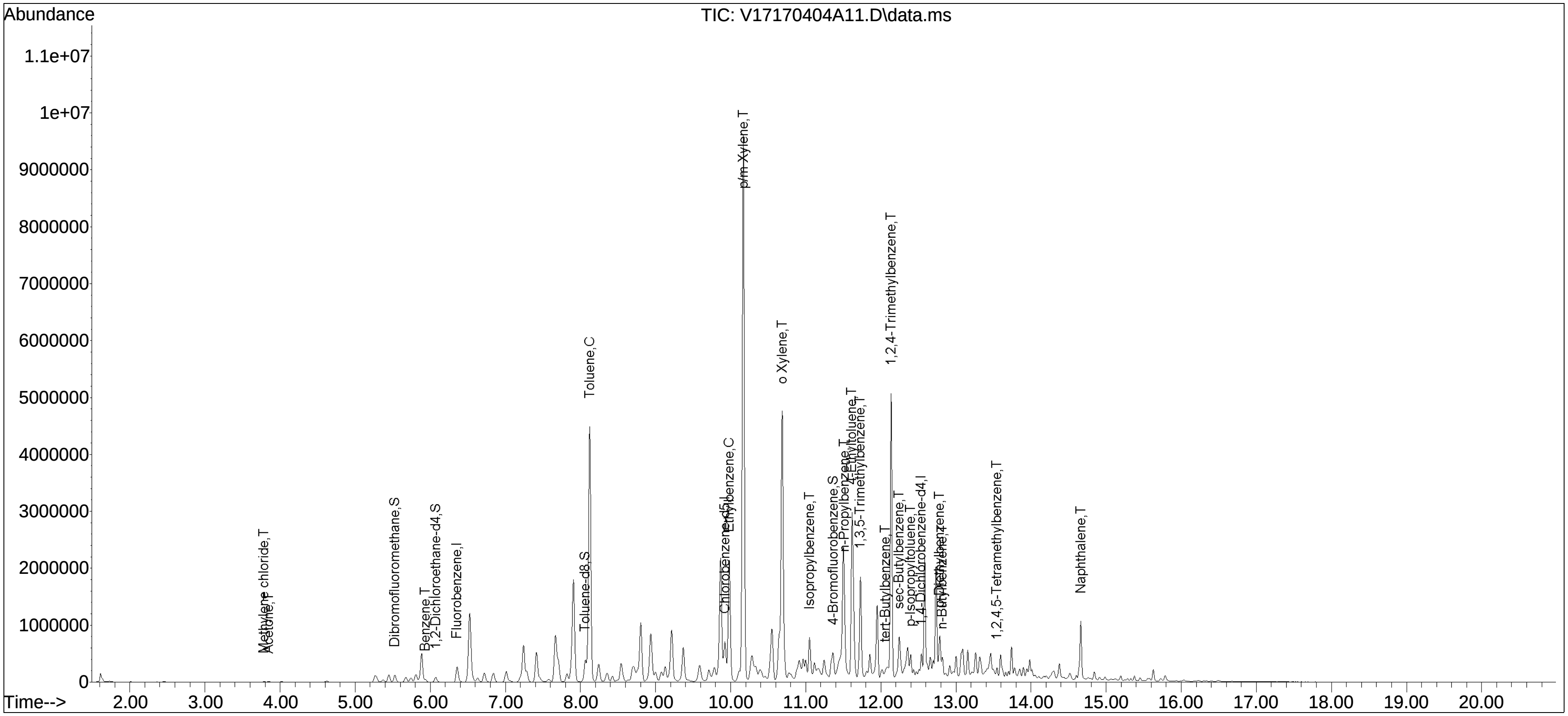
Form No: 01-25 HC (rev. 30-Sept-2013)

Quantitation Report   (QT Reviewed)

```
Data Path : I:\VOLATILES\VOA117\2017\170404A\
Data File : V17170404A11.D
Acq On    : 04 Apr 2017  11:16
Operator  : VOA117:MV
Sample    : l1710168-08D,31H,5.9,5,0.005,,a
Misc      : WG990885,ICAL13424
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Apr 04 11:45:54 2017
Quant Method : I:\VOLATILES\VOA117\2017\170404A\V117_170221N_8260.m
Quant Title  : VOLATILES BY GC/MS
QLast Update : Wed Feb 22 07:45:09 2017
Response via : Initial Calibration

Sub List     : 8260-NYTCL - Megamix plus Diox70404A\V17170404A01.D•
```



ANALYTICAL REPORT

Lab Number:	L1710511
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	450 UNION STREET
Project Number:	170301202
Report Date:	04/12/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1710511-01	DS01_1-2	SOIL	450 UNION STREET, BROOKLYN, NY	04/05/17 13:00	04/05/17
L1710511-02	DS02_1-2	SOIL	450 UNION STREET, BROOKLYN, NY	04/05/17 13:10	04/05/17
L1710511-03	FB01_040517	WATER	450 UNION STREET, BROOKLYN, NY	04/05/17 15:30	04/05/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1710511-03: The sample was received without the container for the Total Cyanide analysis. An aliquot was taken from an unpreserved container and preserved appropriately.

Semivolatile Organics

The WG991872-1 Method Blank, associated with L1710511-03, has a concentration above the reporting limit for bis(2-ethylhexyl)phthalate. Since the sample was non-detect to the RL for this target analyte, no further actions were taken. The results of the original analysis are reported.

The WG992228-2/-3 LCS/LCSD recoveries, associated with L1710511-01 and -02, are below the acceptance criteria for benzoic acid (0%/0%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

Metals

L1710511-01 and -02: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by the high concentrations of target and non-target elements.

L1710511-03: The Field Blank has a result for barium present above the reporting limit. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

The WG993365-3 MS recovery for mercury (739%), performed on L1710511-01, does not apply because the sample concentration is greater than four times the spike amount added.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom Kelly Stenstrom

Title: Technical Director/Representative Date: 04/12/17

ORGANICS

VOLATILES

SAMPLE RESULTS

Lab ID: L1710511-01
Client ID: DS01_1-2
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 04/11/17 11:33
Analyst: JC
Percent Solids: 77%

Date Collected: 04/05/17 13:00
Date Received: 04/05/17
Field Prep: Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	6.6	1.1	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.18	1
Chloroform	ND		ug/kg	1.0	0.25	1
Carbon tetrachloride	ND		ug/kg	0.66	0.23	1
1,2-Dichloropropane	ND		ug/kg	2.3	0.15	1
Dibromochloromethane	ND		ug/kg	0.66	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.21	1
Tetrachloroethene	ND		ug/kg	0.66	0.20	1
Chlorobenzene	ND		ug/kg	0.66	0.23	1
Trichlorofluoromethane	ND		ug/kg	3.3	0.28	1
1,2-Dichloroethane	ND		ug/kg	0.66	0.16	1
1,1,1-Trichloroethane	ND		ug/kg	0.66	0.23	1
Bromodichloromethane	ND		ug/kg	0.66	0.20	1
trans-1,3-Dichloropropene	ND		ug/kg	0.66	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	0.66	0.15	1
1,3-Dichloropropene, Total	ND		ug/kg	0.66	0.14	1
1,1-Dichloropropene	ND		ug/kg	3.3	0.22	1
Bromoform	ND		ug/kg	2.7	0.16	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.66	0.20	1
Benzene	ND		ug/kg	0.66	0.13	1
Toluene	0.23	J	ug/kg	1.0	0.13	1
Ethylbenzene	0.12	J	ug/kg	0.66	0.11	1
Chloromethane	ND		ug/kg	3.3	0.29	1
Bromomethane	ND		ug/kg	1.3	0.22	1
Vinyl chloride	ND		ug/kg	1.3	0.21	1
Chloroethane	ND		ug/kg	1.3	0.21	1
1,1-Dichloroethene	ND		ug/kg	0.66	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	0.16	1
Trichloroethene	ND		ug/kg	0.66	0.20	1
1,2-Dichlorobenzene	ND		ug/kg	3.3	0.12	1

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.3	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	3.3	0.12	1
Methyl tert butyl ether	ND		ug/kg	1.3	0.10	1
p/m-Xylene	0.26	J	ug/kg	1.3	0.23	1
o-Xylene	ND		ug/kg	1.3	0.22	1
Xylenes, Total	0.26	J	ug/kg	1.3	0.22	1
cis-1,2-Dichloroethene	ND		ug/kg	0.66	0.23	1
1,2-Dichloroethene, Total	ND		ug/kg	0.66	0.16	1
Dibromomethane	ND		ug/kg	6.6	0.16	1
Styrene	ND		ug/kg	1.3	0.27	1
Dichlorodifluoromethane	ND		ug/kg	6.6	0.33	1
Acetone	1.6	J	ug/kg	6.6	1.5	1
Carbon disulfide	ND		ug/kg	6.6	0.73	1
2-Butanone	ND		ug/kg	6.6	0.46	1
Vinyl acetate	ND		ug/kg	6.6	0.10	1
4-Methyl-2-pentanone	ND		ug/kg	6.6	0.16	1
1,2,3-Trichloropropane	ND		ug/kg	6.6	0.12	1
2-Hexanone	ND		ug/kg	6.6	0.44	1
Bromochloromethane	ND		ug/kg	3.3	0.24	1
2,2-Dichloropropane	ND		ug/kg	3.3	0.30	1
1,2-Dibromoethane	ND		ug/kg	2.7	0.13	1
1,3-Dichloropropane	ND		ug/kg	3.3	0.12	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.66	0.21	1
Bromobenzene	ND		ug/kg	3.3	0.14	1
n-Butylbenzene	ND		ug/kg	0.66	0.15	1
sec-Butylbenzene	ND		ug/kg	0.66	0.14	1
tert-Butylbenzene	ND		ug/kg	3.3	0.16	1
o-Chlorotoluene	ND		ug/kg	3.3	0.15	1
p-Chlorotoluene	ND		ug/kg	3.3	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	0.26	1
Hexachlorobutadiene	ND		ug/kg	3.3	0.23	1
Isopropylbenzene	ND		ug/kg	0.66	0.13	1
p-Isopropyltoluene	ND		ug/kg	0.66	0.13	1
Naphthalene	0.25	J	ug/kg	3.3	0.09	1
Acrylonitrile	ND		ug/kg	6.6	0.34	1
n-Propylbenzene	ND		ug/kg	0.66	0.14	1
1,2,3-Trichlorobenzene	ND		ug/kg	3.3	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.3	0.14	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.3	0.11	1

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	3.3	0.12	1
1,4-Dioxane	ND		ug/kg	27	9.6	1
p-Diethylbenzene	ND		ug/kg	2.7	2.7	1
p-Ethyltoluene	ND		ug/kg	2.7	0.16	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.7	0.10	1
Ethyl ether	ND		ug/kg	3.3	0.17	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.3	0.26	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	111		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	97		70-130

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/10/17 13:56		
Analyst:	JC		
Percent Solids:	78%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	6.8	1.1	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.18	1
Chloroform	0.33	J	ug/kg	1.0	0.25	1
Carbon tetrachloride	ND		ug/kg	0.68	0.23	1
1,2-Dichloropropane	ND		ug/kg	2.4	0.15	1
Dibromochloromethane	ND		ug/kg	0.68	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.21	1
Tetrachloroethene	ND		ug/kg	0.68	0.20	1
Chlorobenzene	ND		ug/kg	0.68	0.24	1
Trichlorofluoromethane	ND		ug/kg	3.4	0.28	1
1,2-Dichloroethane	ND		ug/kg	0.68	0.17	1
1,1,1-Trichloroethane	ND		ug/kg	0.68	0.24	1
Bromodichloromethane	ND		ug/kg	0.68	0.21	1
trans-1,3-Dichloropropene	ND		ug/kg	0.68	0.14	1
cis-1,3-Dichloropropene	ND		ug/kg	0.68	0.16	1
1,3-Dichloropropene, Total	ND		ug/kg	0.68	0.14	1
1,1-Dichloropropene	ND		ug/kg	3.4	0.22	1
Bromoform	ND		ug/kg	2.7	0.16	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.68	0.20	1
Benzene	ND		ug/kg	0.68	0.13	1
Toluene	ND		ug/kg	1.0	0.13	1
Ethylbenzene	ND		ug/kg	0.68	0.12	1
Chloromethane	0.54	J	ug/kg	3.4	0.30	1
Bromomethane	ND		ug/kg	1.4	0.23	1
Vinyl chloride	ND		ug/kg	1.4	0.21	1
Chloroethane	ND		ug/kg	1.4	0.21	1
1,1-Dichloroethene	ND		ug/kg	0.68	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.0	0.16	1
Trichloroethene	ND		ug/kg	0.68	0.20	1
1,2-Dichlorobenzene	ND		ug/kg	3.4	0.12	1

SAMPLE RESULTS

Lab ID: L1710511-02 Date Collected: 04/05/17 13:10

Client ID: DS02_1-2 Date Received: 04/05/17

Sample Location: 450 UNION STREET, BROOKLYN, NY Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.4	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	3.4	0.12	1
Methyl tert butyl ether	ND		ug/kg	1.4	0.10	1
p/m-Xylene	ND		ug/kg	1.4	0.24	1
o-Xylene	ND		ug/kg	1.4	0.23	1
Xylenes, Total	ND		ug/kg	1.4	0.23	1
cis-1,2-Dichloroethene	ND		ug/kg	0.68	0.23	1
1,2-Dichloroethene, Total	ND		ug/kg	0.68	0.16	1
Dibromomethane	ND		ug/kg	6.8	0.16	1
Styrene	ND		ug/kg	1.4	0.27	1
Dichlorodifluoromethane	ND		ug/kg	6.8	0.34	1
Acetone	5.8	J	ug/kg	6.8	1.6	1
Carbon disulfide	ND		ug/kg	6.8	0.75	1
2-Butanone	0.71	J	ug/kg	6.8	0.47	1
Vinyl acetate	ND		ug/kg	6.8	0.10	1
4-Methyl-2-pentanone	ND		ug/kg	6.8	0.16	1
1,2,3-Trichloropropane	ND		ug/kg	6.8	0.12	1
2-Hexanone	ND		ug/kg	6.8	0.45	1
Bromochloromethane	ND		ug/kg	3.4	0.24	1
2,2-Dichloropropane	ND		ug/kg	3.4	0.30	1
1,2-Dibromoethane	ND		ug/kg	2.7	0.14	1
1,3-Dichloropropane	ND		ug/kg	3.4	0.12	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.68	0.22	1
Bromobenzene	ND		ug/kg	3.4	0.15	1
n-Butylbenzene	ND		ug/kg	0.68	0.15	1
sec-Butylbenzene	ND		ug/kg	0.68	0.15	1
tert-Butylbenzene	ND		ug/kg	3.4	0.17	1
o-Chlorotoluene	ND		ug/kg	3.4	0.15	1
p-Chlorotoluene	ND		ug/kg	3.4	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	0.27	1
Hexachlorobutadiene	ND		ug/kg	3.4	0.24	1
Isopropylbenzene	ND		ug/kg	0.68	0.13	1
p-Isopropyltoluene	ND		ug/kg	0.68	0.14	1
Naphthalene	5.8		ug/kg	3.4	0.09	1
Acrylonitrile	ND		ug/kg	6.8	0.35	1
n-Propylbenzene	ND		ug/kg	0.68	0.15	1
1,2,3-Trichlorobenzene	ND		ug/kg	3.4	0.17	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.4	0.15	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.4	0.11	1

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	3.4	0.13	1
1,4-Dioxane	ND		ug/kg	27	9.8	1
p-Diethylbenzene	ND		ug/kg	2.7	2.7	1
p-Ethyltoluene	ND		ug/kg	2.7	0.16	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.7	0.10	1
Ethyl ether	ND		ug/kg	3.4	0.18	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.4	0.27	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	115		70-130
4-Bromofluorobenzene	116		70-130
Dibromofluoromethane	100		70-130

SAMPLE RESULTS

Lab ID: L1710511-03
Client ID: FB01_040517
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/12/17 10:28
Analyst: PD

Date Collected: 04/05/17 15:30
Date Received: 04/05/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by GC/MS - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	100		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/10/17 08:55
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02 Batch: WG992976-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
1,3-Dichloropropene, Total	ND		ug/kg	1.0	0.21
1,1-Dichloropropene	ND		ug/kg	5.0	0.33
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/10/17 08:55
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02 Batch: WG992976-5					
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.24
Dibromomethane	ND		ug/kg	10	0.24
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
Vinyl acetate	ND		ug/kg	10	0.15
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
1,2,3-Trichloropropane	ND		ug/kg	10	0.18
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
2,2-Dichloropropane	ND		ug/kg	5.0	0.45
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,3-Dichloropropane	ND		ug/kg	5.0	0.18
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	0.32
Bromobenzene	ND		ug/kg	5.0	0.22
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
o-Chlorotoluene	ND		ug/kg	5.0	0.22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/10/17 08:55
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02 Batch: WG992976-5					
p-Chlorotoluene	ND		ug/kg	5.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Hexachlorobutadiene	ND		ug/kg	5.0	0.35
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	ND		ug/kg	5.0	0.14
Acrylonitrile	ND		ug/kg	10	0.51
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19
1,4-Dioxane	ND		ug/kg	40	14.
p-Diethylbenzene	ND		ug/kg	4.0	4.0
p-Ethyltoluene	ND		ug/kg	4.0	0.23
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.0	0.16
Ethyl ether	ND		ug/kg	5.0	0.26
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	0.39

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/kg

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/10/17 08:55
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02 Batch: WG992976-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	96		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:47
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993071-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
1,3-Dichloropropene, Total	ND		ug/kg	1.0	0.21
1,1-Dichloropropene	ND		ug/kg	5.0	0.33
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8260C
Analytical Date:	04/11/17 08:47
Analyst:	CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993071-5					
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.24
Dibromomethane	ND		ug/kg	10	0.24
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
Vinyl acetate	ND		ug/kg	10	0.15
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
1,2,3-Trichloropropane	ND		ug/kg	10	0.18
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
2,2-Dichloropropane	ND		ug/kg	5.0	0.45
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,3-Dichloropropane	ND		ug/kg	5.0	0.18
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	0.32
Bromobenzene	ND		ug/kg	5.0	0.22
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
o-Chlorotoluene	ND		ug/kg	5.0	0.22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:47
Analyst: CBN

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993071-5					
p-Chlorotoluene	ND		ug/kg	5.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Hexachlorobutadiene	ND		ug/kg	5.0	0.35
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	ND		ug/kg	5.0	0.14
Acrylonitrile	ND		ug/kg	10	0.51
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19
1,4-Dioxane	ND		ug/kg	40	14.
p-Diethylbenzene	ND		ug/kg	4.0	4.0
p-Ethyltoluene	ND		ug/kg	4.0	0.23
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.0	0.16
Ethyl ether	ND		ug/kg	5.0	0.26
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	0.39

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/kg

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8260C
Analytical Date:	04/11/17 08:47
Analyst:	CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993071-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	96		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/12/17 09:33
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG993557-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/12/17 09:33
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG993557-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
Vinyl acetate	ND		ug/l	5.0	1.0
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/12/17 09:33
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG993557-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/l

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/12/17 09:33
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG993557-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02 Batch: WG992976-3 WG992976-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	73		75		70-130	3		30
1,1-Dichloroethane	108		111		70-130	3		30
Chloroform	99		102		70-130	3		30
Carbon tetrachloride	99		105		70-130	6		30
1,2-Dichloropropane	109		111		70-130	2		30
Dibromochloromethane	100		106		70-130	6		30
1,1,2-Trichloroethane	107		110		70-130	3		30
Tetrachloroethene	112		113		70-130	1		30
Chlorobenzene	107		110		70-130	3		30
Trichlorofluoromethane	102		102		70-139	0		30
1,2-Dichloroethane	92		94		70-130	2		30
1,1,1-Trichloroethane	102		104		70-130	2		30
Bromodichloromethane	94		98		70-130	4		30
trans-1,3-Dichloropropene	105		110		70-130	5		30
cis-1,3-Dichloropropene	103		106		70-130	3		30
1,1-Dichloropropene	110		113		70-130	3		30
Bromoform	88		94		70-130	7		30
1,1,2,2-Tetrachloroethane	108		111		70-130	3		30
Benzene	108		110		70-130	2		30
Toluene	108		111		70-130	3		30
Ethylbenzene	108		111		70-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02 Batch: WG992976-3 WG992976-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Chloromethane	115		121		52-130	5		30
Bromomethane	87		89		57-147	2		30
Vinyl chloride	111		110		67-130	1		30
Chloroethane	102		105		50-151	3		30
1,1-Dichloroethene	114		118		65-135	3		30
trans-1,2-Dichloroethene	107		109		70-130	2		30
Trichloroethene	103		106		70-130	3		30
1,2-Dichlorobenzene	105		106		70-130	1		30
1,3-Dichlorobenzene	107		110		70-130	3		30
1,4-Dichlorobenzene	108		110		70-130	2		30
Methyl tert butyl ether	96		99		66-130	3		30
p/m-Xylene	110		112		70-130	2		30
o-Xylene	108		110		70-130	2		30
cis-1,2-Dichloroethene	104		106		70-130	2		30
Dibromomethane	95		99		70-130	4		30
Styrene	107		109		70-130	2		30
Dichlorodifluoromethane	105		104		30-146	1		30
Acetone	97		92		54-140	5		30
Carbon disulfide	107		111		59-130	4		30
2-Butanone	88		91		70-130	3		30
Vinyl acetate	90		94		70-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02 Batch: WG992976-3 WG992976-4								
4-Methyl-2-pentanone	107		110		70-130	3		30
1,2,3-Trichloropropane	104		107		68-130	3		30
2-Hexanone	100		103		70-130	3		30
Bromochloromethane	100		104		70-130	4		30
2,2-Dichloropropane	104		107		70-130	3		30
1,2-Dibromoethane	101		104		70-130	3		30
1,3-Dichloropropane	107		110		69-130	3		30
1,1,1,2-Tetrachloroethane	105		110		70-130	5		30
Bromobenzene	104		107		70-130	3		30
n-Butylbenzene	116		117		70-130	1		30
sec-Butylbenzene	112		115		70-130	3		30
tert-Butylbenzene	110		112		70-130	2		30
o-Chlorotoluene	107		109		70-130	2		30
p-Chlorotoluene	109		111		70-130	2		30
1,2-Dibromo-3-chloropropane	87		93		68-130	7		30
Hexachlorobutadiene	109		112		67-130	3		30
Isopropylbenzene	110		113		70-130	3		30
p-Isopropyltoluene	111		112		70-130	1		30
Naphthalene	101		105		70-130	4		30
Acrylonitrile	111		113		70-130	2		30
n-Propylbenzene	112		115		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02 Batch: WG992976-3 WG992976-4								
1,2,3-Trichlorobenzene	104		108		70-130	4		30
1,2,4-Trichlorobenzene	108		110		70-130	2		30
1,3,5-Trimethylbenzene	108		111		70-130	3		30
1,2,4-Trimethylbenzene	109		111		70-130	2		30
1,4-Dioxane	112		117		65-136	4		30
p-Diethylbenzene	108		110		70-130	2		30
p-Ethyltoluene	105		108		70-130	3		30
1,2,4,5-Tetramethylbenzene	104		106		70-130	2		30
Ethyl ether	91		91		67-130	0		30
trans-1,4-Dichloro-2-butene	102		104		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		91		70-130
Toluene-d8	107		106		70-130
4-Bromofluorobenzene	102		103		70-130
Dibromofluoromethane	93		96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993071-3 WG993071-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Methylene chloride	**66**	Q	74		70-130	11		30
1,1-Dichloroethane	100		107		70-130	7		30
Chloroform	91		97		70-130	6		30
Carbon tetrachloride	92		100		70-130	8		30
1,2-Dichloropropane	100		107		70-130	7		30
Dibromochloromethane	93		101		70-130	8		30
1,1,2-Trichloroethane	97		103		70-130	6		30
Tetrachloroethene	102		106		70-130	4		30
Chlorobenzene	99		104		70-130	5		30
Trichlorofluoromethane	94		97		70-139	3		30
1,2-Dichloroethane	82		88		70-130	7		30
1,1,1-Trichloroethane	93		99		70-130	6		30
Bromodichloromethane	88		95		70-130	8		30
trans-1,3-Dichloropropene	97		104		70-130	7		30
cis-1,3-Dichloropropene	95		102		70-130	7		30
1,1-Dichloropropene	102		107		70-130	5		30
Bromoform	84		93		70-130	10		30
1,1,2,2-Tetrachloroethane	99		106		70-130	7		30
Benzene	100		106		70-130	6		30
Toluene	101		105		70-130	4		30
Ethylbenzene	100		105		70-130	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993071-3 WG993071-4								
Chloromethane	100		114		52-130	13		30
Bromomethane	81		89		57-147	9		30
Vinyl chloride	100		104		67-130	4		30
Chloroethane	97		101		50-151	4		30
1,1-Dichloroethene	94		111		65-135	17		30
trans-1,2-Dichloroethene	99		106		70-130	7		30
Trichloroethene	95		102		70-130	7		30
1,2-Dichlorobenzene	96		102		70-130	6		30
1,3-Dichlorobenzene	98		105		70-130	7		30
1,4-Dichlorobenzene	98		104		70-130	6		30
Methyl tert butyl ether	87		93		66-130	7		30
p/m-Xylene	100		107		70-130	7		30
o-Xylene	98		104		70-130	6		30
cis-1,2-Dichloroethene	96		102		70-130	6		30
Dibromomethane	86		93		70-130	8		30
Styrene	97		104		70-130	7		30
Dichlorodifluoromethane	87		91		30-146	4		30
Acetone	81		82		54-140	1		30
Carbon disulfide	119		**157**	Q	59-130	28		30
2-Butanone	76		85		70-130	11		30
Vinyl acetate	82		88		70-130	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993071-3 WG993071-4								
4-Methyl-2-pentanone	97		103		70-130	6		30
1,2,3-Trichloropropane	94		101		68-130	7		30
2-Hexanone	88		95		70-130	8		30
Bromochloromethane	93		100		70-130	7		30
2,2-Dichloropropane	96		102		70-130	6		30
1,2-Dibromoethane	92		97		70-130	5		30
1,3-Dichloropropane	98		103		69-130	5		30
1,1,1,2-Tetrachloroethane	99		106		70-130	7		30
Bromobenzene	96		102		70-130	6		30
n-Butylbenzene	104		111		70-130	7		30
sec-Butylbenzene	102		109		70-130	7		30
tert-Butylbenzene	99		106		70-130	7		30
o-Chlorotoluene	98		104		70-130	6		30
p-Chlorotoluene	99		106		70-130	7		30
1,2-Dibromo-3-chloropropane	80		91		68-130	13		30
Hexachlorobutadiene	100		107		67-130	7		30
Isopropylbenzene	101		106		70-130	5		30
p-Isopropyltoluene	101		107		70-130	6		30
Naphthalene	92		100		70-130	8		30
Acrylonitrile	98		106		70-130	8		30
n-Propylbenzene	102		108		70-130	6		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993071-3 WG993071-4								
1,2,3-Trichlorobenzene	97		103		70-130	6		30
1,2,4-Trichlorobenzene	100		107		70-130	7		30
1,3,5-Trimethylbenzene	98		106		70-130	8		30
1,2,4-Trimethylbenzene	99		105		70-130	6		30
1,4-Dioxane	93		104		65-136	11		30
p-Diethylbenzene	99		106		70-130	7		30
p-Ethyltoluene	96		102		70-130	6		30
1,2,4,5-Tetramethylbenzene	95		102		70-130	7		30
Ethyl ether	84		86		67-130	2		30
trans-1,4-Dichloro-2-butene	93		101		70-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		90		70-130
Toluene-d8	107		107		70-130
4-Bromofluorobenzene	102		101		70-130
Dibromofluoromethane	95		94		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993557-3 WG993557-4								
Methylene chloride	95		97		70-130	2		20
1,1-Dichloroethane	99		100		70-130	1		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	98		100		63-132	2		20
1,2-Dichloropropane	95		96		70-130	1		20
Dibromochloromethane	91		94		63-130	3		20
1,1,2-Trichloroethane	95		95		70-130	0		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	99		100		62-150	1		20
1,2-Dichloroethane	93		94		70-130	1		20
1,1,1-Trichloroethane	100		100		67-130	0		20
Bromodichloromethane	93		95		67-130	2		20
trans-1,3-Dichloropropene	96		94		70-130	2		20
cis-1,3-Dichloropropene	91		94		70-130	3		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	92		92		54-136	0		20
1,1,2,2-Tetrachloroethane	98		94		67-130	4		20
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		110		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993557-3 WG993557-4								
Chloromethane	96		96		64-130	0		20
Bromomethane	95		96		39-139	1		20
Vinyl chloride	100		110		55-140	10		20
Chloroethane	110		110		55-138	0		20
1,1-Dichloroethene	100		100		61-145	0		20
trans-1,2-Dichloroethene	99		100		70-130	1		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	99		97		70-130	2		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	100		100		70-130	0		20
Methyl tert butyl ether	78		77		63-130	1		20
p/m-Xylene	105		105		70-130	0		20
o-Xylene	105		110		70-130	5		20
cis-1,2-Dichloroethene	97		99		70-130	2		20
Dibromomethane	93		93		70-130	0		20
1,2,3-Trichloropropane	95		92		64-130	3		20
Acrylonitrile	87		83		70-130	5		20
Styrene	105		105		70-130	0		20
Dichlorodifluoromethane	95		100		36-147	5		20
Acetone	86		90		58-148	5		20
Carbon disulfide	120		**140**	Q	51-130	15		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993557-3 WG993557-4								
2-Butanone	82		80		63-138	2		20
Vinyl acetate	92		91		70-130	1		20
4-Methyl-2-pentanone	79		76		59-130	4		20
2-Hexanone	64		68		57-130	6		20
Bromochloromethane	94		99		70-130	5		20
2,2-Dichloropropane	97		95		63-133	2		20
1,2-Dibromoethane	90		91		70-130	1		20
1,3-Dichloropropane	94		95		70-130	1		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
Bromobenzene	100		100		70-130	0		20
n-Butylbenzene	100		100		53-136	0		20
sec-Butylbenzene	100		110		70-130	10		20
tert-Butylbenzene	92		92		70-130	0		20
o-Chlorotoluene	110		110		70-130	0		20
p-Chlorotoluene	100		110		70-130	10		20
1,2-Dibromo-3-chloropropane	82		82		41-144	0		20
Hexachlorobutadiene	100		100		63-130	0		20
Isopropylbenzene	110		110		70-130	0		20
p-Isopropyltoluene	93		93		70-130	0		20
Naphthalene	86		84		70-130	2		20
n-Propylbenzene	100		110		69-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993557-3 WG993557-4								
1,2,3-Trichlorobenzene	94		87		70-130	8		20
1,2,4-Trichlorobenzene	87		88		70-130	1		20
1,3,5-Trimethylbenzene	110		110		64-130	0		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20
1,4-Dioxane	80		80		56-162	0		20
p-Diethylbenzene	91		91		70-130	0		20
p-Ethyltoluene	110		110		70-130	0		20
1,2,4,5-Tetramethylbenzene	100		100		70-130	0		20
Ethyl ether	94		95		59-134	1		20
trans-1,4-Dichloro-2-butene	89		94		70-130	5		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		92		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	104		104		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/07/17 18:21
Analytical Date:	04/10/17 01:35		
Analyst:	CB		
Percent Solids:	77%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	570		ug/kg	170	22.	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	24.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	28.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
1,2-Dichlorobenzene	ND		ug/kg	210	38.	1
1,3-Dichlorobenzene	ND		ug/kg	210	36.	1
1,4-Dichlorobenzene	ND		ug/kg	210	37.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	56.	1
2,4-Dinitrotoluene	ND		ug/kg	210	42.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	13000	E	ug/kg	130	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	600	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	210		ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	73.	1
Butyl benzyl phthalate	ND		ug/kg	210	53.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	72.	1
Diethyl phthalate	ND		ug/kg	210	20.	1
Dimethyl phthalate	ND		ug/kg	210	44.	1

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	5200		ug/kg	130	24.	1
Benzo(a)pyrene	4900		ug/kg	170	51.	1
Benzo(b)fluoranthene	6100		ug/kg	130	35.	1
Benzo(k)fluoranthene	2000		ug/kg	130	34.	1
Chrysene	4800		ug/kg	130	22.	1
Acenaphthylene	380		ug/kg	170	32.	1
Anthracene	1900		ug/kg	130	41.	1
Benzo(ghi)perylene	3000		ug/kg	170	25.	1
Fluorene	620		ug/kg	210	20.	1
Phenanthrene	8800	E	ug/kg	130	26.	1
Dibenzo(a,h)anthracene	720		ug/kg	130	24.	1
Indeno(1,2,3-cd)pyrene	3300		ug/kg	170	29.	1
Pyrene	11000	E	ug/kg	130	21.	1
Biphenyl	56	J	ug/kg	480	49.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	41.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	87.	1
Dibenzofuran	420		ug/kg	210	20.	1
2-Methylnaphthalene	130	J	ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	40.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	70.	1
2-Nitrophenol	ND		ug/kg	460	79.	1
4-Nitrophenol	ND		ug/kg	300	86.	1
2,4-Dinitrophenol	ND		ug/kg	1000	98.	1
4,6-Dinitro-o-cresol	ND		ug/kg	550	100	1
Pentachlorophenol	ND		ug/kg	170	46.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	33.	1
3-Methylphenol/4-Methylphenol	34	J	ug/kg	300	33.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Benzoic Acid	ND		ug/kg	680	210	1
Benzyl Alcohol	ND		ug/kg	210	64.	1
Carbazole	700		ug/kg	210	20.	1

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	63		25-120
Phenol-d6	68		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	77		10-136
4-Terphenyl-d14	70		18-120

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

SAMPLE RESULTS

Lab ID:	L1710511-01 D	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/07/17 18:21
Analytical Date:	04/12/17 12:18		
Analyst:	CB		
Percent Solids:	77%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	14000		ug/kg	500	97.	4
Phenanthrene	10000		ug/kg	500	100	4
Pyrene	12000		ug/kg	500	84.	4

SAMPLE RESULTS

Lab ID: L1710511-02
Client ID: DS02_1-2
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/10/17 02:01
Analyst: CB
Percent Solids: 78%

Date Collected: 04/05/17 13:10
Date Received: 04/05/17
Field Prep: Not Specified
Extraction Method:EPA 3546
Extraction Date: 04/07/17 18:21

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	320		ug/kg	170	22.	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	24.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	29.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
1,2-Dichlorobenzene	ND		ug/kg	210	38.	1
1,3-Dichlorobenzene	ND		ug/kg	210	36.	1
1,4-Dichlorobenzene	ND		ug/kg	210	37.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	56.	1
2,4-Dinitrotoluene	ND		ug/kg	210	42.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	7100		ug/kg	130	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	600	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	130	J	ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	33.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	73.	1
Butyl benzyl phthalate	ND		ug/kg	210	53.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	72.	1
Diethyl phthalate	ND		ug/kg	210	20.	1
Dimethyl phthalate	ND		ug/kg	210	44.	1

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	3000		ug/kg	130	24.	1
Benzo(a)pyrene	2900		ug/kg	170	52.	1
Benzo(b)fluoranthene	3700		ug/kg	130	36.	1
Benzo(k)fluoranthene	1200		ug/kg	130	34.	1
Chrysene	3100		ug/kg	130	22.	1
Acenaphthylene	190		ug/kg	170	33.	1
Anthracene	950		ug/kg	130	41.	1
Benzo(ghi)perylene	1800		ug/kg	170	25.	1
Fluorene	320		ug/kg	210	20.	1
Phenanthrene	4900		ug/kg	130	26.	1
Dibenzo(a,h)anthracene	470		ug/kg	130	24.	1
Indeno(1,2,3-cd)pyrene	1900		ug/kg	170	29.	1
Pyrene	6300		ug/kg	130	21.	1
Biphenyl	ND		ug/kg	480	49.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	41.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	87.	1
Dibenzofuran	200	J	ug/kg	210	20.	1
2-Methylnaphthalene	76	J	ug/kg	250	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	40.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	70.	1
2-Nitrophenol	ND		ug/kg	460	79.	1
4-Nitrophenol	ND		ug/kg	300	86.	1
2,4-Dinitrophenol	ND		ug/kg	1000	98.	1
4,6-Dinitro-o-cresol	ND		ug/kg	550	100	1
Pentachlorophenol	ND		ug/kg	170	46.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	33.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	33.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Benzoic Acid	ND		ug/kg	680	210	1
Benzyl Alcohol	ND		ug/kg	210	65.	1
Carbazole	410		ug/kg	210	20.	1

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
2-Fluorophenol	55		25-120
Phenol-d6	60		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	58		30-120
2,4,6-Tribromophenol	69		10-136
4-Terphenyl-d14	56		18-120

SAMPLE RESULTS

Lab ID: L1710511-03
Client ID: FB01_040517
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 04/07/17 23:40
Analyst: KV

Date Collected: 04/05/17 15:30
Date Received: 04/05/17
Field Prep: Not Specified
Extraction Method:EPA 3510C
Extraction Date: 04/06/17 19:51

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66	1
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67	1
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73	1
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69	1
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4	1
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84	1
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63	1
Hexachlorocyclopentadiene	ND		ug/l	20	7.8	1
Isophorone	ND		ug/l	5.0	0.60	1
Nitrobenzene	ND		ug/l	2.0	0.75	1
NDPA/DPA	ND		ug/l	2.0	0.64	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70	1
Bis(2-ethylhexyl)phthalate	2.8	JB	ug/l	3.0	0.91	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.3	1
Di-n-butylphthalate	ND		ug/l	5.0	0.69	1
Di-n-octylphthalate	ND		ug/l	5.0	1.1	1
Diethyl phthalate	ND		ug/l	5.0	0.63	1
Dimethyl phthalate	ND		ug/l	5.0	0.65	1
Biphenyl	ND		ug/l	2.0	0.76	1
4-Chloroaniline	ND		ug/l	5.0	0.63	1
2-Nitroaniline	ND		ug/l	5.0	1.1	1
3-Nitroaniline	ND		ug/l	5.0	1.2	1
4-Nitroaniline	ND		ug/l	5.0	1.3	1
Dibenzofuran	ND		ug/l	2.0	0.66	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.67	1

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acetophenone	ND		ug/l	5.0	0.85	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68	1
p-Chloro-m-cresol	ND		ug/l	2.0	0.62	1
2-Chlorophenol	ND		ug/l	2.0	0.63	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.77	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.6	1
2-Nitrophenol	ND		ug/l	10	1.5	1
4-Nitrophenol	ND		ug/l	10	1.8	1
2,4-Dinitrophenol	ND		ug/l	20	5.5	1
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1	1
Phenol	ND		ug/l	5.0	1.9	1
2-Methylphenol	ND		ug/l	5.0	1.0	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72	1
Benzoic Acid	ND		ug/l	50	13.	1
Benzyl Alcohol	ND		ug/l	2.0	0.72	1
Carbazole	ND		ug/l	2.0	0.63	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	48		21-120
Phenol-d6	35		10-120
Nitrobenzene-d5	106		23-120
2-Fluorobiphenyl	103		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	113		41-149

SAMPLE RESULTS

Lab ID: L1710511-03
Client ID: FB01_040517
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 04/07/17 18:42
Analyst: KL

Date Collected: 04/05/17 15:30
Date Received: 04/05/17
Field Prep: Not Specified
Extraction Method:EPA 3510C
Extraction Date: 04/06/17 19:51

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.03	1
2-Chloronaphthalene	ND		ug/l	0.19	0.03	1
Fluoranthene	ND		ug/l	0.19	0.04	1
Hexachlorobutadiene	ND		ug/l	0.48	0.03	1
Naphthalene	ND		ug/l	0.19	0.04	1
Benzo(a)anthracene	ND		ug/l	0.19	0.02	1
Benzo(a)pyrene	ND		ug/l	0.19	0.04	1
Benzo(b)fluoranthene	ND		ug/l	0.19	0.02	1
Benzo(k)fluoranthene	ND		ug/l	0.19	0.04	1
Chrysene	ND		ug/l	0.19	0.04	1
Acenaphthylene	ND		ug/l	0.19	0.03	1
Anthracene	ND		ug/l	0.19	0.03	1
Benzo(ghi)perylene	ND		ug/l	0.19	0.04	1
Fluorene	ND		ug/l	0.19	0.04	1
Phenanthrene	ND		ug/l	0.19	0.01	1
Dibenzo(a,h)anthracene	ND		ug/l	0.19	0.04	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.19	0.04	1
Pyrene	ND		ug/l	0.19	0.04	1
2-Methylnaphthalene	ND		ug/l	0.19	0.04	1
Pentachlorophenol	ND		ug/l	0.76	0.21	1
Hexachlorobenzene	ND		ug/l	0.76	0.03	1
Hexachloroethane	ND		ug/l	0.76	0.03	1

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
2-Fluorophenol	36		21-120
Phenol-d6	26		10-120
Nitrobenzene-d5	85		23-120
2-Fluorobiphenyl	71		15-120
2,4,6-Tribromophenol	74		10-120
4-Terphenyl-d14	76		41-149

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8270D	Extraction Method:	EPA 3510C
Analytical Date:	04/07/17 19:23	Extraction Date:	04/06/17 19:51
Analyst:	CB		

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG991872-1					
Acenaphthene	ND		ug/l	2.0	0.59
1,2,4-Trichlorobenzene	ND		ug/l	5.0	0.66
Hexachlorobenzene	ND		ug/l	2.0	0.58
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.67
2-Chloronaphthalene	ND		ug/l	2.0	0.64
1,2-Dichlorobenzene	ND		ug/l	2.0	0.73
1,3-Dichlorobenzene	ND		ug/l	2.0	0.69
1,4-Dichlorobenzene	ND		ug/l	2.0	0.71
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.4
2,4-Dinitrotoluene	ND		ug/l	5.0	0.84
2,6-Dinitrotoluene	ND		ug/l	5.0	1.1
Fluoranthene	ND		ug/l	2.0	0.57
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.62
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.73
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.70
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.63
Hexachlorobutadiene	ND		ug/l	2.0	0.72
Hexachlorocyclopentadiene	ND		ug/l	20	7.8
Hexachloroethane	ND		ug/l	2.0	0.68
Isophorone	ND		ug/l	5.0	0.60
Naphthalene	ND		ug/l	2.0	0.68
Nitrobenzene	ND		ug/l	2.0	0.75
NDPA/DPA	ND		ug/l	2.0	0.64
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.70
Bis(2-ethylhexyl)phthalate	4.0		ug/l	3.0	0.91
Butyl benzyl phthalate	ND		ug/l	5.0	1.3
Di-n-butylphthalate	ND		ug/l	5.0	0.69
Di-n-octylphthalate	ND		ug/l	5.0	1.1
Diethyl phthalate	ND		ug/l	5.0	0.63

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/07/17 19:23
Analyst: CB

Extraction Method: EPA 3510C
Extraction Date: 04/06/17 19:51

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG991872-1					
Dimethyl phthalate	ND		ug/l	5.0	0.65
Benzo(a)anthracene	ND		ug/l	2.0	0.61
Benzo(a)pyrene	ND		ug/l	2.0	0.54
Benzo(b)fluoranthene	ND		ug/l	2.0	0.64
Benzo(k)fluoranthene	ND		ug/l	2.0	0.60
Chrysene	ND		ug/l	2.0	0.54
Acenaphthylene	ND		ug/l	2.0	0.66
Anthracene	ND		ug/l	2.0	0.64
Benzo(ghi)perylene	ND		ug/l	2.0	0.61
Fluorene	ND		ug/l	2.0	0.62
Phenanthrene	ND		ug/l	2.0	0.61
Dibenzo(a,h)anthracene	ND		ug/l	2.0	0.55
Indeno(1,2,3-cd)pyrene	ND		ug/l	2.0	0.71
Pyrene	ND		ug/l	2.0	0.57
Biphenyl	ND		ug/l	2.0	0.76
4-Chloroaniline	ND		ug/l	5.0	0.63
2-Nitroaniline	ND		ug/l	5.0	1.1
3-Nitroaniline	ND		ug/l	5.0	1.2
4-Nitroaniline	ND		ug/l	5.0	1.3
Dibenzofuran	ND		ug/l	2.0	0.66
2-Methylnaphthalene	ND		ug/l	2.0	0.72
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.67
Acetophenone	ND		ug/l	5.0	0.85
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.68
p-Chloro-m-cresol	ND		ug/l	2.0	0.62
2-Chlorophenol	ND		ug/l	2.0	0.63
2,4-Dichlorophenol	ND		ug/l	5.0	0.77
2,4-Dimethylphenol	ND		ug/l	5.0	1.6
2-Nitrophenol	ND		ug/l	10	1.5

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8270D	Extraction Method:	EPA 3510C
Analytical Date:	04/07/17 19:23	Extraction Date:	04/06/17 19:51
Analyst:	CB		

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG991872-1					
4-Nitrophenol	ND		ug/l	10	1.8
2,4-Dinitrophenol	ND		ug/l	20	5.5
4,6-Dinitro-o-cresol	ND		ug/l	10	2.1
Pentachlorophenol	ND		ug/l	10	3.4
Phenol	ND		ug/l	5.0	1.9
2-Methylphenol	ND		ug/l	5.0	1.0
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	1.1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.72
Benzoic Acid	ND		ug/l	50	13.
Benzyl Alcohol	ND		ug/l	2.0	0.72
Carbazole	ND		ug/l	2.0	0.63

Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	40		21-120
Phenol-d6	30		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	94		10-120
4-Terphenyl-d14	88		41-149

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/07/17 15:38
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 04/06/17 19:51

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 03 Batch: WG991875-1					
Acenaphthene	ND		ug/l	0.10	0.04
2-Chloronaphthalene	ND		ug/l	0.20	0.04
Fluoranthene	ND		ug/l	0.20	0.04
Hexachlorobutadiene	ND		ug/l	0.50	0.04
Naphthalene	ND		ug/l	0.20	0.04
Benzo(a)anthracene	ND		ug/l	0.20	0.02
Benzo(a)pyrene	ND		ug/l	0.20	0.04
Benzo(b)fluoranthene	ND		ug/l	0.20	0.02
Benzo(k)fluoranthene	ND		ug/l	0.20	0.04
Chrysene	ND		ug/l	0.20	0.04
Acenaphthylene	ND		ug/l	0.20	0.04
Anthracene	ND		ug/l	0.20	0.04
Benzo(ghi)perylene	ND		ug/l	0.20	0.04
Fluorene	ND		ug/l	0.20	0.04
Phenanthrene	ND		ug/l	0.20	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.20	0.04
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.20	0.04
Pyrene	ND		ug/l	0.20	0.04
2-Methylnaphthalene	ND		ug/l	0.20	0.05
Pentachlorophenol	ND		ug/l	0.80	0.22
Hexachlorobenzene	ND		ug/l	0.80	0.03
Hexachloroethane	ND		ug/l	0.80	0.03

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 04/07/17 15:38
Analyst: KL

Extraction Method: EPA 3510C
Extraction Date: 04/06/17 19:51

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 03 Batch: WG991875-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		21-120
Phenol-d6	37		10-120
Nitrobenzene-d5	100		23-120
2-Fluorobiphenyl	90		15-120
2,4,6-Tribromophenol	**126**	Q	10-120
4-Terphenyl-d14	102		41-149

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/08/17 22:46
Analyst: KV

Extraction Method: EPA 3546
Extraction Date: 04/07/17 18:21

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG992228-1					
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	28.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/08/17 22:46
Analyst: KV

Extraction Method: EPA 3546
Extraction Date: 04/07/17 18:21

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG992228-1					
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	27.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/08/17 22:46
Analyst: KV

Extraction Method: EPA 3546
Extraction Date: 04/07/17 18:21

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG992228-1					
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	530	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.

Tentatively Identified Compounds			
No Tentatively Identified Compounds	ND		ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		25-120
Phenol-d6	74		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	73		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	78		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG991872-2 WG991872-3								
Acenaphthene	89		84		37-111	6		30
1,2,4-Trichlorobenzene	85		82		39-98	4		30
Hexachlorobenzene	102		98		40-140	4		30
Bis(2-chloroethyl)ether	81		80		40-140	1		30
2-Chloronaphthalene	94		88		40-140	7		30
1,2-Dichlorobenzene	76		77		40-140	1		30
1,3-Dichlorobenzene	72		73		40-140	1		30
1,4-Dichlorobenzene	74		74		36-97	0		30
3,3'-Dichlorobenzidine	74		72		40-140	3		30
2,4-Dinitrotoluene	104		100		48-143	4		30
2,6-Dinitrotoluene	104		101		40-140	3		30
Fluoranthene	95		91		40-140	4		30
4-Chlorophenyl phenyl ether	94		88		40-140	7		30
4-Bromophenyl phenyl ether	102		98		40-140	4		30
Bis(2-chloroisopropyl)ether	78		76		40-140	3		30
Bis(2-chloroethoxy)methane	92		89		40-140	3		30
Hexachlorobutadiene	83		76		40-140	9		30
Hexachlorocyclopentadiene	88		85		40-140	3		30
Hexachloroethane	75		71		40-140	5		30
Isophorone	94		90		40-140	4		30
Naphthalene	84		81		40-140	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG991872-2 WG991872-3								
Nitrobenzene	92		91		40-140	1		30
NDPA/DPA	94		90		40-140	4		30
n-Nitrosodi-n-propylamine	91		87		29-132	4		30
Bis(2-ethylhexyl)phthalate	102		98		40-140	4		30
Butyl benzyl phthalate	99		94		40-140	5		30
Di-n-butylphthalate	96		90		40-140	6		30
Di-n-octylphthalate	96		92		40-140	4		30
Diethyl phthalate	97		93		40-140	4		30
Dimethyl phthalate	103		98		40-140	5		30
Benzo(a)anthracene	87		83		40-140	5		30
Benzo(a)pyrene	91		88		40-140	3		30
Benzo(b)fluoranthene	90		86		40-140	5		30
Benzo(k)fluoranthene	90		86		40-140	5		30
Chrysene	86		83		40-140	4		30
Acenaphthylene	97		92		45-123	5		30
Anthracene	91		87		40-140	4		30
Benzo(ghi)perylene	93		91		40-140	2		30
Fluorene	95		89		40-140	7		30
Phenanthrene	91		86		40-140	6		30
Dibenzo(a,h)anthracene	93		91		40-140	2		30
Indeno(1,2,3-cd)pyrene	95		92		40-140	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG991872-2 WG991872-3								
Pyrene	94		89		26-127	5		30
Biphenyl	99		94		40-140	5		30
4-Chloroaniline	70		66		40-140	6		30
2-Nitroaniline	114		110		52-143	4		30
3-Nitroaniline	89		87		25-145	2		30
4-Nitroaniline	106		103		51-143	3		30
Dibenzofuran	92		87		40-140	6		30
2-Methylnaphthalene	90		86		40-140	5		30
1,2,4,5-Tetrachlorobenzene	97		91		2-134	6		30
Acetophenone	94		92		39-129	2		30
2,4,6-Trichlorophenol	106		101		30-130	5		30
p-Chloro-m-cresol	**98**	Q	96		23-97	2		30
2-Chlorophenol	82		82		27-123	0		30
2,4-Dichlorophenol	99		95		30-130	4		30
2,4-Dimethylphenol	90		75		30-130	18		30
2-Nitrophenol	106		103		30-130	3		30
4-Nitrophenol	64		62		10-80	3		30
2,4-Dinitrophenol	113		116		20-130	3		30
4,6-Dinitro-o-cresol	121		118		20-164	3		30
Pentachlorophenol	101		98		9-103	3		30
Phenol	37		36		12-110	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG991872-2 WG991872-3								
2-Methylphenol	77		74		30-130	4		30
3-Methylphenol/4-Methylphenol	74		72		30-130	3		30
2,4,5-Trichlorophenol	104		103		30-130	1		30
Benzoic Acid	48		48		10-164	0		30
Benzyl Alcohol	80		78		26-116	3		30
Carbazole	93		89		55-144	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	51		51		21-120
Phenol-d6	40		38		10-120
Nitrobenzene-d5	92		90		23-120
2-Fluorobiphenyl	91		86		15-120
2,4,6-Tribromophenol	110		108		10-120
4-Terphenyl-d14	94		91		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 03 Batch: WG991875-2 WG991875-3								
Acenaphthene	80		82		37-111	2		40
2-Chloronaphthalene	90		93		40-140	3		40
Fluoranthene	89		92		40-140	3		40
Hexachlorobutadiene	90		96		40-140	6		40
Naphthalene	78		83		40-140	6		40
Benzo(a)anthracene	89		92		40-140	3		40
Benzo(a)pyrene	90		96		40-140	6		40
Benzo(b)fluoranthene	88		91		40-140	3		40
Benzo(k)fluoranthene	83		88		40-140	6		40
Chrysene	82		85		40-140	4		40
Acenaphthylene	94		96		40-140	2		40
Anthracene	89		92		40-140	3		40
Benzo(ghi)perylene	95		98		40-140	3		40
Fluorene	88		90		40-140	2		40
Phenanthrene	80		82		40-140	2		40
Dibenzo(a,h)anthracene	95		99		40-140	4		40
Indeno(1,2,3-cd)pyrene	100		104		40-140	4		40
Pyrene	89		92		26-127	3		40
2-Methylnaphthalene	86		89		40-140	3		40
Pentachlorophenol	75		78		9-103	4		40
Hexachlorobenzene	87		90		40-140	3		40

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 03 Batch: WG991875-2 WG991875-3								
Hexachloroethane	72		79		40-140	9		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	50		54		21-120
Phenol-d6	37		40		10-120
Nitrobenzene-d5	100		106		23-120
2-Fluorobiphenyl	86		89		15-120
2,4,6-Tribromophenol	115		117		10-120
4-Terphenyl-d14	86		90		41-149

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG992228-2 WG992228-3								
Acenaphthene	67		70		31-137	4		50
1,2,4-Trichlorobenzene	67		75		38-107	11		50
Hexachlorobenzene	76		81		40-140	6		50
Bis(2-chloroethyl)ether	64		72		40-140	12		50
2-Chloronaphthalene	72		78		40-140	8		50
1,2-Dichlorobenzene	62		71		40-140	14		50
1,3-Dichlorobenzene	62		69		40-140	11		50
1,4-Dichlorobenzene	63		69		28-104	9		50
3,3'-Dichlorobenzidine	42		47		40-140	11		50
2,4-Dinitrotoluene	78		82		40-132	5		50
2,6-Dinitrotoluene	76		83		40-140	9		50
Fluoranthene	72		78		40-140	8		50
4-Chlorophenyl phenyl ether	70		76		40-140	8		50
4-Bromophenyl phenyl ether	77		80		40-140	4		50
Bis(2-chloroisopropyl)ether	59		67		40-140	13		50
Bis(2-chloroethoxy)methane	68		75		40-117	10		50
Hexachlorobutadiene	67		74		40-140	10		50
Hexachlorocyclopentadiene	75		84		40-140	11		50
Hexachloroethane	62		71		40-140	14		50
Isophorone	68		75		40-140	10		50
Naphthalene	66		73		40-140	10		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG992228-2 WG992228-3								
Nitrobenzene	70		79		40-140	12		50
NDPA/DPA	71		76		36-157	7		50
n-Nitrosodi-n-propylamine	66		74		32-121	11		50
Bis(2-ethylhexyl)phthalate	66		72		40-140	9		50
Butyl benzyl phthalate	76		82		40-140	8		50
Di-n-butylphthalate	68		76		40-140	11		50
Di-n-octylphthalate	68		75		40-140	10		50
Diethyl phthalate	70		76		40-140	8		50
Dimethyl phthalate	76		81		40-140	6		50
Benzo(a)anthracene	64		70		40-140	9		50
Benzo(a)pyrene	70		76		40-140	8		50
Benzo(b)fluoranthene	69		74		40-140	7		50
Benzo(k)fluoranthene	69		74		40-140	7		50
Chrysene	64		68		40-140	6		50
Acenaphthylene	74		80		40-140	8		50
Anthracene	68		74		40-140	8		50
Benzo(ghi)perylene	71		77		40-140	8		50
Fluorene	69		75		40-140	8		50
Phenanthrene	68		73		40-140	7		50
Dibenzo(a,h)anthracene	72		77		40-140	7		50
Indeno(1,2,3-cd)pyrene	72		78		40-140	8		50

Lab Control Sample Analysis
Batch Quality Control

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG992228-2 WG992228-3								
Pyrene	71		78		35-142	9		50
Biphenyl	74		80		54-104	8		50
4-Chloroaniline	54		46		40-140	16		50
2-Nitroaniline	84		90		47-134	7		50
3-Nitroaniline	64		68		26-129	6		50
4-Nitroaniline	84		89		41-125	6		50
Dibenzofuran	69		74		40-140	7		50
2-Methylnaphthalene	68		75		40-140	10		50
1,2,4,5-Tetrachlorobenzene	77		82		40-117	6		50
Acetophenone	71		80		14-144	12		50
2,4,6-Trichlorophenol	80		86		30-130	7		50
p-Chloro-m-cresol	76		83		26-103	9		50
2-Chlorophenol	69		77		25-102	11		50
2,4-Dichlorophenol	76		85		30-130	11		50
2,4-Dimethylphenol	77		84		30-130	9		50
2-Nitrophenol	78		88		30-130	12		50
4-Nitrophenol	83		90		11-114	8		50
2,4-Dinitrophenol	61		73		4-130	18		50
4,6-Dinitro-o-cresol	89		94		10-130	5		50
Pentachlorophenol	71		78		17-109	9		50
Phenol	66		74		26-90	11		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG992228-2 WG992228-3								
2-Methylphenol	70		78		30-130.	11		50
3-Methylphenol/4-Methylphenol	72		80		30-130	11		50
2,4,5-Trichlorophenol	80		87		30-130	8		50
Benzoic Acid	**0**	Q	**0**	Q	10-110	NC		50
Benzyl Alcohol	70		79		40-140	12		50
Carbazole	69		75		54-128	8		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	67		76		25-120
Phenol-d6	70		78		10-120
Nitrobenzene-d5	72		83		23-120
2-Fluorobiphenyl	71		78		30-120
2,4,6-Tribromophenol	85		94		10-136
4-Terphenyl-d14	74		80		18-120

PCBS

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/07/17 05:04
Analytical Date:	04/10/17 04:53	Cleanup Method:	EPA 3665A
Analyst:	JW	Cleanup Date:	04/07/17
Percent Solids:	77%	Cleanup Method:	EPA 3660B
		Cleanup Date:	04/07/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.0	3.24	1	A
Aroclor 1221	ND		ug/kg	41.0	3.78	1	A
Aroclor 1232	ND		ug/kg	41.0	4.80	1	A
Aroclor 1242	ND		ug/kg	41.0	5.02	1	A
Aroclor 1248	ND		ug/kg	41.0	3.46	1	A
Aroclor 1254	ND		ug/kg	41.0	3.37	1	A
Aroclor 1260	ND		ug/kg	41.0	3.12	1	A
Aroclor 1262	ND		ug/kg	41.0	2.03	1	A
Aroclor 1268	ND		ug/kg	41.0	5.94	1	A
PCBs, Total	ND		ug/kg	41.0	2.03	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	55		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	58		30-150	B

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/07/17 05:04
Analytical Date:	04/10/17 05:05	Cleanup Method:	EPA 3665A
Analyst:	JW	Cleanup Date:	04/07/17
Percent Solids:	78%	Cleanup Method:	EPA 3660B
		Cleanup Date:	04/07/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.9	3.31	1	A
Aroclor 1221	ND		ug/kg	41.9	3.86	1	A
Aroclor 1232	ND		ug/kg	41.9	4.91	1	A
Aroclor 1242	ND		ug/kg	41.9	5.12	1	A
Aroclor 1248	ND		ug/kg	41.9	3.53	1	A
Aroclor 1254	ND		ug/kg	41.9	3.44	1	A
Aroclor 1260	8.48	J	ug/kg	41.9	3.19	1	B
Aroclor 1262	ND		ug/kg	41.9	2.08	1	A
Aroclor 1268	ND		ug/kg	41.9	6.07	1	A
PCBs, Total	8.48	J	ug/kg	41.9	3.19	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	49		30-150	A
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	49		30-150	B

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8082A	Extraction Date:	04/08/17 05:13
Analytical Date:	04/11/17 04:48	Cleanup Method:	EPA 3665A
Analyst:	JW	Cleanup Date:	04/08/17
		Cleanup Method:	EPA 3660B
		Cleanup Date:	04/09/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.055	1	A
Aroclor 1221	ND		ug/l	0.083	0.053	1	A
Aroclor 1232	ND		ug/l	0.083	0.031	1	A
Aroclor 1242	ND		ug/l	0.083	0.060	1	A
Aroclor 1248	ND		ug/l	0.083	0.051	1	A
Aroclor 1254	ND		ug/l	0.083	0.034	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A
Aroclor 1262	ND		ug/l	0.083	0.029	1	A
Aroclor 1268	ND		ug/l	0.083	0.038	1	A
PCBs, Total	ND		ug/l	0.083	0.029	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	68		30-150	A
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	68		30-150	B

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 04/10/17 03:50
Analyst: HT

Extraction Method: EPA 3546
Extraction Date: 04/07/17 05:04
Cleanup Method: EPA 3665A
Cleanup Date: 04/07/17
Cleanup Method: EPA 3660B
Cleanup Date: 04/07/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-02 Batch: WG991956-1						
Aroclor 1016	ND		ug/kg	32.0	2.53	A
Aroclor 1221	ND		ug/kg	32.0	2.96	A
Aroclor 1232	ND		ug/kg	32.0	3.76	A
Aroclor 1242	ND		ug/kg	32.0	3.92	A
Aroclor 1248	ND		ug/kg	32.0	2.70	A
Aroclor 1254	ND		ug/kg	32.0	2.63	A
Aroclor 1260	ND		ug/kg	32.0	2.44	A
Aroclor 1262	ND		ug/kg	32.0	1.59	A
Aroclor 1268	ND		ug/kg	32.0	4.65	A
PCBs, Total	ND		ug/kg	32.0	1.59	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	80		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	75		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 04/11/17 02:52
Analyst: JA

Extraction Method: EPA 3510C
Extraction Date: 04/08/17 05:13
Cleanup Method: EPA 3665A
Cleanup Date: 04/08/17
Cleanup Method: EPA 3660B
Cleanup Date: 04/09/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 03 Batch: WG992318-1						
Aroclor 1016	ND		ug/l	0.008	0.006	A
Aroclor 1221	ND		ug/l	0.008	0.005	A
Aroclor 1232	ND		ug/l	0.008	0.003	A
Aroclor 1242	ND		ug/l	0.008	0.006	A
Aroclor 1248	ND		ug/l	0.008	0.005	A
Aroclor 1254	ND		ug/l	0.008	0.003	A
Aroclor 1260	ND		ug/l	0.008	0.003	A
Aroclor 1262	ND		ug/l	0.008	0.003	A
Aroclor 1268	ND		ug/l	0.008	0.004	A
PCBs, Total	ND		ug/l	0.008	0.003	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	75		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	71		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG991956-2 WG991956-3									
Aroclor 1016	92		89		40-140	3		50	A
Aroclor 1260	88		86		40-140	2		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	100		97		30-150	A
Decachlorobiphenyl	87		87		30-150	A
2,4,5,6-Tetrachloro-m-xylene	93		90		30-150	B
Decachlorobiphenyl	85		83		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 03 Batch: WG992318-2 WG992318-3									
Aroclor 1016	98		105		40-140	7		50	A
Aroclor 1260	95		104		40-140	9		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		85		30-150	A
Decachlorobiphenyl	71		76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		86		30-150	B
Decachlorobiphenyl	70		74		30-150	B

PESTICIDES

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8081B	Extraction Date:	04/07/17 04:01
Analytical Date:	04/08/17 14:41	Cleanup Method:	EPA 3620B
Analyst:	DM	Cleanup Date:	04/07/17
Percent Solids:	77%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	2.03	0.398	1	A
Lindane	ND		ug/kg	0.847	0.378	1	A
Alpha-BHC	ND		ug/kg	0.847	0.240	1	A
Beta-BHC	ND		ug/kg	2.03	0.770	1	A
Heptachlor	ND		ug/kg	1.02	0.455	1	A
Aldrin	ND		ug/kg	2.03	0.715	1	A
Heptachlor epoxide	ND		ug/kg	3.81	1.14	1	A
Endrin	3.77	P	ug/kg	0.847	0.347	1	A
Endrin aldehyde	ND		ug/kg	2.54	0.889	1	A
Endrin ketone	ND		ug/kg	2.03	0.523	1	A
Dieldrin	ND		ug/kg	1.27	0.635	1	A
4,4'-DDE	ND		ug/kg	2.03	0.470	1	A
4,4'-DDD	ND		ug/kg	2.03	0.725	1	A
4,4'-DDT	ND		ug/kg	3.81	1.63	1	A
Endosulfan I	ND		ug/kg	2.03	0.480	1	A
Endosulfan II	ND		ug/kg	2.03	0.679	1	A
Endosulfan sulfate	ND		ug/kg	0.847	0.403	1	A
Methoxychlor	ND		ug/kg	3.81	1.18	1	A
Toxaphene	ND		ug/kg	38.1	10.7	1	A
cis-Chlordane	ND		ug/kg	2.54	0.708	1	A
trans-Chlordane	ND		ug/kg	2.54	0.670	1	A
Chlordane	ND		ug/kg	16.5	6.73	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	109		30-150	B
2,4,5,6-Tetrachloro-m-xylene	84		30-150	A
Decachlorobiphenyl	108		30-150	A

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	04/07/17 00:33
Analytical Date:	04/08/17 15:28		
Analyst:	DM		
Percent Solids:	77%		
Methylation Date:	04/07/17 13:42		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	213	13.4	1	A
2,4,5-T	ND		ug/kg	213	6.60	1	A
2,4,5-TP (Silvex)	ND		ug/kg	213	5.67	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
DCAA	105		30-150	A
DCAA	77		30-150	B

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8081B	Extraction Date:	04/07/17 04:01
Analytical Date:	04/08/17 14:57	Cleanup Method:	EPA 3620B
Analyst:	DM	Cleanup Date:	04/07/17
Percent Solids:	78%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.92	0.377	1	A
Lindane	ND		ug/kg	0.802	0.358	1	A
Alpha-BHC	ND		ug/kg	0.802	0.228	1	A
Beta-BHC	ND		ug/kg	1.92	0.730	1	A
Heptachlor	ND		ug/kg	0.963	0.432	1	A
Aldrin	ND		ug/kg	1.92	0.678	1	A
Heptachlor epoxide	ND		ug/kg	3.61	1.08	1	A
Endrin	11.5		ug/kg	0.802	0.329	1	A
Endrin aldehyde	ND		ug/kg	2.41	0.842	1	A
Endrin ketone	ND		ug/kg	1.92	0.496	1	A
Dieldrin	ND		ug/kg	1.20	0.602	1	A
4,4'-DDE	3.10		ug/kg	1.92	0.445	1	A
4,4'-DDD	ND		ug/kg	1.92	0.687	1	A
4,4'-DDT	ND		ug/kg	3.61	1.55	1	A
Endosulfan I	ND		ug/kg	1.92	0.455	1	A
Endosulfan II	ND		ug/kg	1.92	0.643	1	A
Endosulfan sulfate	ND		ug/kg	0.802	0.382	1	A
Methoxychlor	ND		ug/kg	3.61	1.12	1	A
Toxaphene	ND		ug/kg	36.1	10.1	1	A
cis-Chlordane	ND		ug/kg	2.41	0.671	1	A
trans-Chlordane	ND		ug/kg	2.41	0.635	1	A
Chlordane	ND		ug/kg	15.6	6.38	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	146		30-150	B
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	137		30-150	A

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	04/07/17 00:33
Analytical Date:	04/08/17 15:49		
Analyst:	DM		
Percent Solids:	78%		
Methylation Date:	04/07/17 13:42		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	211	13.3	1	A
2,4,5-T	ND		ug/kg	211	6.54	1	A
2,4,5-TP (Silvex)	ND		ug/kg	211	5.61	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
DCAA	101		30-150	A
DCAA	74		30-150	B

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 3510C
Analytical Method:	1,8081B	Extraction Date:	04/06/17 14:12
Analytical Date:	04/07/17 17:04		
Analyst:	KEG		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.020	0.005	1	A
Lindane	ND		ug/l	0.020	0.004	1	A
Alpha-BHC	ND		ug/l	0.020	0.004	1	A
Beta-BHC	ND		ug/l	0.020	0.006	1	A
Heptachlor	ND		ug/l	0.020	0.003	1	A
Aldrin	ND		ug/l	0.020	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	1	A
Endrin	ND		ug/l	0.040	0.004	1	A
Endrin aldehyde	ND		ug/l	0.040	0.008	1	A
Endrin ketone	ND		ug/l	0.040	0.005	1	A
Dieldrin	ND		ug/l	0.040	0.004	1	A
4,4'-DDE	ND		ug/l	0.040	0.004	1	A
4,4'-DDD	ND		ug/l	0.040	0.005	1	A
4,4'-DDT	ND		ug/l	0.040	0.004	1	A
Endosulfan I	ND		ug/l	0.020	0.003	1	A
Endosulfan II	ND		ug/l	0.040	0.005	1	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	1	A
Methoxychlor	ND		ug/l	0.200	0.007	1	A
Toxaphene	ND		ug/l	0.200	0.063	1	A
cis-Chlordane	ND		ug/l	0.020	0.007	1	A
trans-Chlordane	ND		ug/l	0.020	0.006	1	A
Chlordane	ND		ug/l	0.200	0.046	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	68		30-150	A
2,4,5,6-Tetrachloro-m-xylene	86		30-150	B
Decachlorobiphenyl	82		30-150	B

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Water	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	04/07/17 11:45
Analytical Date:	04/09/17 18:28		
Analyst:	KEG		

Methylation Date: 04/07/17 23:23

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/l	10.0	0.498	1	A
2,4,5-T	ND		ug/l	2.00	0.531	1	A
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	93		30-150	A
DCAA	72		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 04/07/17 15:43
Analyst: KEG

Extraction Method: EPA 3510C
Extraction Date: 04/06/17 14:12

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 03 Batch: WG991778-1						
Delta-BHC	ND		ug/l	0.020	0.005	A
Lindane	ND		ug/l	0.020	0.004	A
Alpha-BHC	ND		ug/l	0.020	0.004	A
Beta-BHC	ND		ug/l	0.020	0.006	A
Heptachlor	ND		ug/l	0.020	0.003	A
Aldrin	ND		ug/l	0.020	0.002	A
Heptachlor epoxide	ND		ug/l	0.020	0.004	A
Endrin	ND		ug/l	0.040	0.004	A
Endrin aldehyde	ND		ug/l	0.040	0.008	A
Endrin ketone	ND		ug/l	0.040	0.005	A
Dieldrin	ND		ug/l	0.040	0.004	A
4,4'-DDE	ND		ug/l	0.040	0.004	A
4,4'-DDD	ND		ug/l	0.040	0.005	A
4,4'-DDT	ND		ug/l	0.040	0.004	A
Endosulfan I	ND		ug/l	0.020	0.003	A
Endosulfan II	ND		ug/l	0.040	0.005	A
Endosulfan sulfate	ND		ug/l	0.040	0.005	A
Methoxychlor	ND		ug/l	0.200	0.007	A
Toxaphene	ND		ug/l	0.200	0.063	A
cis-Chlordane	ND		ug/l	0.020	0.007	A
trans-Chlordane	ND		ug/l	0.020	0.006	A
Chlordane	ND		ug/l	0.200	0.046	A

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8081B	Extraction Method:	EPA 3510C
Analytical Date:	04/07/17 15:43	Extraction Date:	04/06/17 14:12
Analyst:	KEG		

Parameter	Result	Qualifier	Units	RL	MDL
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 03 Batch: WG991778-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	46		30-150	A
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	71		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 04/09/17 14:13
Analyst: KEG

Extraction Method: EPA 8151A
Extraction Date: 04/07/17 00:33

Methylation Date: 04/07/17 08:38

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 01-02 Batch: WG991922-1						
2,4-D	ND		ug/kg	163	10.2	A
2,4,5-T	ND		ug/kg	163	5.04	A
2,4,5-TP (Silvex)	ND		ug/kg	163	4.33	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	109		30-150	A
DCAA	80		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 04/07/17 16:31
Analyst: DM

Extraction Method: EPA 3546
Extraction Date: 04/07/17 04:01
Cleanup Method: EPA 3620B
Cleanup Date: 04/07/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG991942-1						
Delta-BHC	ND		ug/kg	1.54	0.302	A
Lindane	ND		ug/kg	0.642	0.287	A
Alpha-BHC	ND		ug/kg	0.642	0.182	A
Beta-BHC	ND		ug/kg	1.54	0.584	A
Heptachlor	ND		ug/kg	0.770	0.345	A
Aldrin	ND		ug/kg	1.54	0.542	A
Heptachlor epoxide	ND		ug/kg	2.89	0.866	A
Endrin	ND		ug/kg	0.642	0.263	A
Endrin aldehyde	ND		ug/kg	1.92	0.674	A
Endrin ketone	ND		ug/kg	1.54	0.397	A
Dieldrin	ND		ug/kg	0.963	0.481	A
4,4'-DDE	ND		ug/kg	1.54	0.356	A
4,4'-DDD	ND		ug/kg	1.54	0.549	A
4,4'-DDT	ND		ug/kg	2.89	1.24	A
Endosulfan I	ND		ug/kg	1.54	0.364	A
Endosulfan II	ND		ug/kg	1.54	0.515	A
Endosulfan sulfate	ND		ug/kg	0.642	0.306	A
Methoxychlor	ND		ug/kg	2.89	0.898	A
Toxaphene	ND		ug/kg	28.9	8.09	A
cis-Chlordane	ND		ug/kg	1.92	0.536	A
trans-Chlordane	ND		ug/kg	1.92	0.508	A
Chlordane	ND		ug/kg	12.5	5.10	A

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8081B	Extraction Method:	EPA 3546
Analytical Date:	04/07/17 16:31	Extraction Date:	04/07/17 04:01
Analyst:	DM	Cleanup Method:	EPA 3620B
		Cleanup Date:	04/07/17

Parameter	Result	Qualifier	Units	RL	MDL
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG991942-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	49		30-150	A

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 04/09/17 17:25
Analyst: KEG

Extraction Method: EPA 8151A
Extraction Date: 04/07/17 11:45

Methylation Date: 04/07/17 23:23

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 03 Batch: WG992107-1						
2,4-D	ND		ug/l	10.0	0.498	A
2,4,5-T	ND		ug/l	2.00	0.531	A
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	106		30-150	A
DCAA	82		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 03 Batch: WG991778-2 WG991778-3									
Delta-BHC	125		86		30-150	**37**	Q	20	A
Lindane	121		85		30-150	**35**	Q	20	A
Alpha-BHC	126		88		30-150	**36**	Q	20	A
Beta-BHC	108		73		30-150	**39**	Q	20	A
Heptachlor	122		71		30-150	**53**	Q	20	A
Aldrin	110		82		30-150	**30**	Q	20	A
Heptachlor epoxide	109		81		30-150	**30**	Q	20	A
Endrin	118		82		30-150	**36**	Q	20	A
Endrin aldehyde	103		76		30-150	**31**	Q	20	A
Endrin ketone	115		87		30-150	**28**	Q	20	A
Dieldrin	115		84		30-150	**31**	Q	20	A
4,4'-DDE	115		85		30-150	**30**	Q	20	A
4,4'-DDD	111		82		30-150	**31**	Q	20	A
4,4'-DDT	138		91		30-150	**41**	Q	20	A
Endosulfan I	107		80		30-150	**29**	Q	20	A
Endosulfan II	105		78		30-150	**29**	Q	20	A
Endosulfan sulfate	98		78		30-150	**23**	Q	20	A
Methoxychlor	128		94		30-150	**31**	Q	20	A
cis-Chlordane	99		74		30-150	**29**	Q	20	A
trans-Chlordane	111		82		30-150	**30**	Q	20	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 03 Batch: WG991778-2 WG991778-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	97		66		30-150	A
Decachlorobiphenyl	72		53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	96		71		30-150	B
Decachlorobiphenyl	92		72		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG991922-2 WG991922-3									
2,4-D	94		93		30-150	1		30	A
2,4,5-T	84		86		30-150	2		30	A
2,4,5-TP (Silvex)	80		85		30-150	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	107		103		30-150	A
DCAA	83		85		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG991942-2 WG991942-3									
Delta-BHC	87		83		30-150	5		30	A
Lindane	81		83		30-150	2		30	A
Alpha-BHC	87		84		30-150	4		30	A
Beta-BHC	98		82		30-150	18		30	A
Heptachlor	84		81		30-150	4		30	A
Aldrin	75		72		30-150	4		30	A
Heptachlor epoxide	76		72		30-150	5		30	A
Endrin	83		78		30-150	6		30	A
Endrin aldehyde	66		58		30-150	13		30	A
Endrin ketone	82		70		30-150	16		30	A
Dieldrin	84		80		30-150	5		30	A
4,4'-DDE	81		77		30-150	5		30	A
4,4'-DDD	83		79		30-150	5		30	A
4,4'-DDT	86		80		30-150	7		30	A
Endosulfan I	79		74		30-150	7		30	A
Endosulfan II	83		76		30-150	9		30	A
Endosulfan sulfate	74		64		30-150	14		30	A
Methoxychlor	83		77		30-150	8		30	A
cis-Chlordane	75		71		30-150	5		30	A
trans-Chlordane	77		73		30-150	5		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits

Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG991942-2 WG991942-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		78		30-150	B
Decachlorobiphenyl	66		62		30-150	B
2,4,5,6-Tetrachloro-m-xylene	82		79		30-150	A
Decachlorobiphenyl	53		53		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

Parameter	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*%Recovery Limits*	*RPD*	*Qual*	*RPD Limits*	*Column*
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 03 Batch: WG992107-2 WG992107-3									
2,4-D	85		84		30-150	1		25	A
2,4,5-T	84		85		30-150	1		25	A
2,4,5-TP (Silvex)	81		82		30-150	1		25	A

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*	*Column*
DCAA	110		105		30-150	A
DCAA	84		86		30-150	B

METALS

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

SAMPLE RESULTS

Lab ID: L1710511-01
Date Collected: 04/05/17 13:00
Client ID: DS01_1-2
Date Received: 04/05/17
Sample Location: 450 UNION STREET, BROOKLYN, NY
Field Prep: Not Specified
Matrix: Soil
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4600		mg/kg	10	2.7	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Antimony, Total	6.6		mg/kg	5.0	0.38	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Arsenic, Total	7.9		mg/kg	1.0	0.21	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Barium, Total	88		mg/kg	1.0	0.18	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Beryllium, Total	0.26	J	mg/kg	0.50	0.03	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Cadmium, Total	0.860	J	mg/kg	1.01	0.099	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Calcium, Total	9400		mg/kg	10	3.5	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Chromium, Total	13		mg/kg	1.0	0.10	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Cobalt, Total	4.4		mg/kg	2.0	0.17	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Copper, Total	150		mg/kg	1.0	0.26	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Iron, Total	11000		mg/kg	5.0	0.91	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Lead, Total	270		mg/kg	5.0	0.27	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Magnesium, Total	1900		mg/kg	10	1.6	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Manganese, Total	220		mg/kg	1.0	0.16	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Mercury, Total	3.6		mg/kg	0.40	0.09	5	04/12/17 07:30	04/12/17 10:43	EPA 7471B	1,7471B	BV
Nickel, Total	36		mg/kg	2.5	0.24	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Potassium, Total	1100		mg/kg	250	14.	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Selenium, Total	ND		mg/kg	2.0	0.26	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Silver, Total	ND		mg/kg	1.0	0.29	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Sodium, Total	120	J	mg/kg	200	3.2	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Thallium, Total	ND		mg/kg	2.0	0.32	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Vanadium, Total	14		mg/kg	1.0	0.20	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
Zinc, Total	370		mg/kg	5.0	0.30	2	04/11/17 18:20	04/12/17 11:18	EPA 3050B	1,6010C	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	13	J	mg/kg	1.0	1.0	1		04/12/17 11:18	NA	107,-	

Project Name:	450 UNION STREET	**Lab Number:**	L1710511
Project Number:	170301202	**Report Date:**	04/12/17

SAMPLE RESULTS

Lab ID:	L1710511-02	Date Collected:	04/05/17 13:10
Client ID:	DS02_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	78%		

Total Metals - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Aluminum, Total	5600		mg/kg	9.8	2.6	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Antimony, Total	1.7	J	mg/kg	4.9	0.37	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Arsenic, Total	7.6		mg/kg	0.98	0.20	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Barium, Total	65		mg/kg	0.98	0.17	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Beryllium, Total	0.28	J	mg/kg	0.49	0.03	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Cadmium, Total	2.3		mg/kg	0.98	0.10	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Calcium, Total	8600		mg/kg	9.8	3.4	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Chromium, Total	12		mg/kg	0.98	0.09	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Cobalt, Total	5.2		mg/kg	2.0	0.16	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Copper, Total	1000		mg/kg	0.98	0.25	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Iron, Total	14000		mg/kg	4.9	0.88	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Lead, Total	220		mg/kg	4.9	0.26	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Magnesium, Total	1800		mg/kg	9.8	1.5	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Manganese, Total	200		mg/kg	0.98	0.16	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Mercury, Total	0.44		mg/kg	0.08	0.02	1	04/12/17 07:30	04/12/17 09:58	EPA 7471B	1,7471B	BV
Nickel, Total	24		mg/kg	2.4	0.24	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Potassium, Total	790		mg/kg	240	14.	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Selenium, Total	ND		mg/kg	2.0	0.25	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Silver, Total	ND		mg/kg	0.98	0.28	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Sodium, Total	98	J	mg/kg	200	3.1	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Thallium, Total	ND		mg/kg	2.0	0.31	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Vanadium, Total	14		mg/kg	0.98	0.20	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM
Zinc, Total	660		mg/kg	4.9	0.29	2	04/11/17 18:20	04/12/17 11:22	EPA 3050B	1,6010C	AM

General Chemistry - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Chromium, Trivalent	12	J	mg/kg	1.0	1.0	1		04/12/17 11:22	NA	107,-	

SAMPLE RESULTS

Lab ID:	L1710511-03	Date Collected:	04/05/17 15:30
Client ID:	FB01_040517	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Water		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Date Prepared**	**Date Analyzed**	**Prep Method**	**Analytical Method**	**Analyst**
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.0100	0.00327	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Antimony, Total	0.00051	J	mg/l	0.00400	0.00042	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Barium, Total	0.00378		mg/l	0.00050	0.00017	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Calcium, Total	ND		mg/l	0.100	0.0394	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Chromium, Total	ND		mg/l	0.00100	0.00017	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Cobalt, Total	ND		mg/l	0.00050	0.00016	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Copper, Total	ND		mg/l	0.00100	0.00038	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Iron, Total	ND		mg/l	0.0500	0.0191	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Lead, Total	ND		mg/l	0.00100	0.00034	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Manganese, Total	ND		mg/l	0.00100	0.00044	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Mercury, Total	ND		mg/l	0.00020	0.00006	1	04/06/17 10:10	04/06/17 19:55	EPA 7470A	1,7470A	EA
Nickel, Total	ND		mg/l	0.00200	0.00055	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Potassium, Total	ND		mg/l	0.100	0.0309	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Selenium, Total	ND		mg/l	0.00500	0.00173	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Silver, Total	ND		mg/l	0.00040	0.00016	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Sodium, Total	ND		mg/l	0.100	0.0293	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Thallium, Total	ND		mg/l	0.00050	0.00014	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
Zinc, Total	ND		mg/l	0.01000	0.00341	1	04/07/17 11:10	04/08/17 12:08	EPA 3005A	1,6020A	BV
General Chemistry - Mansfield Lab											
Chromium, Trivalent	ND		mg/l	0.010	0.010	1		04/08/17 12:08	NA	107,-	

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 03 Batch: WG991657-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	04/06/17 10:10	04/06/17 19:36	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 03 Batch: WG992079-1										
Aluminum, Total	ND		mg/l	0.0100	0.00327	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Antimony, Total	0.00047	J	mg/l	0.00400	0.00042	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Barium, Total	ND		mg/l	0.00050	0.00017	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Calcium, Total	ND		mg/l	0.100	0.0394	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Chromium, Total	ND		mg/l	0.00100	0.00017	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Cobalt, Total	ND		mg/l	0.00050	0.00016	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Copper, Total	ND		mg/l	0.00100	0.00038	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Iron, Total	ND		mg/l	0.0500	0.0191	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Lead, Total	ND		mg/l	0.00050	0.00034	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Manganese, Total	ND		mg/l	0.00100	0.00044	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Nickel, Total	ND		mg/l	0.00200	0.00055	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Potassium, Total	ND		mg/l	0.100	0.0309	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Selenium, Total	ND		mg/l	0.00500	0.00173	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Silver, Total	ND		mg/l	0.00040	0.00016	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Sodium, Total	ND		mg/l	0.100	0.0293	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Thallium, Total	ND		mg/l	0.00050	0.00014	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV
Zinc, Total	ND		mg/l	0.01000	0.00341	1	04/07/17 11:10	04/08/17 12:04	1,6020A	BV

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG993212-1										
Aluminum, Total	ND		mg/kg	4.0	1.1	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Antimony, Total	ND		mg/kg	2.0	0.15	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Arsenic, Total	ND		mg/kg	0.40	0.08	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Barium, Total	ND		mg/kg	0.40	0.07	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Beryllium, Total	ND		mg/kg	0.20	0.01	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Cadmium, Total	ND		mg/kg	0.40	0.04	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Calcium, Total	ND		mg/kg	4.0	1.4	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Chromium, Total	ND		mg/kg	0.40	0.04	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Cobalt, Total	ND		mg/kg	0.80	0.07	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Copper, Total	ND		mg/kg	0.40	0.10	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Iron, Total	ND		mg/kg	2.0	0.36	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Lead, Total	ND		mg/kg	2.0	0.11	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Magnesium, Total	ND		mg/kg	4.0	0.62	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Manganese, Total	0.07	J	mg/kg	0.40	0.06	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Nickel, Total	ND		mg/kg	1.0	0.10	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Potassium, Total	ND		mg/kg	100	5.8	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Selenium, Total	ND		mg/kg	0.80	0.10	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Silver, Total	ND		mg/kg	0.40	0.11	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Sodium, Total	ND		mg/kg	80	1.3	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Thallium, Total	ND		mg/kg	0.80	0.13	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Vanadium, Total	ND		mg/kg	0.40	0.08	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Zinc, Total	ND		mg/kg	2.0	0.12	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM

Prep Information

Digestion Method: EPA 3050B

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG993365-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	04/12/17 07:30	04/12/17 09:42	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710511

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG991657-2								
Mercury, Total	103		-		80-120	-		

Lab Control Sample Analysis
Batch Quality Control

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG992079-2					
Aluminum, Total	108	-	80-120	-	
Antimony, Total	104	-	80-120	-	
Arsenic, Total	108	-	80-120	-	
Barium, Total	104	-	80-120	-	
Beryllium, Total	100	-	80-120	-	
Cadmium, Total	113	-	80-120	-	
Calcium, Total	106	-	80-120	-	
Chromium, Total	104	-	80-120	-	
Cobalt, Total	105	-	80-120	-	
Copper, Total	105	-	80-120	-	
Iron, Total	108	-	80-120	-	
Lead, Total	107	-	80-120	-	
Magnesium, Total	112	-	80-120	-	
Manganese, Total	107	-	80-120	-	
Nickel, Total	105	-	80-120	-	
Potassium, Total	110	-	80-120	-	
Selenium, Total	115	-	80-120	-	
Silver, Total	103	-	80-120	-	
Sodium, Total	109	-	80-120	-	
Thallium, Total	103	-	80-120	-	
Vanadium, Total	107	-	80-120	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03 Batch: WG992079-2					
Zinc, Total	107	-	80-120	-	

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG993212-2 SRM Lot Number: D091-540					
Aluminum, Total	75	-	52-148	-	
Antimony, Total	179	-	1-200	-	
Arsenic, Total	110	-	80-121	-	
Barium, Total	110	-	84-117	-	
Beryllium, Total	100	-	83-117	-	
Cadmium, Total	105	-	83-117	-	
Calcium, Total	97	-	81-118	-	
Chromium, Total	105	-	80-119	-	
Cobalt, Total	104	-	84-115	-	
Copper, Total	110	-	82-117	-	
Iron, Total	100	-	47-154	-	
Lead, Total	110	-	82-118	-	
Magnesium, Total	91	-	77-123	-	
Manganese, Total	107	-	82-118	-	
Nickel, Total	108	-	83-117	-	
Potassium, Total	88	-	72-128	-	
Selenium, Total	101	-	79-121	-	
Silver, Total	96	-	75-124	-	
Sodium, Total	99	-	73-126	-	
Thallium, Total	99	-	80-121	-	
Vanadium, Total	104	-	78-122	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG993212-2 SRM Lot Number: D091-540					
Zinc, Total	98	-	82-118	-	
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG993365-2 SRM Lot Number: D091-540					
Mercury, Total	89	-	72-128	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG991657-3 WG991657-4 QC Sample: L1710305-01 Client ID: MS Sample												
Mercury, Total	ND	0.005	0.00487	98		0.00484	97		75-125	1		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG992079-3 QC Sample: L1710422-04 Client ID: MS Sample										
Aluminum, Total	ND	2	2.17	108		-	-	75-125	-	20
Antimony, Total	0.0048	0.5	0.5586	111		-	-	75-125	-	20
Arsenic, Total	0.0011	0.12	0.1282	106		-	-	75-125	-	20
Barium, Total	0.0112	2	2.065	103		-	-	75-125	-	20
Beryllium, Total	ND	0.05	0.05078	102		-	-	75-125	-	20
Cadmium, Total	ND	0.051	0.05636	110		-	-	75-125	-	20
Calcium, Total	75.8	10	79.8	**40**	Q	-	-	75-125	-	20
Chromium, Total	0.0008J	0.2	0.2002	100		-	-	75-125	-	20
Cobalt, Total	0.0030	0.5	0.5218	104		-	-	75-125	-	20
Copper, Total	ND	0.25	0.2622	105		-	-	75-125	-	20
Iron, Total	ND	1	1.12	112		-	-	75-125	-	20
Lead, Total	ND	0.51	0.5383	106		-	-	75-125	-	20
Magnesium, Total	9.70	10	20.2	105		-	-	75-125	-	20
Manganese, Total	0.01132	0.5	0.5162	101		-	-	75-125	-	20
Nickel, Total	0.0006J	0.5	0.5218	104		-	-	75-125	-	20
Potassium, Total	3.06	10	13.7	106		-	-	75-125	-	20
Selenium, Total	ND	0.12	0.127	106		-	-	75-125	-	20
Silver, Total	ND	0.05	0.04883	98		-	-	75-125	-	20
Sodium, Total	563.	10	530	**0**	Q	-	-	75-125	-	20
Thallium, Total	ND	0.12	0.1222	102		-	-	75-125	-	20
Vanadium, Total	ND	0.5	0.5174	103		-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202
Lab Number: L1710511
Report Date: 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG992079-3 QC Sample: L1710422-04 Client ID: MS Sample									
Zinc, Total	ND	0.5	0.5110	102	-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG993212-3 WG993212-4 QC Sample: L1710996-04 Client ID: MS Sample												
Aluminum, Total	5900	190	6700	**420**	Q	5700	**0**	Q	75-125	16		20
Antimony, Total	ND	47.6	44	92		44	93		75-125	0		20
Arsenic, Total	6.1	11.4	18	104		17	96		75-125	6		20
Barium, Total	62.	190	250	99		230	88		75-125	8		20
Beryllium, Total	0.20J	4.76	4.3	90		4.3	91		75-125	0		20
Cadmium, Total	ND	4.86	4.4	90		4.4	91		75-125	0		20
Calcium, Total	57000	953	60000	**315**	Q	47000	**0**	Q	75-125	**24**	Q	20
Chromium, Total	9.3	19	26	88		23	**72**	Q	75-125	12		20
Cobalt, Total	2.9	47.6	44	86		43	84		75-125	2		20
Copper, Total	15.	23.8	44	122		42	114		75-125	5		20
Iron, Total	8000	95.3	8600	**630**	Q	6600	**0**	Q	75-125	**26**	Q	20
Lead, Total	82.	48.6	140	119		140	120		75-125	0		20
Magnesium, Total	7300	953	8800	**157**	Q	6800	**0**	Q	75-125	**26**	Q	20
Manganese, Total	290	47.6	340	105		250	**0**	Q	75-125	**31**	Q	20
Nickel, Total	12.	47.6	53	86		48	76		75-125	10		20
Potassium, Total	740	953	1800	111		1600	91		75-125	12		20
Selenium, Total	0.47J	11.4	11	96		11	97		75-125	0		20
Silver, Total	ND	28.6	28	98		28	98		75-125	0		20
Sodium, Total	600	953	1600	105		1600	105		75-125	0		20
Thallium, Total	ND	11.4	8.8	77		9.6	84		75-125	9		20
Vanadium, Total	15.	47.6	60	94		58	91		75-125	3		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG993212-3 WG993212-4 QC Sample: L1710996-04 Client ID: MS Sample										
Zinc, Total	34.	47.6	81	99		89	116	75-125	9	20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG993365-3 QC Sample: L1710511-01 Client ID: DS01_1-2										
Mercury, Total	3.6	0.162	4.8	**739**	Q	-	-	80-120	-	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03 QC Batch ID: WG992079-4 QC Sample: L1710422-04 Client ID: DUP Sample						
Manganese, Total	0.01132	0.01091	mg/l	4		20
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG993365-4 QC Sample: L1710511-01 Client ID: DS01_1-2						
Mercury, Total	3.6	3.3	mg/kg	9		20

INORGANICS
&
MISCELLANEOUS

SAMPLE RESULTS

Lab ID:	L1710511-01	Date Collected:	04/05/17 13:00
Client ID:	DS01_1-2	Date Received:	04/05/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.4		%	0.100	NA	1	-	04/06/17 11:11	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.21	1	04/07/17 10:50	04/07/17 16:27	1,9010C/9012B	DE
Chromium, Hexavalent	0.22	J	mg/kg	1.0	0.21	1	04/08/17 15:10	04/10/17 12:41	1,7196A	NH

SAMPLE RESULTS

Lab ID: L1710511-02
Client ID: DS02_1-2
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil

Date Collected: 04/05/17 13:10
Date Received: 04/05/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.3		%	0.100	NA	1	-	04/06/17 11:11	121,2540G	RI
Cyanide, Total	0.50	J	mg/kg	1.3	0.21	1	04/07/17 10:50	04/07/17 16:53	1,9010C/9012B	DE
Chromium, Hexavalent	0.28	J	mg/kg	1.0	0.20	1	04/08/17 15:10	04/10/17 12:41	1,7196A	NH

SAMPLE RESULTS

Lab ID: L1710511-03
Client ID: FB01_040517
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Water

Date Collected: 04/05/17 15:30
Date Received: 04/05/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Cyanide, Total	ND		mg/l	0.005	0.001	1	04/10/17 11:10	04/10/17 16:39	1,9010C/9012B	JO
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	04/06/17 04:26	04/06/17 04:43	1,7196A	VB

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 03 Batch: WG991549-1										
Chromium, Hexavalent	ND		mg/l	0.010	0.003	1	04/06/17 04:26	04/06/17 04:42	1,7196A	VB
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG992064-1										
Cyanide, Total	ND		mg/kg	0.54	0.09	1	04/07/17 10:50	04/07/17 16:17	1,9010C/9012B	DE
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG992427-1										
Chromium, Hexavalent	ND		mg/kg	0.80	0.16	1	04/08/17 15:10	04/10/17 12:31	1,7196A	NH
General Chemistry - Westborough Lab for sample(s): 03 Batch: WG992725-1										
Cyanide, Total	ND		mg/l	0.005	0.001	1	04/10/17 13:15	04/10/17 16:06	1,9010C/9012B	JO

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03 Batch: WG991549-2								
Chromium, Hexavalent	103		-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG992064-2 WG992064-3								
Cyanide, Total	91		87		80-120	4		35
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG992427-2								
Chromium, Hexavalent	80		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 03 Batch: WG992725-2 WG992725-3								
Cyanide, Total	105		103		85-115	2		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710511
Project Number: 170301202
Report Date: 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03 QC Batch ID: WG991549-3 QC Sample: L1710511-03 Client ID: FB01_040517												
Chromium, Hexavalent	ND	0.1	0.107	107		-	-		85-115	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG992064-4 WG992064-5 QC Sample: L1710459-01 Client ID: MS Sample												
Cyanide, Total	0.63J	12	12	94		12	97		65-135	0		35
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG992427-4 QC Sample: L1710511-01 Client ID: DS01_1-2												
Chromium, Hexavalent	0.22J	1410	1400	99		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 03 QC Batch ID: WG992725-4 WG992725-5 QC Sample: L1710998-02 Client ID: MS Sample												
Cyanide, Total	ND	0.2	0.196	98		0.208	104		80-120	6		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710511
Report Date: 04/12/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03 QC Batch ID: WG991549-4 QC Sample: L1710511-03 Client ID: FB01_040517						
Chromium, Hexavalent	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG991686-1 QC Sample: L1710106-01 Client ID: DUP Sample						
Solids, Total	82.8	83.5	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG992427-6 QC Sample: L1710511-01 Client ID: DS01_1-2						
Chromium, Hexavalent	0.22J	ND	mg/kg	NC		20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 04/06/2017 04:30

Cooler Information Cooler	**Custody Seal**
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710511-01A	Vial MeOH preserved	A	N/A	4.9	Y	Absent	NYTCL-8260HLW(14)
L1710511-01B	Vial water preserved	A	N/A	4.9	Y	Absent	NYTCL-8260HLW(14)
L1710511-01C	Vial water preserved	A	N/A	4.9	Y	Absent	NYTCL-8260HLW(14)
L1710511-01D	Glass 120ml/4oz unpreserved	A	N/A	4.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1710511-01E	Glass 120ml/4oz unpreserved	A	N/A	4.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1710511-01F	Glass 250ml/8oz unpreserved	A	N/A	4.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1710511-02A	Vial MeOH preserved	A	N/A	4.9	Y	Absent	NYTCL-8260HLW(14)
L1710511-02B	Vial water preserved	A	N/A	4.9	Y	Absent	NYTCL-8260HLW(14)
L1710511-02C	Vial water preserved	A	N/A	4.9	Y	Absent	NYTCL-8260HLW(14)
L1710511-02D	Glass 120ml/4oz unpreserved	A	N/A	4.9	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710511-02E	Glass 120ml/4oz unpreserved	A	N/A	4.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1710511-02F	Glass 250ml/8oz unpreserved	A	N/A	4.9	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1710511-03A	Vial HCl preserved	A	N/A	4.9	Y	Absent	NYTCL-8260(14)
L1710511-03B	Vial HCl preserved	A	N/A	4.9	Y	Absent	NYTCL-8260(14)
L1710511-03C	Vial HCl preserved	A	N/A	4.9	Y	Absent	NYTCL-8260(14)
L1710511-03D	Plastic 250ml HNO3 preserved	A	<2	4.9	Y	Absent	BA-6020T(180),FE-6020T(180),SE-6020T(180),TL-6020T(180),CA-6020T(180),CR-6020T(180),K-6020T(180),NI-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),AS-6020T(180),SB-6020T(180),V-6020T(180),AG-6020T(180),AL-6020T(180),CD-6020T(180),HG-T(28),MG-6020T(180),CO-6020T(180)
L1710511-03E	Amber 1000ml unpreserved	A	7	4.9	Y	Absent	NYTCL-8082-1200ML(7)
L1710511-03F	Amber 1000ml unpreserved	A	7	4.9	Y	Absent	NYTCL-8082-1200ML(7)
L1710511-03G	Amber 1000ml unpreserved	A	7	4.9	Y	Absent	HERB-APA(7)
L1710511-03H	Amber 1000ml unpreserved	A	7	4.9	Y	Absent	HERB-APA(7)
L1710511-03I	Amber 500ml unpreserved	A	7	4.9	Y	Absent	NYTCL-8081(7)
L1710511-03J	Amber 500ml unpreserved	A	7	4.9	Y	Absent	NYTCL-8081(7)
L1710511-03K	Amber 1000ml unpreserved	A	7	4.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1710511-03L	Amber 1000ml unpreserved	A	7	4.9	Y	Absent	NYTCL-8270(7),NYTCL-8270-SIM(7)
L1710511-03M	Plastic 500ml unpreserved split	A	7	4.9	Y	Absent	HEXCR-7196(1)
L1710511-03N	Plastic 250ml NaOH preserved spl	A	>12	4.9	Y	Absent	TCN-9010(14)

*Values in parentheses indicate holding time in days

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The lower value for the two columns has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
S	- Analytical results are from modified screening analysis.
J	- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
ND	- Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical, Inc. ID No.:**17873**
Facility: **Company-wide** Revision 10
Department: **Quality Assurance** Published Date: 1/16/2017 11:00:05 AM
Title: **Certificate/Approval Program Summary** Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

-revised 4/12/17 ks

Serial_No:04121717:12

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab 4/5/17

ALPHA Job # L1710511

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: 450 Union Street
Project Location: 450 Union Street, Brooklyn, NY
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: Nicole Rice
ALPHAQuote #:

Deliverables

☐ ASP-A ☑ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☐ Same as Client Info
PO #

Client Information

Client: Langan Engineering
Address: 360 W 31st Street,
Manhattan, NY
Phone: 212-479-5400
Fax:
Email: nrice@langan.com

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs	SVOCs	Pesticides	Herbicides	PCBs	Metals	Hex/Tri Cr	Total Cyanide	Sample Specific Comments	Total Bottle
10511-01	DS01_1-2	4/5/17	13:00	Soil	KT	X	X	X	X	X	X	X	X		
02	DS02_1-2	4/5/17	13:10	Soil	KT	X	X	X	X	X	X	X	X		
03	FB01-040517	4/5/17	15:30	water	KT	X	X	X	X	X	X	X	X		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type

Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
Kyle Twombly	4/5/17 15:45	Mike Sudol AAL	4/5/17 15:45
Mike Sudol AAL	4/5/17 1907	Paul Mazzella	4/5/17 1825
Paul Mazzella	4/5/17 2305		4/5/17 2305

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab 4/5/17

ALPHA Job # L1710511

Project Information

Project Name: 450 Union Street
Project Location: 450 Union Street, Brooklyn, NY
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: Nicole Rice
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Client Information

Client: Langan Engineering
Address: 360 W 31st Street,
Manhattan, NY
Phone: 212-479-5400
Fax:
Email: nrice@langan.com

Deliverables

☐ ASP-A ☑ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOC's	SVOC's	Pesticides	Herbicides	PCB's	Metals			Sample Specific Comments	Total Bottle
10511-01	DS01_1-2	4/5/17	13:00	Soil	KT	X	X	X	X	X	X				
02	DS02_1-2	4/5/17	13:10	Soil	KT	X	X	X	X	X	X				
03	FB01-040517	4/5/17	15:30	water	KT	X	X	X	X	X	X				

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
Kyle Twombly	4/5/17 15:45	Mike Sudol AAL	4/5/17 15:45
Mike Sudol AAL	4/5/17 1907	Paul Mazzella	4/5/17 1825
Paul Mazzella	4/5/17 2305		4/5/17 2305

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1710724
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	450 UNION STREET
Project Number:	170301202
Report Date:	04/13/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1710724-01	DS03_1-2	SOIL	450 UNION STREET, BROOKLYN, NY	04/06/17 14:00	04/06/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The analyses performed were specified by the client.

Metals

L1710724-01: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 04/13/17

ORGANICS

VOLATILES

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/11/17 17:16		
Analyst:	JC		
Percent Solids:	64%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	12	2.0	1
1,1-Dichloroethane	ND		ug/kg	1.9	0.34	1
Chloroform	ND		ug/kg	1.9	0.46	1
Carbon tetrachloride	ND		ug/kg	1.2	0.43	1
1,2-Dichloropropane	ND		ug/kg	4.3	0.28	1
Dibromochloromethane	ND		ug/kg	1.2	0.22	1
1,1,2-Trichloroethane	ND		ug/kg	1.9	0.39	1
Tetrachloroethene	ND		ug/kg	1.2	0.38	1
Chlorobenzene	ND		ug/kg	1.2	0.43	1
Trichlorofluoromethane	ND		ug/kg	6.2	0.52	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.30	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	0.43	1
Bromodichloromethane	ND		ug/kg	1.2	0.38	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.26	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	0.29	1
1,3-Dichloropropene, Total	ND		ug/kg	1.2	0.26	1
1,1-Dichloropropene	ND		ug/kg	6.2	0.41	1
Bromoform	ND		ug/kg	5.0	0.29	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.37	1
Benzene	ND		ug/kg	1.2	0.24	1
Toluene	0.31	J	ug/kg	1.9	0.24	1
Ethylbenzene	ND		ug/kg	1.2	0.21	1
Chloromethane	ND		ug/kg	6.2	0.54	1
Bromomethane	ND		ug/kg	2.5	0.42	1
Vinyl chloride	ND		ug/kg	2.5	0.39	1
Chloroethane	ND		ug/kg	2.5	0.39	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.46	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	0.30	1
Trichloroethene	ND		ug/kg	1.2	0.38	1
1,2-Dichlorobenzene	ND		ug/kg	6.2	0.23	1

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	6.2	0.27	1
1,4-Dichlorobenzene	ND		ug/kg	6.2	0.23	1
Methyl tert butyl ether	ND		ug/kg	2.5	0.19	1
p/m-Xylene	ND		ug/kg	2.5	0.44	1
o-Xylene	ND		ug/kg	2.5	0.42	1
Xylenes, Total	ND		ug/kg	2.5	0.42	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.42	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	0.30	1
Dibromomethane	ND		ug/kg	12	0.30	1
Styrene	ND		ug/kg	2.5	0.50	1
Dichlorodifluoromethane	ND		ug/kg	12	0.62	1
Acetone	7.2	J	ug/kg	12	2.8	1
Carbon disulfide	ND		ug/kg	12	1.4	1
2-Butanone	ND		ug/kg	12	0.86	1
Vinyl acetate	ND		ug/kg	12	0.19	1
4-Methyl-2-pentanone	ND		ug/kg	12	0.30	1
1,2,3-Trichloropropane	ND		ug/kg	12	0.22	1
2-Hexanone	ND		ug/kg	12	0.83	1
Bromochloromethane	ND		ug/kg	6.2	0.44	1
2,2-Dichloropropane	ND		ug/kg	6.2	0.56	1
1,2-Dibromoethane	ND		ug/kg	5.0	0.25	1
1,3-Dichloropropane	ND		ug/kg	6.2	0.23	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.2	0.39	1
Bromobenzene	ND		ug/kg	6.2	0.27	1
n-Butylbenzene	ND		ug/kg	1.2	0.28	1
sec-Butylbenzene	ND		ug/kg	1.2	0.27	1
tert-Butylbenzene	ND		ug/kg	6.2	0.31	1
o-Chlorotoluene	ND		ug/kg	6.2	0.27	1
p-Chlorotoluene	ND		ug/kg	6.2	0.23	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.2	0.49	1
Hexachlorobutadiene	ND		ug/kg	6.2	0.43	1
Isopropylbenzene	ND		ug/kg	1.2	0.24	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.25	1
Naphthalene	ND		ug/kg	6.2	0.17	1
Acrylonitrile	ND		ug/kg	12	0.64	1
n-Propylbenzene	ND		ug/kg	1.2	0.27	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.2	0.31	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.2	0.27	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.2	0.20	1

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	6.2	0.23	1
1,4-Dioxane	ND		ug/kg	50	18.	1
p-Diethylbenzene	ND		ug/kg	5.0	5.0	1
p-Ethyltoluene	ND		ug/kg	5.0	0.29	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	5.0	0.19	1
Ethyl ether	ND		ug/kg	6.2	0.32	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	6.2	0.49	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	114		70-130
Dibromofluoromethane	99		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
1,3-Dichloropropene, Total	ND		ug/kg	1.0	0.21
1,1-Dichloropropene	ND		ug/kg	5.0	0.33
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.24
Dibromomethane	ND		ug/kg	10	0.24
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
Vinyl acetate	ND		ug/kg	10	0.15
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
1,2,3-Trichloropropane	ND		ug/kg	10	0.18
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
2,2-Dichloropropane	ND		ug/kg	5.0	0.45
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,3-Dichloropropane	ND		ug/kg	5.0	0.18
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	0.32
Bromobenzene	ND		ug/kg	5.0	0.22
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
o-Chlorotoluene	ND		ug/kg	5.0	0.22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					
p-Chlorotoluene	ND		ug/kg	5.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Hexachlorobutadiene	ND		ug/kg	5.0	0.35
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	0.18	J	ug/kg	5.0	0.14
Acrylonitrile	ND		ug/kg	10	0.51
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19
1,4-Dioxane	ND		ug/kg	40	14.
p-Diethylbenzene	ND		ug/kg	4.0	4.0
p-Ethyltoluene	ND		ug/kg	4.0	0.23
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.0	0.16
Ethyl ether	ND		ug/kg	5.0	0.26
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	0.39

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/kg

Project Name: 450 UNION STREET **Lab Number:** L1710724
Project Number: 170301202 **Report Date:** 04/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710724
Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4								
Methylene chloride	86		91		70-130	6		30
1,1-Dichloroethane	96		100		70-130	4		30
Chloroform	97		102		70-130	5		30
Carbon tetrachloride	89		93		70-130	4		30
1,2-Dichloropropane	99		105		70-130	6		30
Dibromochloromethane	94		100		70-130	6		30
1,1,2-Trichloroethane	99		106		70-130	7		30
Tetrachloroethene	82		87		70-130	6		30
Chlorobenzene	88		92		70-130	4		30
Trichlorofluoromethane	95		97		70-139	2		30
1,2-Dichloroethane	106		112		70-130	6		30
1,1,1-Trichloroethane	92		97		70-130	5		30
Bromodichloromethane	99		103		70-130	4		30
trans-1,3-Dichloropropene	97		103		70-130	6		30
cis-1,3-Dichloropropene	100		106		70-130	6		30
1,1-Dichloropropene	93		97		70-130	4		30
Bromoform	96		101		70-130	5		30
1,1,2,2-Tetrachloroethane	105		109		70-130	4		30
Benzene	92		97		70-130	5		30
Toluene	84		89		70-130	6		30
Ethylbenzene	86		92		70-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710724
Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4								
Chloromethane	92		94		52-130	2		30
Bromomethane	93		93		57-147	0		30
Vinyl chloride	88		91		67-130	3		30
Chloroethane	90		94		50-151	4		30
1,1-Dichloroethene	73		72		65-135	1		30
trans-1,2-Dichloroethene	90		94		70-130	4		30
Trichloroethene	90		95		70-130	5		30
1,2-Dichlorobenzene	92		96		70-130	4		30
1,3-Dichlorobenzene	89		92		70-130	3		30
1,4-Dichlorobenzene	89		92		70-130	3		30
Methyl tert butyl ether	107		114		66-130	6		30
p/m-Xylene	89		93		70-130	4		30
o-Xylene	91		96		70-130	5		30
cis-1,2-Dichloroethene	92		98		70-130	6		30
Dibromomethane	103		109		70-130	6		30
Styrene	94		99		70-130	5		30
Dichlorodifluoromethane	83		85		30-146	2		30
Acetone	129		129		54-140	0		30
Carbon disulfide	**139**	Q	**241**	Q	59-130	**54**	Q	30
2-Butanone	118		123		70-130	4		30
Vinyl acetate	104		108		70-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4								
4-Methyl-2-pentanone	102		105		70-130	3		30
1,2,3-Trichloropropane	105		111		68-130	6		30
2-Hexanone	106		106		70-130	0		30
Bromochloromethane	98		104		70-130	6		30
2,2-Dichloropropane	93		96		70-130	3		30
1,2-Dibromoethane	98		103		70-130	5		30
1,3-Dichloropropane	100		104		69-130	4		30
1,1,1,2-Tetrachloroethane	91		96		70-130	5		30
Bromobenzene	88		92		70-130	4		30
n-Butylbenzene	88		91		70-130	3		30
sec-Butylbenzene	86		91		70-130	6		30
tert-Butylbenzene	86		90		70-130	5		30
o-Chlorotoluene	87		91		70-130	4		30
p-Chlorotoluene	89		93		70-130	4		30
1,2-Dibromo-3-chloropropane	99		104		68-130	5		30
Hexachlorobutadiene	88		89		67-130	1		30
Isopropylbenzene	84		89		70-130	6		30
p-Isopropyltoluene	87		90		70-130	3		30
Naphthalene	100		102		70-130	2		30
Acrylonitrile	122		123		70-130	1		30
n-Propylbenzene	86		89		70-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4								
1,2,3-Trichlorobenzene	96		99		70-130	3		30
1,2,4-Trichlorobenzene	96		96		70-130	0		30
1,3,5-Trimethylbenzene	87		92		70-130	6		30
1,2,4-Trimethylbenzene	90		93		70-130	3		30
1,4-Dioxane	133		135		65-136	1		30
p-Diethylbenzene	86		91		70-130	6		30
p-Ethyltoluene	86		89		70-130	3		30
1,2,4,5-Tetramethylbenzene	90		93		70-130	3		30
Ethyl ether	99		101		67-130	2		30
trans-1,4-Dichloro-2-butene	97		103		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	111		109		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	102		103		70-130

SEMIVOLATILES

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/08/17 08:13
Analytical Date:	04/10/17 18:06		
Analyst:	KV		
Percent Solids:	64%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	130	J	ug/kg	200	26.	1
1,2,4-Trichlorobenzene	ND		ug/kg	260	29.	1
Hexachlorobenzene	ND		ug/kg	150	29.	1
Bis(2-chloroethyl)ether	ND		ug/kg	230	35.	1
2-Chloronaphthalene	ND		ug/kg	260	25.	1
1,2-Dichlorobenzene	ND		ug/kg	260	46.	1
1,3-Dichlorobenzene	ND		ug/kg	260	44.	1
1,4-Dichlorobenzene	ND		ug/kg	260	45.	1
3,3'-Dichlorobenzidine	ND		ug/kg	260	68.	1
2,4-Dinitrotoluene	ND		ug/kg	260	51.	1
2,6-Dinitrotoluene	ND		ug/kg	260	44.	1
Fluoranthene	2700		ug/kg	150	29.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	260	27.	1
4-Bromophenyl phenyl ether	ND		ug/kg	260	39.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	310	44.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	280	26.	1
Hexachlorobutadiene	ND		ug/kg	260	37.	1
Hexachlorocyclopentadiene	ND		ug/kg	730	230	1
Hexachloroethane	ND		ug/kg	200	41.	1
Isophorone	ND		ug/kg	230	33.	1
Naphthalene	93	J	ug/kg	260	31.	1
Nitrobenzene	ND		ug/kg	230	38.	1
NDPA/DPA	ND		ug/kg	200	29.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	260	40.	1
Bis(2-ethylhexyl)phthalate	600		ug/kg	260	88.	1
Butyl benzyl phthalate	ND		ug/kg	260	64.	1
Di-n-butylphthalate	ND		ug/kg	260	48.	1
Di-n-octylphthalate	ND		ug/kg	260	87.	1
Diethyl phthalate	ND		ug/kg	260	24.	1
Dimethyl phthalate	ND		ug/kg	260	54.	1

Project Name: 450 UNION STREET **Lab Number:** L1710724

Project Number: 170301202 **Report Date:** 04/13/17

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	1300		ug/kg	150	29.	1
Benzo(a)pyrene	1300		ug/kg	200	62.	1
Benzo(b)fluoranthene	1900		ug/kg	150	43.	1
Benzo(k)fluoranthene	670		ug/kg	150	41.	1
Chrysene	1400		ug/kg	150	27.	1
Acenaphthylene	100	J	ug/kg	200	40.	1
Anthracene	360		ug/kg	150	50.	1
Benzo(ghi)perylene	870		ug/kg	200	30.	1
Fluorene	130	J	ug/kg	260	25.	1
Phenanthrene	1700		ug/kg	150	31.	1
Dibenzo(a,h)anthracene	220		ug/kg	150	30.	1
Indeno(1,2,3-cd)pyrene	900		ug/kg	200	36.	1
Pyrene	2200		ug/kg	150	25.	1
Biphenyl	ND		ug/kg	580	59.	1
4-Chloroaniline	ND		ug/kg	260	47.	1
2-Nitroaniline	ND		ug/kg	260	49.	1
3-Nitroaniline	ND		ug/kg	260	48.	1
4-Nitroaniline	ND		ug/kg	260	110	1
Dibenzofuran	85	J	ug/kg	260	24.	1
2-Methylnaphthalene	36	J	ug/kg	310	31.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	260	27.	1
Acetophenone	ND		ug/kg	260	32.	1
2,4,6-Trichlorophenol	ND		ug/kg	150	48.	1
p-Chloro-m-cresol	ND		ug/kg	260	38.	1
2-Chlorophenol	ND		ug/kg	260	30.	1
2,4-Dichlorophenol	ND		ug/kg	230	41.	1
2,4-Dimethylphenol	ND		ug/kg	260	84.	1
2-Nitrophenol	ND		ug/kg	550	96.	1
4-Nitrophenol	ND		ug/kg	360	100	1
2,4-Dinitrophenol	ND		ug/kg	1200	120	1
4,6-Dinitro-o-cresol	ND		ug/kg	660	120	1
Pentachlorophenol	ND		ug/kg	200	56.	1
Phenol	ND		ug/kg	260	39.	1
2-Methylphenol	ND		ug/kg	260	40.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	370	40.	1
2,4,5-Trichlorophenol	ND		ug/kg	260	49.	1
Benzoic Acid	ND		ug/kg	830	260	1
Benzyl Alcohol	ND		ug/kg	260	78.	1
Carbazole	300		ug/kg	260	25.	1

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	32		25-120
Phenol-d6	35		10-120
Nitrobenzene-d5	44		23-120
2-Fluorobiphenyl	39		30-120
2,4,6-Tribromophenol	46		10-136
4-Terphenyl-d14	25		18-120

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/09/17 18:50
Analyst: CB

Extraction Method: EPA 3546
Extraction Date: 04/08/17 08:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG992351-1					
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	18.
Hexachlorobenzene	ND		ug/kg	97	18.
Bis(2-chloroethyl)ether	ND		ug/kg	140	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	28.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	97	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	140	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	140	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/09/17 18:50
Analyst: CB

Extraction Method: EPA 3546
Extraction Date: 04/08/17 08:09

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG992351-1					
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	97	27.
Benzo(k)fluoranthene	ND		ug/kg	97	26.
Chrysene	ND		ug/kg	97	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Dibenzo(a,h)anthracene	ND		ug/kg	97	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	97	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	30.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	190	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	97	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	140	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.

Project Name:	450 UNION STREET	**Lab Number:**	L1710724
Project Number:	170301202	**Report Date:**	04/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8270D	Extraction Method:	EPA 3546
Analytical Date:	04/09/17 18:50	Extraction Date:	04/08/17 08:09
Analyst:	CB		

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG992351-1					
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	520	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		25-120
Phenol-d6	81		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	91		30-120
2,4,6-Tribromophenol	102		10-136
4-Terphenyl-d14	104		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710724

Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG992351-2 WG992351-3								
Acenaphthene	87		90		31-137	3		50
1,2,4-Trichlorobenzene	82		85		38-107	4		50
Hexachlorobenzene	96		100		40-140	4		50
Bis(2-chloroethyl)ether	76		78		40-140	3		50
2-Chloronaphthalene	90		92		40-140	2		50
1,2-Dichlorobenzene	75		78		40-140	4		50
1,3-Dichlorobenzene	74		77		40-140	4		50
1,4-Dichlorobenzene	74		77		28-104	4		50
3,3'-Dichlorobenzidine	53		56		40-140	6		50
2,4-Dinitrotoluene	97		100		40-132	3		50
2,6-Dinitrotoluene	99		103		40-140	4		50
Fluoranthene	91		95		40-140	4		50
4-Chlorophenyl phenyl ether	91		94		40-140	3		50
4-Bromophenyl phenyl ether	96		98		40-140	2		50
Bis(2-chloroisopropyl)ether	75		78		40-140	4		50
Bis(2-chloroethoxy)methane	82		83		40-117	1		50
Hexachlorobutadiene	88		89		40-140	1		50
Hexachlorocyclopentadiene	94		100		40-140	6		50
Hexachloroethane	74		78		40-140	5		50
Isophorone	81		82		40-140	1		50
Naphthalene	81		83		40-140	2		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710724

Report Date: 04/13/17

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG992351-2 WG992351-3

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Nitrobenzene	79		80		40-140	1		50
NDPA/DPA	92		96		36-157	4		50
n-Nitrosodi-n-propylamine	79		80		32-121	1		50
Bis(2-ethylhexyl)phthalate	91		93		40-140	2		50
Butyl benzyl phthalate	91		95		40-140	4		50
Di-n-butylphthalate	90		94		40-140	4		50
Di-n-octylphthalate	96		98		40-140	2		50
Diethyl phthalate	90		93		40-140	3		50
Dimethyl phthalate	96		97		40-140	1		50
Benzo(a)anthracene	90		91		40-140	1		50
Benzo(a)pyrene	96		98		40-140	2		50
Benzo(b)fluoranthene	97		98		40-140	1		50
Benzo(k)fluoranthene	93		95		40-140	2		50
Chrysene	90		90		40-140	0		50
Acenaphthylene	91		92		40-140	1		50
Anthracene	90		94		40-140	4		50
Benzo(ghi)perylene	90		94		40-140	4		50
Fluorene	89		92		40-140	3		50
Phenanthrene	88		92		40-140	4		50
Dibenzo(a,h)anthracene	90		94		40-140	4		50
Indeno(1,2,3-cd)pyrene	91		96		40-140	5		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET **Lab Number:** L1710724

Project Number: 170301202 **Report Date:** 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG992351-2 WG992351-3								
Pyrene	91		94		35-142	3		50
Biphenyl	93		95		54-104	2		50
4-Chloroaniline	46		45		40-140	2		50
2-Nitroaniline	95		98		47-134	3		50
3-Nitroaniline	67		72		26-129	7		50
4-Nitroaniline	88		90		41-125	2		50
Dibenzofuran	87		90		40-140	3		50
2-Methylnaphthalene	86		87		40-140	1		50
1,2,4,5-Tetrachlorobenzene	95		98		40-117	3		50
Acetophenone	85		87		14-144	2		50
2,4,6-Trichlorophenol	101		102		30-130	1		50
p-Chloro-m-cresol	94		97		26-103	3		50
2-Chlorophenol	84		88		25-102	5		50
2,4-Dichlorophenol	91		94		30-130	3		50
2,4-Dimethylphenol	95		97		30-130	2		50
2-Nitrophenol	86		89		30-130	3		50
4-Nitrophenol	91		94		11-114	3		50
2,4-Dinitrophenol	70		63		4-130	11		50
4,6-Dinitro-o-cresol	89		92		10-130	3		50
Pentachlorophenol	77		79		17-109	3		50
Phenol	74		77		26-90	4		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710724

Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG992351-2 WG992351-3								
2-Methylphenol	84		88		30-130.	5		50
3-Methylphenol/4-Methylphenol	85		87		30-130	2		50
2,4,5-Trichlorophenol	99		102		30-130	3		50
Benzoic Acid	23		17		10-110	30		50
Benzyl Alcohol	83		85		40-140	2		50
Carbazole	90		93		54-128	3		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	81		83		25-120
Phenol-d6	82		84		10-120
Nitrobenzene-d5	79		81		23-120
2-Fluorobiphenyl	92		92		30-120
2,4,6-Tribromophenol	101		109		10-136
4-Terphenyl-d14	94		99		18-120

PCBS

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/08/17 04:20
Analytical Date:	04/11/17 16:29	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	04/09/17
Percent Solids:	64%	Cleanup Method:	EPA 3660B
		Cleanup Date:	04/09/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	49.2	3.88	1	A
Aroclor 1221	ND		ug/kg	49.2	4.53	1	A
Aroclor 1232	ND		ug/kg	49.2	5.76	1	A
Aroclor 1242	ND		ug/kg	49.2	6.02	1	A
Aroclor 1248	ND		ug/kg	49.2	4.15	1	A
Aroclor 1254	ND		ug/kg	49.2	4.04	1	A
Aroclor 1260	ND		ug/kg	49.2	3.74	1	A
Aroclor 1262	ND		ug/kg	49.2	2.44	1	A
Aroclor 1268	ND		ug/kg	49.2	7.13	1	A
PCBs, Total	ND		ug/kg	49.2	2.44	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	56		30-150	A
2,4,5,6-Tetrachloro-m-xylene	52		30-150	B
Decachlorobiphenyl	56		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8082A
Analytical Date:	04/11/17 15:52
Analyst:	JA

Extraction Method:	EPA 3546
Extraction Date:	04/08/17 04:20
Cleanup Method:	EPA 3665A
Cleanup Date:	04/09/17
Cleanup Method:	EPA 3660B
Cleanup Date:	04/09/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG992314-1						
Aroclor 1016	ND		ug/kg	31.6	2.49	A
Aroclor 1221	ND		ug/kg	31.6	2.91	A
Aroclor 1232	ND		ug/kg	31.6	3.70	A
Aroclor 1242	ND		ug/kg	31.6	3.86	A
Aroclor 1248	ND		ug/kg	31.6	2.66	A
Aroclor 1254	ND		ug/kg	31.6	2.59	A
Aroclor 1260	ND		ug/kg	31.6	2.40	A
Aroclor 1262	ND		ug/kg	31.6	1.56	A
Aroclor 1268	ND		ug/kg	31.6	4.58	A
PCBs, Total	ND		ug/kg	31.6	1.56	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	49		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	52		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710724
Project Number: 170301202
Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG992314-2 WG992314-3									
Aroclor 1016	73		77		40-140	5		50	A
Aroclor 1260	68		73		40-140	7		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	73		77		30-150	A
Decachlorobiphenyl	52		56		30-150	A
2,4,5,6-Tetrachloro-m-xylene	69		73		30-150	B
Decachlorobiphenyl	55		59		30-150	B

PESTICIDES

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8081B	Extraction Date:	04/08/17 13:59
Analytical Date:	04/10/17 20:44	Cleanup Method:	EPA 3620B
Analyst:	RL	Cleanup Date:	04/09/17
Percent Solids:	64%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	2.46	0.482	1	A
Lindane	ND		ug/kg	1.02	0.458	1	A
Alpha-BHC	ND		ug/kg	1.02	0.291	1	A
Beta-BHC	ND		ug/kg	2.46	0.933	1	A
Heptachlor	ND		ug/kg	1.23	0.551	1	A
Aldrin	ND		ug/kg	2.46	0.866	1	A
Heptachlor epoxide	ND		ug/kg	4.61	1.38	1	A
Endrin	ND		ug/kg	1.02	0.420	1	A
Endrin aldehyde	ND		ug/kg	3.07	1.08	1	A
Endrin ketone	ND		ug/kg	2.46	0.633	1	A
Dieldrin	9.80	PI	ug/kg	1.54	0.769	1	A
4,4'-DDE	8.14		ug/kg	2.46	0.569	1	A
4,4'-DDD	ND		ug/kg	2.46	0.877	1	A
4,4'-DDT	2.92	J	ug/kg	4.61	1.98	1	B
Endosulfan I	ND		ug/kg	2.46	0.581	1	A
Endosulfan II	ND		ug/kg	2.46	0.822	1	A
Endosulfan sulfate	ND		ug/kg	1.02	0.488	1	A
Methoxychlor	ND		ug/kg	4.61	1.43	1	A
Toxaphene	ND		ug/kg	46.1	12.9	1	A
cis-Chlordane	31.3	P	ug/kg	3.07	0.857	1	A
trans-Chlordane	12.1	PI	ug/kg	3.07	0.812	1	A
Chlordane	165		ug/kg	20.0	8.15	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	70		30-150	B
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	87		30-150	A

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	04/09/17 16:45
Analytical Date:	04/11/17 23:18		
Analyst:	KEG		
Percent Solids:	64%		
Methylation Date:	04/11/17 02:47		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	259	16.3	1	A
2,4,5-T	ND		ug/kg	259	8.03	1	A
2,4,5-TP (Silvex)	ND		ug/kg	259	6.89	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
DCAA	36		30-150	A
DCAA	30		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 04/10/17 18:25
Analyst: RL

Extraction Method: EPA 3546
Extraction Date: 04/08/17 13:59
Cleanup Method: EPA 3620B
Cleanup Date: 04/09/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01 Batch: WG992409-1						
Delta-BHC	ND		ug/kg	1.51	0.296	A
Lindane	ND		ug/kg	0.629	0.281	A
Alpha-BHC	ND		ug/kg	0.629	0.179	A
Beta-BHC	ND		ug/kg	1.51	0.572	A
Heptachlor	ND		ug/kg	0.755	0.338	A
Aldrin	ND		ug/kg	1.51	0.531	A
Heptachlor epoxide	ND		ug/kg	2.83	0.849	A
Endrin	ND		ug/kg	0.629	0.258	A
Endrin aldehyde	ND		ug/kg	1.89	0.660	A
Endrin ketone	ND		ug/kg	1.51	0.389	A
Dieldrin	ND		ug/kg	0.943	0.472	A
4,4'-DDE	ND		ug/kg	1.51	0.349	A
4,4'-DDD	ND		ug/kg	1.51	0.538	A
4,4'-DDT	ND		ug/kg	2.83	1.21	A
Endosulfan I	ND		ug/kg	1.51	0.357	A
Endosulfan II	ND		ug/kg	1.51	0.504	A
Endosulfan sulfate	ND		ug/kg	0.629	0.299	A
Methoxychlor	ND		ug/kg	2.83	0.880	A
Toxaphene	ND		ug/kg	28.3	7.92	A
cis-Chlordane	ND		ug/kg	1.89	0.526	A
trans-Chlordane	ND		ug/kg	1.89	0.498	A
Chlordane	ND		ug/kg	12.3	5.00	A

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 04/10/17 18:25
Analyst: RL

Extraction Method: EPA 3546
Extraction Date: 04/08/17 13:59
Cleanup Method: EPA 3620B
Cleanup Date: 04/09/17

Parameter	Result	Qualifier	Units	RL	MDL
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01 Batch: WG992409-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	98		30-150	B
Decachlorobiphenyl	79		30-150	B
2,4,5,6-Tetrachloro-m-xylene	88		30-150	A
Decachlorobiphenyl	59		30-150	A

Project Name:	450 UNION STREET	**Lab Number:**	L1710724
Project Number:	170301202	**Report Date:**	04/13/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8151A
Analytical Date: 04/11/17 22:00
Analyst: KEG

Extraction Method: EPA 8151A
Extraction Date: 04/09/17 16:45

Methylation Date: 04/11/17 02:47

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 01 Batch: WG992524-1						
2,4-D	ND		ug/kg	162	10.2	A
2,4,5-T	ND		ug/kg	162	5.03	A
2,4,5-TP (Silvex)	ND		ug/kg	162	4.32	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	76		30-150	A
DCAA	57		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710724
Project Number: 170301202
Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG992409-2 WG992409-3									
Delta-BHC	102		102		30-150	0		30	A
Lindane	91		92		30-150	1		30	A
Alpha-BHC	96		98		30-150	2		30	A
Beta-BHC	92		96		30-150	4		30	A
Heptachlor	93		92		30-150	1		30	A
Aldrin	86		88		30-150	2		30	A
Heptachlor epoxide	87		86		30-150	1		30	A
Endrin	95		95		30-150	0		30	A
Endrin aldehyde	84		84		30-150	0		30	A
Endrin ketone	96		96		30-150	0		30	A
Dieldrin	98		98		30-150	0		30	A
4,4'-DDE	100		99		30-150	1		30	A
4,4'-DDD	96		96		30-150	0		30	A
4,4'-DDT	95		96		30-150	1		30	A
Endosulfan I	91		91		30-150	0		30	A
Endosulfan II	94		94		30-150	0		30	A
Endosulfan sulfate	96		96		30-150	0		30	A
Methoxychlor	92		91		30-150	1		30	A
cis-Chlordane	91		90		30-150	1		30	A
trans-Chlordane	94		92		30-150	2		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710724
Project Number: 170301202
Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01 Batch: WG992409-2 WG992409-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	104		104		30-150	B
Decachlorobiphenyl	89		90		30-150	B
2,4,5,6-Tetrachloro-m-xylene	93		93		30-150	A
Decachlorobiphenyl	74		77		30-150	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710724

Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01 Batch: WG992524-2 WG992524-3									
2,4-D	82		85		30-150	4		30	A
2,4,5-T	69		73		30-150	6		30	A
2,4,5-TP (Silvex)	69		74		30-150	7		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	85		88		30-150	A
DCAA	69		70		30-150	B

METALS

Project Name:	450 UNION STREET	**Lab Number:**	L1710724
Project Number:	170301202	**Report Date:**	04/13/17

SAMPLE RESULTS

Lab ID:	L1710724-01	Date Collected:	04/06/17 14:00
Client ID:	DS03_1-2	Date Received:	04/06/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	64%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4900		mg/kg	12	3.2	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Antimony, Total	0.46	J	mg/kg	5.9	0.45	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Arsenic, Total	4.1		mg/kg	1.2	0.25	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Barium, Total	63		mg/kg	1.2	0.21	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Beryllium, Total	0.19	J	mg/kg	0.59	0.04	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Cadmium, Total	0.31	J	mg/kg	1.2	0.12	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Calcium, Total	9200		mg/kg	12	4.2	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Chromium, Total	16		mg/kg	1.2	0.11	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Cobalt, Total	4.3		mg/kg	2.4	0.20	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Copper, Total	440		mg/kg	1.2	0.31	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Iron, Total	9600		mg/kg	5.9	1.1	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Lead, Total	50		mg/kg	5.9	0.32	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Magnesium, Total	2200		mg/kg	12	1.8	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Manganese, Total	230		mg/kg	1.2	0.19	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Mercury, Total	0.10		mg/kg	0.10	0.02	1	04/08/17 09:30	04/11/17 14:17	EPA 7471B	1,7471B	BV
Nickel, Total	14		mg/kg	3.0	0.29	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Potassium, Total	820		mg/kg	300	17.	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Selenium, Total	ND		mg/kg	2.4	0.31	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Silver, Total	ND		mg/kg	1.2	0.34	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Sodium, Total	72	J	mg/kg	240	3.7	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Thallium, Total	ND		mg/kg	2.4	0.37	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Vanadium, Total	20		mg/kg	1.2	0.24	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
Zinc, Total	180		mg/kg	5.9	0.35	2	04/08/17 13:45	04/11/17 17:31	EPA 3050B	1,6010C	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	16		mg/kg	1.2	1.2	1		04/11/17 17:31	NA	107,-	

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG992324-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	04/08/17 09:30	04/11/17 11:42	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG992379-1										
Aluminum, Total	ND		mg/kg	4.0	1.1	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Antimony, Total	ND		mg/kg	2.0	0.15	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Arsenic, Total	ND		mg/kg	0.40	0.08	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Barium, Total	ND		mg/kg	0.40	0.07	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Beryllium, Total	0.02	J	mg/kg	0.20	0.01	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Cadmium, Total	ND		mg/kg	0.40	0.04	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Calcium, Total	ND		mg/kg	4.0	1.4	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Chromium, Total	0.04	J	mg/kg	0.40	0.04	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Cobalt, Total	ND		mg/kg	0.80	0.07	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Copper, Total	ND		mg/kg	0.40	0.10	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Iron, Total	0.38	J	mg/kg	2.0	0.36	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Lead, Total	ND		mg/kg	2.0	0.11	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Magnesium, Total	ND		mg/kg	4.0	0.62	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Manganese, Total	ND		mg/kg	0.40	0.06	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Nickel, Total	ND		mg/kg	1.0	0.10	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Potassium, Total	ND		mg/kg	100	5.8	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Selenium, Total	ND		mg/kg	0.80	0.10	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Silver, Total	ND		mg/kg	0.40	0.11	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Sodium, Total	5.1	J	mg/kg	80	1.3	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Thallium, Total	ND		mg/kg	0.80	0.13	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Vanadium, Total	ND		mg/kg	0.40	0.08	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM
Zinc, Total	ND		mg/kg	2.0	0.12	1	04/08/17 13:45	04/11/17 14:25	1,6010C	AM

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1710724
Project Number: 170301202
Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG992324-2 SRM Lot Number: D091-540								
Mercury, Total	106		-		72-128	-		

Lab Control Sample Analysis

Batch Quality Control

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG992379-2 SRM Lot Number: D091-540					
Aluminum, Total	89	-	52-148	-	
Antimony, Total	146	-	1-200	-	
Arsenic, Total	117	-	80-121	-	
Barium, Total	105	-	84-117	-	
Beryllium, Total	103	-	83-117	-	
Cadmium, Total	103	-	83-117	-	
Calcium, Total	97	-	81-118	-	
Chromium, Total	105	-	80-119	-	
Cobalt, Total	104	-	84-115	-	
Copper, Total	110	-	82-117	-	
Iron, Total	113	-	47-154	-	
Lead, Total	103	-	82-118	-	
Magnesium, Total	98	-	77-123	-	
Manganese, Total	100	-	82-118	-	
Nickel, Total	101	-	83-117	-	
Potassium, Total	96	-	72-128	-	
Selenium, Total	101	-	79-121	-	
Silver, Total	112	-	75-124	-	
Sodium, Total	107	-	73-126	-	
Thallium, Total	106	-	80-121	-	
Vanadium, Total	104	-	78-122	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710724

Report Date: 04/13/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG992379-2 SRM Lot Number: D091-540					
Zinc, Total	103	-	82-118	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710724
Report Date: 04/13/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG992324-3 QC Sample: L1710368-02 Client ID: MS Sample												
Mercury, Total	2.1	0.223	2.9	**358**	Q	-	-		80-120	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202
Lab Number: L1710724
Report Date: 04/13/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG992379-3 QC Sample: L1710475-05 Client ID: MS Sample										
Aluminum, Total	2000	205	2000	**0**	Q	-	-	75-125	-	20
Antimony, Total	ND	51.3	51	99		-	-	75-125	-	20
Arsenic, Total	2.0	12.3	15	106		-	-	75-125	-	20
Barium, Total	15.	205	220	100		-	-	75-125	-	20
Beryllium, Total	0.10J	5.13	5.2	101		-	-	75-125	-	20
Cadmium, Total	0.574J	5.23	5.7	109		-	-	75-125	-	20
Calcium, Total	1700	1030	2300	**58**	Q	-	-	75-125	-	20
Chromium, Total	13.	20.5	26	**63**	Q	-	-	75-125	-	20
Cobalt, Total	1.74J	51.3	51	99		-	-	75-125	-	20
Copper, Total	32.	25.6	57	97		-	-	75-125	-	20
Iron, Total	3000	103	3000	**0**	Q	-	-	75-125	-	20
Lead, Total	330	52.3	350	**38**	Q	-	-	75-125	-	20
Magnesium, Total	1600	1030	2000	**39**	Q	-	-	75-125	-	20
Manganese, Total	61.	51.3	110	95		-	-	75-125	-	20
Nickel, Total	3.7	51.3	52	94		-	-	75-125	-	20
Potassium, Total	650	1030	1600	92		-	-	75-125	-	20
Selenium, Total	ND	12.3	14	114		-	-	75-125	-	20
Silver, Total	ND	30.8	31	101		-	-	75-125	-	20
Sodium, Total	60.J	1030	1200	117		-	-	75-125	-	20
Thallium, Total	ND	12.3	13	106		-	-	75-125	-	20
Vanadium, Total	4.3	51.3	55	99		-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710724
Report Date: 04/13/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG992379-3 QC Sample: L1710475-05 Client ID: MS Sample										
Zinc, Total	330	51.3	300	**0**	Q	-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710724
Report Date: 04/13/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG992324-4 QC Sample: L1710368-02 Client ID: DUP Sample						
Mercury, Total	2.1	1.4	mg/kg	**40**	Q	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710724
Report Date: 04/13/17

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG992379-4 QC Sample: L1710475-05 Client ID: DUP Sample						
Aluminum, Total	2000	1600	mg/kg	**22**	Q	20
Antimony, Total	ND	ND	mg/kg	NC		20
Arsenic, Total	2.0	1.8	mg/kg	11		20
Barium, Total	15.	13	mg/kg	14		20
Beryllium, Total	0.10J	0.10J	mg/kg	NC		20
Cadmium, Total	0.574J	0.541J	mg/kg	NC		20
Calcium, Total	1700	1200	mg/kg	**34**	Q	20
Chromium, Total	13.	7.6	mg/kg	**52**	Q	20
Cobalt, Total	1.74J	1.22J	mg/kg	NC		20
Copper, Total	32.	28	mg/kg	13		20
Iron, Total	3000	3300	mg/kg	10		20
Lead, Total	330	360	mg/kg	9		20
Magnesium, Total	1600	920	mg/kg	**54**	Q	20
Manganese, Total	61.	57	mg/kg	7		20
Nickel, Total	3.7	2.542J	mg/kg	NC		20
Potassium, Total	650	490	mg/kg	**28**	Q	20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Sodium, Total	60.J	59J	mg/kg	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710724

Report Date: 04/13/17

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG992379-4 QC Sample: L1710475-05 Client ID: DUP Sample						
Thallium, Total	ND	ND	mg/kg	NC		20
Vanadium, Total	4.3	4.2	mg/kg	2		20
Zinc, Total	330	260	mg/kg	**24**	Q	20

INORGANICS
&
MISCELLANEOUS

SAMPLE RESULTS

Lab ID: L1710724-01
Client ID: DS03_1-2
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil

Date Collected: 04/06/17 14:00
Date Received: 04/06/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	63.9		%	0.100	NA	1	-	04/07/17 12:42	121,2540G	RI
Cyanide, Total	0.82	J	mg/kg	1.5	0.25	1	04/10/17 16:35	04/11/17 17:36	1,9010C/9012B	JO
Chromium, Hexavalent	ND		mg/kg	1.2	0.25	1	04/08/17 15:10	04/10/17 12:42	1,7196A	NH

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG992427-1										
Chromium, Hexavalent	ND		mg/kg	0.80	0.16	1	04/08/17 15:10	04/10/17 12:31	1,7196A	NH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG992699-1										
Cyanide, Total	ND		mg/kg	0.91	0.15	1	04/10/17 16:35	04/11/17 17:26	1,9010C/9012B	JO

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1710724

Report Date: 04/13/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG992427-2								
Chromium, Hexavalent	80		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG992699-2 WG992699-3								
Cyanide, Total	115		99		80-120	15		35

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202
Lab Number: L1710724
Report Date: 04/13/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG992427-4 QC Sample: L1710511-01 Client ID: MS Sample												
Chromium, Hexavalent	0.22J	1410	1400	99		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG992699-4 WG992699-5 QC Sample: L1711006-07 Client ID: MS Sample												
Cyanide, Total	ND	10	11	100		11	100		65-135	0		35

Lab Duplicate Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1710724
Report Date: 04/13/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG992133-1 QC Sample: L1710797-01 Client ID: DUP Sample						
Solids, Total	77.3	78.2	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG992427-6 QC Sample: L1710511-01 Client ID: DUP Sample						
Chromium, Hexavalent	0.22J	ND	mg/kg	NC		20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 04/07/2017 04:47

Cooler Information **Cooler**	**Custody Seal**
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1710724-01A	Vial MeOH preserved	A	N/A	3.7	Y	Absent	NYTCL-8260HLW(14)
L1710724-01B	Vial water preserved	A	N/A	3.7	Y	Absent	NYTCL-8260HLW(14)
L1710724-01C	Vial water preserved	A	N/A	3.7	Y	Absent	NYTCL-8260HLW(14)
L1710724-01D	Metals Only - Glass 60mL/2oz unp	A	N/A	3.7	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1710724-01E	Plastic 2oz unpreserved for TS	A	N/A	3.7	Y	Absent	TS(7)
L1710724-01F	Glass 500ml/16oz unpreserved	A	N/A	3.7	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)

*Values in parentheses indicate holding time in days

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

REFERENCES

1	Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
107	Alpha Analytical - In-house calculation method.
121	Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 4/7/17

ALPHA Job #: L1710724

Client Information

Client: Langan Engineering
Address: 360 W 31st Street, Manhattan NY 10001
Phone: 212-479-5400
Fax:
Email: nrice@langan.com

Project Information

Project Name: 450 Union Street
Project Location: 450 Union Street, Brooklyn, NY
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: Nicole Rice
ALPHAQuote #:

Turn-Around Time

Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ ASP-A ☑ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: VOCs	SVOCs	Pesticides	Herbicides	PCBs	Metals			Sample Specific Comments	Total Bottles
10724-01	DS03_1-2	4/6/17	14:00	Soil	KT	X	X	X	X	X	X				
	Container Type					V	A	A	A	A	A				
	Preservative					F	A	A	A	A	A				

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Relinquished By:	Date/Time	Received By:	Date/Time
Kyle Twombly /	4/6/17 14:55	AAL	4.6.17 14:55
AAL	4.6.17 14:55	Paul Mazzella	4/6/17 1838
Paul Mazzella	4/6/17 2140		4-6-17 2145
4-7-17	0030	Matt	4/7/17 0030

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1711102
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	450 UNION STREET
Project Number:	170301202
Report Date:	04/12/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1711102-01	WC_041017	SOIL	450 UNION STREET, BROOKLYN, NY	04/10/17 13:40	04/10/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker Cristin Walker

Title: Technical Director/Representative Date: 04/12/17

ORGANICS

VOLATILES

SAMPLE RESULTS

Lab ID:	L1711102-01	Date Collected:	04/10/17 13:40
Client ID:	WC_041017	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/11/17 13:01		
Analyst:	JC		
Percent Solids:	83%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	6.4	1.0	1
1,1-Dichloroethane	ND		ug/kg	0.96	0.17	1
Chloroform	0.31	J	ug/kg	0.96	0.24	1
Carbon tetrachloride	ND		ug/kg	0.64	0.22	1
1,2-Dichloropropane	ND		ug/kg	2.2	0.15	1
Dibromochloromethane	ND		ug/kg	0.64	0.11	1
1,1,2-Trichloroethane	ND		ug/kg	0.96	0.20	1
Tetrachloroethene	ND		ug/kg	0.64	0.19	1
Chlorobenzene	ND		ug/kg	0.64	0.22	1
Trichlorofluoromethane	ND		ug/kg	3.2	0.27	1
1,2-Dichloroethane	ND		ug/kg	0.64	0.16	1
1,1,1-Trichloroethane	ND		ug/kg	0.64	0.22	1
Bromodichloromethane	ND		ug/kg	0.64	0.20	1
trans-1,3-Dichloropropene	ND		ug/kg	0.64	0.13	1
cis-1,3-Dichloropropene	ND		ug/kg	0.64	0.15	1
1,3-Dichloropropene, Total	ND		ug/kg	0.64	0.13	1
1,1-Dichloropropene	ND		ug/kg	3.2	0.21	1
Bromoform	ND		ug/kg	2.6	0.15	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.64	0.19	1
Benzene	ND		ug/kg	0.64	0.12	1
Toluene	ND		ug/kg	0.96	0.12	1
Ethylbenzene	ND		ug/kg	0.64	0.11	1
Chloromethane	ND		ug/kg	3.2	0.28	1
Bromomethane	ND		ug/kg	1.3	0.22	1
Vinyl chloride	ND		ug/kg	1.3	0.20	1
Chloroethane	ND		ug/kg	1.3	0.20	1
1,1-Dichloroethene	ND		ug/kg	0.64	0.24	1
trans-1,2-Dichloroethene	ND		ug/kg	0.96	0.15	1
Trichloroethene	ND		ug/kg	0.64	0.19	1
1,2-Dichlorobenzene	ND		ug/kg	3.2	0.12	1

SAMPLE RESULTS

Lab ID:	L1711102-01	Date Collected:	04/10/17 13:40
Client ID:	WC_041017	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.2	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	3.2	0.12	1
Methyl tert butyl ether	ND		ug/kg	1.3	0.10	1
p/m-Xylene	ND		ug/kg	1.3	0.22	1
o-Xylene	ND		ug/kg	1.3	0.22	1
Xylenes, Total	ND		ug/kg	1.3	0.22	1
cis-1,2-Dichloroethene	ND		ug/kg	0.64	0.22	1
1,2-Dichloroethene, Total	ND		ug/kg	0.64	0.15	1
Dibromomethane	ND		ug/kg	6.4	0.15	1
Styrene	ND		ug/kg	1.3	0.26	1
Dichlorodifluoromethane	ND		ug/kg	6.4	0.32	1
Acetone	14		ug/kg	6.4	1.5	1
Carbon disulfide	ND		ug/kg	6.4	0.71	1
2-Butanone	ND		ug/kg	6.4	0.44	1
Vinyl acetate	ND		ug/kg	6.4	0.10	1
4-Methyl-2-pentanone	ND		ug/kg	6.4	0.16	1
1,2,3-Trichloropropane	ND		ug/kg	6.4	0.11	1
2-Hexanone	ND		ug/kg	6.4	0.43	1
Bromochloromethane	ND		ug/kg	3.2	0.23	1
2,2-Dichloropropane	ND		ug/kg	3.2	0.29	1
1,2-Dibromoethane	ND		ug/kg	2.6	0.13	1
1,3-Dichloropropane	ND		ug/kg	3.2	0.12	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.64	0.20	1
Bromobenzene	ND		ug/kg	3.2	0.14	1
n-Butylbenzene	ND		ug/kg	0.64	0.15	1
sec-Butylbenzene	ND		ug/kg	0.64	0.14	1
tert-Butylbenzene	ND		ug/kg	3.2	0.16	1
o-Chlorotoluene	ND		ug/kg	3.2	0.14	1
p-Chlorotoluene	ND		ug/kg	3.2	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	0.25	1
Hexachlorobutadiene	ND		ug/kg	3.2	0.22	1
Isopropylbenzene	ND		ug/kg	0.64	0.12	1
p-Isopropyltoluene	ND		ug/kg	0.64	0.13	1
Naphthalene	0.58	J	ug/kg	3.2	0.09	1
Acrylonitrile	ND		ug/kg	6.4	0.33	1
n-Propylbenzene	ND		ug/kg	0.64	0.14	1
1,2,3-Trichlorobenzene	ND		ug/kg	3.2	0.16	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.2	0.14	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.2	0.10	1

SAMPLE RESULTS

Lab ID:	L1711102-01	Date Collected:	04/10/17 13:40
Client ID:	WC_041017	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	3.2	0.12	1
1,4-Dioxane	ND		ug/kg	26	9.2	1
p-Diethylbenzene	ND		ug/kg	2.6	2.6	1
p-Ethyltoluene	ND		ug/kg	2.6	0.15	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.6	0.10	1
Ethyl ether	ND		ug/kg	3.2	0.17	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	3.2	0.25	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	109		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:41
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993460-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
1,3-Dichloropropene, Total	ND		ug/kg	1.0	0.21
1,1-Dichloropropene	ND		ug/kg	5.0	0.33
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	0.80	J	ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:41
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993460-5					
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.24
Dibromomethane	ND		ug/kg	10	0.24
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
Vinyl acetate	ND		ug/kg	10	0.15
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
1,2,3-Trichloropropane	ND		ug/kg	10	0.18
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
2,2-Dichloropropane	ND		ug/kg	5.0	0.45
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,3-Dichloropropane	ND		ug/kg	5.0	0.18
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	0.32
Bromobenzene	ND		ug/kg	5.0	0.22
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
o-Chlorotoluene	ND		ug/kg	5.0	0.22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:41
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993460-5					
p-Chlorotoluene	ND		ug/kg	5.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Hexachlorobutadiene	ND		ug/kg	5.0	0.35
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	ND		ug/kg	5.0	0.14
Acrylonitrile	ND		ug/kg	10	0.51
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19
1,4-Dioxane	ND		ug/kg	40	14.
p-Diethylbenzene	ND		ug/kg	4.0	4.0
p-Ethyltoluene	ND		ug/kg	4.0	0.23
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.0	0.16
Ethyl ether	ND		ug/kg	5.0	0.26
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	0.39

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711102
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993460-3 WG993460-4								
Methylene chloride	100		100		70-130	0		30
1,1-Dichloroethane	108		110		70-130	2		30
Chloroform	108		111		70-130	3		30
Carbon tetrachloride	120		127		70-130	6		30
1,2-Dichloropropane	101		105		70-130	4		30
Dibromochloromethane	101		105		70-130	4		30
1,1,2-Trichloroethane	95		97		70-130	2		30
Tetrachloroethene	126		129		70-130	2		30
Chlorobenzene	107		109		70-130	2		30
Trichlorofluoromethane	93		90		70-139	3		30
1,2-Dichloroethane	96		98		70-130	2		30
1,1,1-Trichloroethane	120		122		70-130	2		30
Bromodichloromethane	101		103		70-130	2		30
trans-1,3-Dichloropropene	101		102		70-130	1		30
cis-1,3-Dichloropropene	100		105		70-130	5		30
1,1-Dichloropropene	115		119		70-130	3		30
Bromoform	99		101		70-130	2		30
1,1,2,2-Tetrachloroethane	88		88		70-130	0		30
Benzene	110		112		70-130	2		30
Toluene	103		105		70-130	2		30
Ethylbenzene	105		107		70-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711102

Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993460-3 WG993460-4								
Chloromethane	100		98		52-130	2		30
Bromomethane	92		94		57-147	2		30
Vinyl chloride	90		88		67-130	2		30
Chloroethane	80		79		50-151	1		30
1,1-Dichloroethene	121		122		65-135	1		30
trans-1,2-Dichloroethene	120		122		70-130	2		30
Trichloroethene	113		117		70-130	3		30
1,2-Dichlorobenzene	102		106		70-130	4		30
1,3-Dichlorobenzene	104		108		70-130	4		30
1,4-Dichlorobenzene	102		106		70-130	4		30
Methyl tert butyl ether	113		115		66-130	2		30
p/m-Xylene	113		117		70-130	3		30
o-Xylene	114		115		70-130	1		30
cis-1,2-Dichloroethene	118		120		70-130	2		30
Dibromomethane	104		105		70-130	1		30
Styrene	106		110		70-130	4		30
Dichlorodifluoromethane	103		101		30-146	2		30
Acetone	88		85		54-140	3		30
Carbon disulfide	120		**175**	Q	59-130	**37**	Q	30
2-Butanone	97		97		70-130	0		30
Vinyl acetate	85		85		70-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711102
Project Number: 170301202
Report Date: 04/12/17

Parameter	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*%Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993460-3 WG993460-4								
4-Methyl-2-pentanone	75		78		70-130	4		30
1,2,3-Trichloropropane	82		84		68-130	2		30
2-Hexanone	**64**	Q	**61**	Q	70-130	5		30
Bromochloromethane	125		127		70-130	2		30
2,2-Dichloropropane	**132**	Q	**132**	Q	70-130	0		30
1,2-Dibromoethane	102		104		70-130	2		30
1,3-Dichloropropane	96		96		69-130	0		30
1,1,1,2-Tetrachloroethane	110		112		70-130	2		30
Bromobenzene	108		113		70-130	5		30
n-Butylbenzene	97		99		70-130	2		30
sec-Butylbenzene	103		106		70-130	3		30
tert-Butylbenzene	107		111		70-130	4		30
o-Chlorotoluene	95		98		70-130	3		30
p-Chlorotoluene	95		98		70-130	3		30
1,2-Dibromo-3-chloropropane	103		102		68-130	1		30
Hexachlorobutadiene	117		121		67-130	3		30
Isopropylbenzene	105		109		70-130	4		30
p-Isopropyltoluene	107		111		70-130	4		30
Naphthalene	88		91		70-130	3		30
Acrylonitrile	85		88		70-130	3		30
n-Propylbenzene	97		100		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711102
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993460-3 WG993460-4								
1,2,3-Trichlorobenzene	111		116		70-130	4		30
1,2,4-Trichlorobenzene	110		117		70-130	6		30
1,3,5-Trimethylbenzene	101		105		70-130	4		30
1,2,4-Trimethylbenzene	102		106		70-130	4		30
1,4-Dioxane	108		110		65-136	2		30
p-Diethylbenzene	105		108		70-130	3		30
p-Ethyltoluene	104		107		70-130	3		30
1,2,4,5-Tetramethylbenzene	91		94		70-130	3		30
Ethyl ether	105		102		67-130	3		30
trans-1,4-Dichloro-2-butene	74		82		70-130	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		87		70-130
Toluene-d8	97		96		70-130
4-Bromofluorobenzene	92		90		70-130
Dibromofluoromethane	105		105		70-130

PCBS

SAMPLE RESULTS

Lab ID:	L1711102-01	Date Collected:	04/10/17 13:40
Client ID:	WC_041017	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/11/17 02:04
Analytical Date:	04/11/17 15:24	Cleanup Method:	EPA 3665A
Analyst:	HT	Cleanup Date:	04/11/17
Percent Solids:	83%	Cleanup Method:	EPA 3660B
		Cleanup Date:	04/11/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.5	3.12	1	A
Aroclor 1221	ND		ug/kg	39.5	3.65	1	A
Aroclor 1232	ND		ug/kg	39.5	4.63	1	A
Aroclor 1242	ND		ug/kg	39.5	4.84	1	A
Aroclor 1248	ND		ug/kg	39.5	3.34	1	A
Aroclor 1254	ND		ug/kg	39.5	3.25	1	A
Aroclor 1260	ND		ug/kg	39.5	3.01	1	A
Aroclor 1262	ND		ug/kg	39.5	1.96	1	A
Aroclor 1268	ND		ug/kg	39.5	5.73	1	A
PCBs, Total	ND		ug/kg	39.5	1.96	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	65		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8082A	Extraction Method:	EPA 3546
Analytical Date:	04/11/17 14:04	Extraction Date:	04/10/17 09:20
Analyst:	JA	Cleanup Method:	EPA 3665A
		Cleanup Date:	04/10/17
		Cleanup Method:	EPA 3660B
		Cleanup Date:	04/10/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG992646-1						
Aroclor 1016	ND		ug/kg	32.2	2.54	A
Aroclor 1221	ND		ug/kg	32.2	2.97	A
Aroclor 1232	ND		ug/kg	32.2	3.77	A
Aroclor 1242	ND		ug/kg	32.2	3.94	A
Aroclor 1248	ND		ug/kg	32.2	2.72	A
Aroclor 1254	ND		ug/kg	32.2	2.65	A
Aroclor 1260	ND		ug/kg	32.2	2.45	A
Aroclor 1262	ND		ug/kg	32.2	1.60	A
Aroclor 1268	ND		ug/kg	32.2	4.67	A
PCBs, Total	ND		ug/kg	32.2	1.60	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	71		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711102
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG992646-2 WG992646-3									
Aroclor 1016	81		94		40-140	15		50	A
Aroclor 1260	66		80		40-140	19		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		96		30-150	A
Decachlorobiphenyl	56		67		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		91		30-150	B
Decachlorobiphenyl	61		72		30-150	B

METALS

Project Name:	450 UNION STREET	**Lab Number:**	L1711102
Project Number:	170301202	**Report Date:**	04/12/17

SAMPLE RESULTS

Lab ID:	L1711102-01	Date Collected:	04/10/17 13:40
Client ID:	WC_041017	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	TCLP/SPLP Ext. Date:	04/11/17 05:19
Percent Solids:	83%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Arsenic, TCLP	ND		mg/l	1.0	0.02	1	04/12/17 09:58	04/12/17 13:26	EPA 3015	1,6010C	AM
Barium, TCLP	0.540		mg/l	0.500	0.021	1	04/12/17 09:58	04/12/17 13:26	EPA 3015	1,6010C	AM
Cadmium, TCLP	0.05	J	mg/l	0.10	0.01	1	04/12/17 09:58	04/12/17 13:26	EPA 3015	1,6010C	AM
Chromium, TCLP	ND		mg/l	0.20	0.02	1	04/12/17 09:58	04/12/17 13:26	EPA 3015	1,6010C	AM
Lead, TCLP	1.1		mg/l	0.50	0.03	1	04/12/17 09:58	04/12/17 13:26	EPA 3015	1,6010C	AM
Mercury, TCLP	ND		mg/l	0.0010	0.0003	1	04/12/17 09:10	04/12/17 12:30	EPA 7470A	1,7470A	BV
Selenium, TCLP	ND		mg/l	0.50	0.04	1	04/12/17 09:58	04/12/17 13:26	EPA 3015	1,6010C	AM
Silver, TCLP	ND		mg/l	0.10	0.03	1	04/12/17 09:58	04/12/17 13:26	EPA 3015	1,6010C	AM

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG993430-1										
Mercury, TCLP	ND		mg/l	0.0010	0.0003	1	04/12/17 09:10	04/12/17 12:16	1,7470A	BV

Prep Information

Digestion Method: EPA 7470A

TCLP/SPLP Extraction Date: 04/11/17 05:19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG993432-1										
Arsenic, TCLP	0.02	J	mg/l	1.0	0.02	1	04/12/17 09:58	04/12/17 11:41	1,6010C	AM
Barium, TCLP	ND		mg/l	0.50	0.02	1	04/12/17 09:58	04/12/17 11:41	1,6010C	AM
Cadmium, TCLP	ND		mg/l	0.10	0.01	1	04/12/17 09:58	04/12/17 11:41	1,6010C	AM
Chromium, TCLP	ND		mg/l	0.20	0.02	1	04/12/17 09:58	04/12/17 11:41	1,6010C	AM
Lead, TCLP	ND		mg/l	0.50	0.03	1	04/12/17 09:58	04/12/17 11:41	1,6010C	AM
Selenium, TCLP	ND		mg/l	0.50	0.04	1	04/12/17 09:58	04/12/17 11:41	1,6010C	AM
Silver, TCLP	ND		mg/l	0.10	0.03	1	04/12/17 09:58	04/12/17 11:41	1,6010C	AM

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 04/11/17 05:19

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711102
Project Number: 170301202
Report Date: 04/12/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG993430-2								
Mercury, TCLP	111		-		80-120	-		
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG993432-2								
Arsenic, TCLP	108		-		75-125	-		20
Barium, TCLP	105		-		75-125	-		20
Cadmium, TCLP	100		-		75-125	-		20
Chromium, TCLP	100		-		75-125	-		20
Lead, TCLP	100		-		75-125	-		20
Selenium, TCLP	108		-		75-125	-		20
Silver, TCLP	96		-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711102
Report Date: 04/12/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG993430-3 QC Sample: L1711082-01 Client ID: MS Sample												
Mercury, TCLP	ND	0.025	0.0264	105		-	-		80-120	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG993432-3 QC Sample: L1711082-01 Client ID: MS Sample												
Arsenic, TCLP	0.05J	1.2	1.4	117		-	-		75-125	-		20
Barium, TCLP	0.62	20	22	107		-	-		75-125	-		20
Cadmium, TCLP	ND	0.51	0.52	102		-	-		75-125	-		20
Chromium, TCLP	ND	2	2.0	100		-	-		75-125	-		20
Lead, TCLP	1.0	5.1	6.1	100		-	-		75-125	-		20
Selenium, TCLP	ND	1.2	1.3	108		-	-		75-125	-		20
Silver, TCLP	ND	0.5	0.48	96		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711102
Report Date: 04/12/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG993430-4 QC Sample: L1711082-01 Client ID: DUP Sample						
Mercury, TCLP	ND	ND	mg/l	NC		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG993432-4 QC Sample: L1711082-01 Client ID: DUP Sample						
Arsenic, TCLP	0.05J	0.06J	mg/l	NC		20
Barium, TCLP	0.62	0.62	mg/l	0		20
Cadmium, TCLP	ND	ND	mg/l	NC		20
Chromium, TCLP	ND	ND	mg/l	NC		20
Lead, TCLP	1.0	0.99	mg/l	1		20
Selenium, TCLP	ND	ND	mg/l	NC		20
Silver, TCLP	ND	ND	mg/l	NC		20

INORGANICS
&
MISCELLANEOUS

SAMPLE RESULTS

Lab ID: L1711102-01
Client ID: WC_041017
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil

Date Collected: 04/10/17 13:40
Date Received: 04/10/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.8		%	0.100	NA	1	-	04/11/17 00:54	121,2540G	CG

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711102

Report Date: 04/12/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG992908-1 QC Sample: L1711087-01 Client ID: DUP Sample						
Solids, Total	92.6	94.2	%	2		20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 04/11/2017 00:53

Cooler Information

Cooler	**Custody Seal**
A	Absent

Container Information

Container ID	**Container Type**	**Cooler**	**pH**	**Temp deg C**	**Pres**	**Seal**	**Analysis(*)**
L1711102-01A	Vial MeOH preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711102-01B	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711102-01C	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711102-01D	Plastic 2oz unpreserved for TS	A	N/A	4.2	Y	Absent	TS(7)
L1711102-01E	Glass 500ml/16oz unpreserved	A	N/A	4.2	Y	Absent	NYTCL-8082(14)
L1711102-01X	Plastic 120ml HNO3 preserved Ext	A	<2	4.2	Y	Absent	CD-CI(180),AS-CI(180),BA-CI(180),HG-C(28),PB-CI(180),CR-CI(180),SE-CI(180),AG-CI(180)
L1711102-01X9	Tumble Vessel	A	N/A	4.2	Y	Absent	-

*Values in parentheses indicate holding time in days

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The lower value for the two columns has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
S	- Analytical results are from modified screening analysis.
J	- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
ND	- Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Alpha Analytical, Inc. ID No.:**17873**
Facility: **Company-wide** Revision 10
Department: **Quality Assurance** Published Date: 1/16/2017 11:00:05 AM
Title: **Certificate/Approval Program Summary** Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 **of** 1

Date Rec'd in Lab 4/10/17

ALPHA Job # L1711108

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: 450 Union Street
Project Location: 450 Union Street, Brooklyn, NY
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: Nicole Rice
ALPHAQuote #:

Client Information

Client: Langan Engineering
Address: 360 W 31st Street
Manhattan, NY 10001
Phone: 212-479-5400
Fax:
Email: nrice@langan.com

Turn-Around Time

Standard ☐
Rush (only if pre approved) ☒
Due Date:
# of Days: ASAP

Deliverables

☐ ASP-A ☐ ASP-B
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs	TCLP Metals	PCBs						Sample Specific Comments	Total Bottle
11108-01	WC-041017	4/10/17	13:40	Soil	KT	X	X	X							

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type							
Preservative							

Relinquished By:	Date/Time	Received By:	Date/Time
Kyle Twambly	4/10/17 14:15	Paul [illegible] - AAL	4/10/17 14:15
Paul [illegible] - AAL	4/10/17 16:45	Paul Mazzella	4/10/17 1742
Paul Mazzella	4/10/17 2345	Danielle [illegible]	4/10/17 23:45

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1711107
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	450 UNION STREET
Project Number:	170301202
Report Date:	04/17/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711107
Report Date: 04/17/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1711107-01	DS04_3-4	SOIL	450 UNION STREET, BROOKLYN, NY	04/10/17 13:30	04/10/17
L1711107-02	DS05_3-4	SOIL	450 UNION STREET, BROOKLYN, NY	04/10/17 10:30	04/10/17
L1711107-03	DS06_3-4	SOIL	450 UNION STREET, BROOKLYN, NY	04/10/17 14:00	04/10/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

L1711107-03: The surrogate recoveries were outside the acceptance criteria for 2-fluorophenol (19%) and 2,4,6-tribromophenol (6%); however, re-extraction achieved a similar result: 2-fluorophenol (18%). The results of both extractions are reported.

The WG992911-2/-3 LCS/LCSD recoveries, associated with L1711107-01, -02 and -03, are below the acceptance criteria for benzoic acid (7%/9%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

Herbicides

The surrogate recoveries for the WG992871-1 Method Blank, associated with L1711107-01 through -03, are below the acceptance criteria for dcaa (27%,24%). The associated samples are non-detect and have acceptable surrogate recoveries; therefore, no further actions were taken.

Metals

L1711107-01, -02 and -03: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 04/17/17

ORGANICS

VOLATILES

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/11/17 16:49		
Analyst:	JC		
Percent Solids:	74%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	5.4	0.89	1
1,1-Dichloroethane	ND		ug/kg	0.81	0.14	1
Chloroform	ND		ug/kg	0.81	0.20	1
Carbon tetrachloride	ND		ug/kg	0.54	0.19	1
1,2-Dichloropropane	ND		ug/kg	1.9	0.12	1
Dibromochloromethane	ND		ug/kg	0.54	0.10	1
1,1,2-Trichloroethane	ND		ug/kg	0.81	0.17	1
Tetrachloroethene	ND		ug/kg	0.54	0.16	1
Chlorobenzene	ND		ug/kg	0.54	0.19	1
Trichlorofluoromethane	ND		ug/kg	2.7	0.22	1
1,2-Dichloroethane	ND		ug/kg	0.54	0.13	1
1,1,1-Trichloroethane	ND		ug/kg	0.54	0.19	1
Bromodichloromethane	ND		ug/kg	0.54	0.17	1
trans-1,3-Dichloropropene	ND		ug/kg	0.54	0.11	1
cis-1,3-Dichloropropene	ND		ug/kg	0.54	0.12	1
1,3-Dichloropropene, Total	ND		ug/kg	0.54	0.11	1
1,1-Dichloropropene	ND		ug/kg	2.7	0.18	1
Bromoform	ND		ug/kg	2.2	0.13	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.54	0.16	1
Benzene	ND		ug/kg	0.54	0.10	1
Toluene	ND		ug/kg	0.81	0.10	1
Ethylbenzene	ND		ug/kg	0.54	0.09	1
Chloromethane	ND		ug/kg	2.7	0.24	1
Bromomethane	ND		ug/kg	1.1	0.18	1
Vinyl chloride	ND		ug/kg	1.1	0.17	1
Chloroethane	ND		ug/kg	1.1	0.17	1
1,1-Dichloroethene	ND		ug/kg	0.54	0.20	1
trans-1,2-Dichloroethene	ND		ug/kg	0.81	0.13	1
Trichloroethene	ND		ug/kg	0.54	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.7	0.10	1

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

SAMPLE RESULTS

Lab ID: L1711107-01
Client ID: DS04_3-4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Date Collected: 04/10/17 13:30
Date Received: 04/10/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.7	0.12	1
1,4-Dichlorobenzene	ND		ug/kg	2.7	0.10	1
Methyl tert butyl ether	ND		ug/kg	1.1	0.08	1
p/m-Xylene	ND		ug/kg	1.1	0.19	1
o-Xylene	ND		ug/kg	1.1	0.18	1
Xylenes, Total	ND		ug/kg	1.1	0.18	1
cis-1,2-Dichloroethene	ND		ug/kg	0.54	0.18	1
1,2-Dichloroethene, Total	ND		ug/kg	0.54	0.13	1
Dibromomethane	ND		ug/kg	5.4	0.13	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	5.4	0.27	1
Acetone	ND		ug/kg	5.4	1.2	1
Carbon disulfide	ND		ug/kg	5.4	0.59	1
2-Butanone	ND		ug/kg	5.4	0.37	1
Vinyl acetate	ND		ug/kg	5.4	0.08	1
4-Methyl-2-pentanone	ND		ug/kg	5.4	0.13	1
1,2,3-Trichloropropane	ND		ug/kg	5.4	0.10	1
2-Hexanone	ND		ug/kg	5.4	0.36	1
Bromochloromethane	ND		ug/kg	2.7	0.19	1
2,2-Dichloropropane	ND		ug/kg	2.7	0.24	1
1,2-Dibromoethane	ND		ug/kg	2.2	0.11	1
1,3-Dichloropropane	ND		ug/kg	2.7	0.10	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.54	0.17	1
Bromobenzene	ND		ug/kg	2.7	0.12	1
n-Butylbenzene	ND		ug/kg	0.54	0.12	1
sec-Butylbenzene	ND		ug/kg	0.54	0.12	1
tert-Butylbenzene	ND		ug/kg	2.7	0.13	1
o-Chlorotoluene	ND		ug/kg	2.7	0.12	1
p-Chlorotoluene	ND		ug/kg	2.7	0.10	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	0.21	1
Hexachlorobutadiene	ND		ug/kg	2.7	0.19	1
Isopropylbenzene	ND		ug/kg	0.54	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.54	0.11	1
Naphthalene	ND		ug/kg	2.7	0.07	1
Acrylonitrile	ND		ug/kg	5.4	0.28	1
n-Propylbenzene	ND		ug/kg	0.54	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.7	0.14	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.7	0.12	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.7	0.09	1

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	2.7	0.10	1
1,4-Dioxane	ND		ug/kg	22	7.8	1
p-Diethylbenzene	ND		ug/kg	2.2	2.2	1
p-Ethyltoluene	ND		ug/kg	2.2	0.13	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.2	0.08	1
Ethyl ether	ND		ug/kg	2.7	0.14	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	2.7	0.21	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	98		70-130

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/11/17 12:10		
Analyst:	JC		
Percent Solids:	83%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	5.8	0.95	1
1,1-Dichloroethane	ND		ug/kg	0.86	0.16	1
Chloroform	0.90		ug/kg	0.86	0.21	1
Carbon tetrachloride	ND		ug/kg	0.58	0.20	1
1,2-Dichloropropane	ND		ug/kg	2.0	0.13	1
Dibromochloromethane	ND		ug/kg	0.58	0.10	1
1,1,2-Trichloroethane	ND		ug/kg	0.86	0.18	1
Tetrachloroethene	ND		ug/kg	0.58	0.17	1
Chlorobenzene	ND		ug/kg	0.58	0.20	1
Trichlorofluoromethane	ND		ug/kg	2.9	0.24	1
1,2-Dichloroethane	ND		ug/kg	0.58	0.14	1
1,1,1-Trichloroethane	ND		ug/kg	0.58	0.20	1
Bromodichloromethane	ND		ug/kg	0.58	0.18	1
trans-1,3-Dichloropropene	ND		ug/kg	0.58	0.12	1
cis-1,3-Dichloropropene	ND		ug/kg	0.58	0.13	1
1,3-Dichloropropene, Total	ND		ug/kg	0.58	0.12	1
1,1-Dichloropropene	ND		ug/kg	2.9	0.19	1
Bromoform	ND		ug/kg	2.3	0.14	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.58	0.17	1
Benzene	ND		ug/kg	0.58	0.11	1
Toluene	ND		ug/kg	0.86	0.11	1
Ethylbenzene	ND		ug/kg	0.58	0.10	1
Chloromethane	ND		ug/kg	2.9	0.25	1
Bromomethane	ND		ug/kg	1.2	0.20	1
Vinyl chloride	ND		ug/kg	1.2	0.18	1
Chloroethane	ND		ug/kg	1.2	0.18	1
1,1-Dichloroethene	ND		ug/kg	0.58	0.21	1
trans-1,2-Dichloroethene	ND		ug/kg	0.86	0.14	1
Trichloroethene	ND		ug/kg	0.58	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.9	0.10	1

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.9	0.12	1
1,4-Dichlorobenzene	ND		ug/kg	2.9	0.10	1
Methyl tert butyl ether	ND		ug/kg	1.2	0.09	1
p/m-Xylene	ND		ug/kg	1.2	0.20	1
o-Xylene	ND		ug/kg	1.2	0.20	1
Xylenes, Total	ND		ug/kg	1.2	0.20	1
cis-1,2-Dichloroethene	ND		ug/kg	0.58	0.20	1
1,2-Dichloroethene, Total	ND		ug/kg	0.58	0.14	1
Dibromomethane	ND		ug/kg	5.8	0.14	1
Styrene	ND		ug/kg	1.2	0.23	1
Dichlorodifluoromethane	ND		ug/kg	5.8	0.29	1
Acetone	ND		ug/kg	5.8	1.3	1
Carbon disulfide	ND		ug/kg	5.8	0.63	1
2-Butanone	ND		ug/kg	5.8	0.40	1
Vinyl acetate	ND		ug/kg	5.8	0.09	1
4-Methyl-2-pentanone	ND		ug/kg	5.8	0.14	1
1,2,3-Trichloropropane	ND		ug/kg	5.8	0.10	1
2-Hexanone	ND		ug/kg	5.8	0.38	1
Bromochloromethane	ND		ug/kg	2.9	0.21	1
2,2-Dichloropropane	ND		ug/kg	2.9	0.26	1
1,2-Dibromoethane	ND		ug/kg	2.3	0.11	1
1,3-Dichloropropane	ND		ug/kg	2.9	0.10	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.58	0.18	1
Bromobenzene	ND		ug/kg	2.9	0.13	1
n-Butylbenzene	ND		ug/kg	0.58	0.13	1
sec-Butylbenzene	ND		ug/kg	0.58	0.12	1
tert-Butylbenzene	ND		ug/kg	2.9	0.14	1
o-Chlorotoluene	ND		ug/kg	2.9	0.13	1
p-Chlorotoluene	ND		ug/kg	2.9	0.10	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	0.23	1
Hexachlorobutadiene	ND		ug/kg	2.9	0.20	1
Isopropylbenzene	ND		ug/kg	0.58	0.11	1
p-Isopropyltoluene	ND		ug/kg	0.58	0.12	1
Naphthalene	0.52	J	ug/kg	2.9	0.08	1
Acrylonitrile	ND		ug/kg	5.8	0.30	1
n-Propylbenzene	ND		ug/kg	0.58	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.9	0.14	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.9	0.12	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.9	0.09	1

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	2.9	0.11	1
1,4-Dioxane	ND		ug/kg	23	8.3	1
p-Diethylbenzene	ND		ug/kg	2.3	2.3	1
p-Ethyltoluene	ND		ug/kg	2.3	0.14	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.3	0.09	1
Ethyl ether	ND		ug/kg	2.9	0.15	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	2.9	0.23	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	106		70-130

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	04/11/17 12:36		
Analyst:	JC		
Percent Solids:	91%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	5.4	0.89	1
1,1-Dichloroethane	ND		ug/kg	0.81	0.15	1
Chloroform	ND		ug/kg	0.81	0.20	1
Carbon tetrachloride	ND		ug/kg	0.54	0.19	1
1,2-Dichloropropane	ND		ug/kg	1.9	0.12	1
Dibromochloromethane	ND		ug/kg	0.54	0.10	1
1,1,2-Trichloroethane	ND		ug/kg	0.81	0.17	1
Tetrachloroethene	ND		ug/kg	0.54	0.16	1
Chlorobenzene	ND		ug/kg	0.54	0.19	1
Trichlorofluoromethane	ND		ug/kg	2.7	0.22	1
1,2-Dichloroethane	ND		ug/kg	0.54	0.13	1
1,1,1-Trichloroethane	ND		ug/kg	0.54	0.19	1
Bromodichloromethane	ND		ug/kg	0.54	0.17	1
trans-1,3-Dichloropropene	ND		ug/kg	0.54	0.11	1
cis-1,3-Dichloropropene	ND		ug/kg	0.54	0.12	1
1,3-Dichloropropene, Total	ND		ug/kg	0.54	0.11	1
1,1-Dichloropropene	ND		ug/kg	2.7	0.18	1
Bromoform	ND		ug/kg	2.2	0.13	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.54	0.16	1
Benzene	ND		ug/kg	0.54	0.10	1
Toluene	ND		ug/kg	0.81	0.10	1
Ethylbenzene	ND		ug/kg	0.54	0.09	1
Chloromethane	ND		ug/kg	2.7	0.24	1
Bromomethane	ND		ug/kg	1.1	0.18	1
Vinyl chloride	ND		ug/kg	1.1	0.17	1
Chloroethane	ND		ug/kg	1.1	0.17	1
1,1-Dichloroethene	ND		ug/kg	0.54	0.20	1
trans-1,2-Dichloroethene	ND		ug/kg	0.81	0.13	1
Trichloroethene	ND		ug/kg	0.54	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.7	0.10	1

SAMPLE RESULTS

Lab ID: L1711107-03
Client ID: DS06_3-4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Date Collected: 04/10/17 14:00
Date Received: 04/10/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.7	0.12	1
1,4-Dichlorobenzene	ND		ug/kg	2.7	0.10	1
Methyl tert butyl ether	ND		ug/kg	1.1	0.08	1
p/m-Xylene	ND		ug/kg	1.1	0.19	1
o-Xylene	ND		ug/kg	1.1	0.18	1
Xylenes, Total	ND		ug/kg	1.1	0.18	1
cis-1,2-Dichloroethene	ND		ug/kg	0.54	0.18	1
1,2-Dichloroethene, Total	ND		ug/kg	0.54	0.13	1
Dibromomethane	ND		ug/kg	5.4	0.13	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	5.4	0.27	1
Acetone	ND		ug/kg	5.4	1.2	1
Carbon disulfide	ND		ug/kg	5.4	0.60	1
2-Butanone	ND		ug/kg	5.4	0.37	1
Vinyl acetate	ND		ug/kg	5.4	0.08	1
4-Methyl-2-pentanone	ND		ug/kg	5.4	0.13	1
1,2,3-Trichloropropane	ND		ug/kg	5.4	0.10	1
2-Hexanone	ND		ug/kg	5.4	0.36	1
Bromochloromethane	ND		ug/kg	2.7	0.19	1
2,2-Dichloropropane	ND		ug/kg	2.7	0.24	1
1,2-Dibromoethane	ND		ug/kg	2.2	0.11	1
1,3-Dichloropropane	ND		ug/kg	2.7	0.10	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.54	0.17	1
Bromobenzene	ND		ug/kg	2.7	0.12	1
n-Butylbenzene	ND		ug/kg	0.54	0.12	1
sec-Butylbenzene	ND		ug/kg	0.54	0.12	1
tert-Butylbenzene	ND		ug/kg	2.7	0.13	1
o-Chlorotoluene	ND		ug/kg	2.7	0.12	1
p-Chlorotoluene	ND		ug/kg	2.7	0.10	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	0.21	1
Hexachlorobutadiene	ND		ug/kg	2.7	0.19	1
Isopropylbenzene	ND		ug/kg	0.54	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.54	0.11	1
Naphthalene	0.47	J	ug/kg	2.7	0.08	1
Acrylonitrile	ND		ug/kg	5.4	0.28	1
n-Propylbenzene	ND		ug/kg	0.54	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.7	0.14	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.7	0.12	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.7	0.09	1

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	2.7	0.10	1
1,4-Dioxane	ND		ug/kg	22	7.8	1
p-Diethylbenzene	ND		ug/kg	2.2	2.2	1
p-Ethyltoluene	ND		ug/kg	2.2	0.13	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.2	0.08	1
Ethyl ether	ND		ug/kg	2.7	0.14	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	2.7	0.21	1

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	109		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
1,3-Dichloropropene, Total	ND		ug/kg	1.0	0.21
1,1-Dichloropropene	ND		ug/kg	5.0	0.33
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.24
Dibromomethane	ND		ug/kg	10	0.24
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
Vinyl acetate	ND		ug/kg	10	0.15
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
1,2,3-Trichloropropane	ND		ug/kg	10	0.18
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
2,2-Dichloropropane	ND		ug/kg	5.0	0.45
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,3-Dichloropropane	ND		ug/kg	5.0	0.18
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	0.32
Bromobenzene	ND		ug/kg	5.0	0.22
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
o-Chlorotoluene	ND		ug/kg	5.0	0.22

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					
p-Chlorotoluene	ND		ug/kg	5.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Hexachlorobutadiene	ND		ug/kg	5.0	0.35
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	0.18	J	ug/kg	5.0	0.14
Acrylonitrile	ND		ug/kg	10	0.51
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19
1,4-Dioxane	ND		ug/kg	40	14.
p-Diethylbenzene	ND		ug/kg	4.0	4.0
p-Ethyltoluene	ND		ug/kg	4.0	0.23
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.0	0.16
Ethyl ether	ND		ug/kg	5.0	0.26
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	0.39

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/kg

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:50
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG993061-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	98		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:41
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG993460-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
1,3-Dichloropropene, Total	ND		ug/kg	1.0	0.21
1,1-Dichloropropene	ND		ug/kg	5.0	0.33
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	0.80	J	ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:41
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG993460-5					
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.24
Dibromomethane	ND		ug/kg	10	0.24
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
Vinyl acetate	ND		ug/kg	10	0.15
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
1,2,3-Trichloropropane	ND		ug/kg	10	0.18
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
2,2-Dichloropropane	ND		ug/kg	5.0	0.45
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,3-Dichloropropane	ND		ug/kg	5.0	0.18
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	0.32
Bromobenzene	ND		ug/kg	5.0	0.22
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
o-Chlorotoluene	ND		ug/kg	5.0	0.22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/11/17 08:41
Analyst: CBN

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG993460-5					
p-Chlorotoluene	ND		ug/kg	5.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Hexachlorobutadiene	ND		ug/kg	5.0	0.35
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	ND		ug/kg	5.0	0.14
Acrylonitrile	ND		ug/kg	10	0.51
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19
1,4-Dioxane	ND		ug/kg	40	14.
p-Diethylbenzene	ND		ug/kg	4.0	4.0
p-Ethyltoluene	ND		ug/kg	4.0	0.23
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.0	0.16
Ethyl ether	ND		ug/kg	5.0	0.26
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	0.39

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4								
Methylene chloride	86		91		70-130	6		30
1,1-Dichloroethane	96		100		70-130	4		30
Chloroform	97		102		70-130	5		30
Carbon tetrachloride	89		93		70-130	4		30
1,2-Dichloropropane	99		105		70-130	6		30
Dibromochloromethane	94		100		70-130	6		30
1,1,2-Trichloroethane	99		106		70-130	7		30
Tetrachloroethene	82		87		70-130	6		30
Chlorobenzene	88		92		70-130	4		30
Trichlorofluoromethane	95		97		70-139	2		30
1,2-Dichloroethane	106		112		70-130	6		30
1,1,1-Trichloroethane	92		97		70-130	5		30
Bromodichloromethane	99		103		70-130	4		30
trans-1,3-Dichloropropene	97		103		70-130	6		30
cis-1,3-Dichloropropene	100		106		70-130	6		30
1,1-Dichloropropene	93		97		70-130	4		30
Bromoform	96		101		70-130	5		30
1,1,2,2-Tetrachloroethane	105		109		70-130	4		30
Benzene	92		97		70-130	5		30
Toluene	84		89		70-130	6		30
Ethylbenzene	86		92		70-130	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4								
Chloromethane	92		94		52-130	2		30
Bromomethane	93		93		57-147	0		30
Vinyl chloride	88		91		67-130	3		30
Chloroethane	90		94		50-151	4		30
1,1-Dichloroethene	73		72		65-135	1		30
trans-1,2-Dichloroethene	90		94		70-130	4		30
Trichloroethene	90		95		70-130	5		30
1,2-Dichlorobenzene	92		96		70-130	4		30
1,3-Dichlorobenzene	89		92		70-130	3		30
1,4-Dichlorobenzene	89		92		70-130	3		30
Methyl tert butyl ether	107		114		66-130	6		30
p/m-Xylene	89		93		70-130	4		30
o-Xylene	91		96		70-130	5		30
cis-1,2-Dichloroethene	92		98		70-130	6		30
Dibromomethane	103		109		70-130	6		30
Styrene	94		99		70-130	5		30
Dichlorodifluoromethane	83		85		30-146	2		30
Acetone	129		129		54-140	0		30
Carbon disulfide	**139**	Q	**241**	Q	59-130	**54**	Q	30
2-Butanone	118		123		70-130	4		30
Vinyl acetate	104		108		70-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4								
4-Methyl-2-pentanone	102		105		70-130	3		30
1,2,3-Trichloropropane	105		111		68-130	6		30
2-Hexanone	106		106		70-130	0		30
Bromochloromethane	98		104		70-130	6		30
2,2-Dichloropropane	93		96		70-130	3		30
1,2-Dibromoethane	98		103		70-130	5		30
1,3-Dichloropropane	100		104		69-130	4		30
1,1,1,2-Tetrachloroethane	91		96		70-130	5		30
Bromobenzene	88		92		70-130	4		30
n-Butylbenzene	88		91		70-130	3		30
sec-Butylbenzene	86		91		70-130	6		30
tert-Butylbenzene	86		90		70-130	5		30
o-Chlorotoluene	87		91		70-130	4		30
p-Chlorotoluene	89		93		70-130	4		30
1,2-Dibromo-3-chloropropane	99		104		68-130	5		30
Hexachlorobutadiene	88		89		67-130	1		30
Isopropylbenzene	84		89		70-130	6		30
p-Isopropyltoluene	87		90		70-130	3		30
Naphthalene	100		102		70-130	2		30
Acrylonitrile	122		123		70-130	1		30
n-Propylbenzene	86		89		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG993061-3 WG993061-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,2,3-Trichlorobenzene	96		99		70-130	3		30
1,2,4-Trichlorobenzene	96		96		70-130	0		30
1,3,5-Trimethylbenzene	87		92		70-130	6		30
1,2,4-Trimethylbenzene	90		93		70-130	3		30
1,4-Dioxane	133		135		65-136	1		30
p-Diethylbenzene	86		91		70-130	6		30
p-Ethyltoluene	86		89		70-130	3		30
1,2,4,5-Tetramethylbenzene	90		93		70-130	3		30
Ethyl ether	99		101		67-130	2		30
trans-1,4-Dichloro-2-butene	97		103		70-130	6		30

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*
1,2-Dichloroethane-d4	111		109		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	102		102		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG993460-3 WG993460-4								
Methylene chloride	100		100		70-130	0		30
1,1-Dichloroethane	108		110		70-130	2		30
Chloroform	108		111		70-130	3		30
Carbon tetrachloride	120		127		70-130	6		30
1,2-Dichloropropane	101		105		70-130	4		30
Dibromochloromethane	101		105		70-130	4		30
1,1,2-Trichloroethane	95		97		70-130	2		30
Tetrachloroethene	126		129		70-130	2		30
Chlorobenzene	107		109		70-130	2		30
Trichlorofluoromethane	93		90		70-139	3		30
1,2-Dichloroethane	96		98		70-130	2		30
1,1,1-Trichloroethane	120		122		70-130	2		30
Bromodichloromethane	101		103		70-130	2		30
trans-1,3-Dichloropropene	101		102		70-130	1		30
cis-1,3-Dichloropropene	100		105		70-130	5		30
1,1-Dichloropropene	115		119		70-130	3		30
Bromoform	99		101		70-130	2		30
1,1,2,2-Tetrachloroethane	88		88		70-130	0		30
Benzene	110		112		70-130	2		30
Toluene	103		105		70-130	2		30
Ethylbenzene	105		107		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202
Lab Number: L1711107
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG993460-3 WG993460-4								
Chloromethane	100		98		52-130	2		30
Bromomethane	92		94		57-147	2		30
Vinyl chloride	90		88		67-130	2		30
Chloroethane	80		79		50-151	1		30
1,1-Dichloroethene	121		122		65-135	1		30
trans-1,2-Dichloroethene	120		122		70-130	2		30
Trichloroethene	113		117		70-130	3		30
1,2-Dichlorobenzene	102		106		70-130	4		30
1,3-Dichlorobenzene	104		108		70-130	4		30
1,4-Dichlorobenzene	102		106		70-130	4		30
Methyl tert butyl ether	113		115		66-130	2		30
p/m-Xylene	113		117		70-130	3		30
o-Xylene	114		115		70-130	1		30
cis-1,2-Dichloroethene	118		120		70-130	2		30
Dibromomethane	104		105		70-130	1		30
Styrene	106		110		70-130	4		30
Dichlorodifluoromethane	103		101		30-146	2		30
Acetone	88		85		54-140	3		30
Carbon disulfide	120		**175**	Q	59-130	**37**	Q	30
2-Butanone	97		97		70-130	0		30
Vinyl acetate	85		85		70-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG993460-3 WG993460-4								
4-Methyl-2-pentanone	75		78		70-130	4		30
1,2,3-Trichloropropane	82		84		68-130	2		30
2-Hexanone	**64**	Q	**61**	Q	70-130	5		30
Bromochloromethane	125		127		70-130	2		30
2,2-Dichloropropane	**132**	Q	**132**	Q	70-130	0		30
1,2-Dibromoethane	102		104		70-130	2		30
1,3-Dichloropropane	96		96		69-130	0		30
1,1,1,2-Tetrachloroethane	110		112		70-130	2		30
Bromobenzene	108		113		70-130	5		30
n-Butylbenzene	97		99		70-130	2		30
sec-Butylbenzene	103		106		70-130	3		30
tert-Butylbenzene	107		111		70-130	4		30
o-Chlorotoluene	95		98		70-130	3		30
p-Chlorotoluene	95		98		70-130	3		30
1,2-Dibromo-3-chloropropane	103		102		68-130	1		30
Hexachlorobutadiene	117		121		67-130	3		30
Isopropylbenzene	105		109		70-130	4		30
p-Isopropyltoluene	107		111		70-130	4		30
Naphthalene	88		91		70-130	3		30
Acrylonitrile	85		88		70-130	3		30
n-Propylbenzene	97		100		70-130	3		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Lab Number: L1711107

Project Number: 170301202

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG993460-3 WG993460-4								
1,2,3-Trichlorobenzene	111		116		70-130	4		30
1,2,4-Trichlorobenzene	110		117		70-130	6		30
1,3,5-Trimethylbenzene	101		105		70-130	4		30
1,2,4-Trimethylbenzene	102		106		70-130	4		30
1,4-Dioxane	108		110		65-136	2		30
p-Diethylbenzene	105		108		70-130	3		30
p-Ethyltoluene	104		107		70-130	3		30
1,2,4,5-Tetramethylbenzene	91		94		70-130	3		30
Ethyl ether	105		102		67-130	3		30
trans-1,4-Dichloro-2-butene	74		82		70-130	10		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	87		87		70-130
Toluene-d8	97		96		70-130
4-Bromofluorobenzene	92		90		70-130
Dibromofluoromethane	105		105		70-130

SEMIVOLATILES

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/11/17 01:08
Analytical Date:	04/11/17 10:34		
Analyst:	PS		
Percent Solids:	74%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	38	J	ug/kg	170	23.	1
1,2,4-Trichlorobenzene	ND		ug/kg	220	25.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	200	30.	1
2-Chloronaphthalene	ND		ug/kg	220	22.	1
1,2-Dichlorobenzene	ND		ug/kg	220	39.	1
1,3-Dichlorobenzene	ND		ug/kg	220	38.	1
1,4-Dichlorobenzene	ND		ug/kg	220	38.	1
3,3'-Dichlorobenzidine	ND		ug/kg	220	58.	1
2,4-Dinitrotoluene	ND		ug/kg	220	44.	1
2,6-Dinitrotoluene	ND		ug/kg	220	38.	1
Fluoranthene	540		ug/kg	130	25.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	220	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	220	33.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	260	37.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	240	22.	1
Hexachlorobutadiene	ND		ug/kg	220	32.	1
Hexachlorocyclopentadiene	ND		ug/kg	620	200	1
Hexachloroethane	ND		ug/kg	170	35.	1
Isophorone	ND		ug/kg	200	28.	1
Naphthalene	ND		ug/kg	220	27.	1
Nitrobenzene	ND		ug/kg	200	32.	1
NDPA/DPA	ND		ug/kg	170	25.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	220	34.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	220	76.	1
Butyl benzyl phthalate	ND		ug/kg	220	55.	1
Di-n-butylphthalate	ND		ug/kg	220	41.	1
Di-n-octylphthalate	ND		ug/kg	220	74.	1
Diethyl phthalate	ND		ug/kg	220	20.	1
Dimethyl phthalate	ND		ug/kg	220	46.	1

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Semivolatile Organics by GC/MS - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Benzo(a)anthracene	340		ug/kg	130	25.	1
Benzo(a)pyrene	320		ug/kg	170	53.	1
Benzo(b)fluoranthene	370		ug/kg	130	37.	1
Benzo(k)fluoranthene	140		ug/kg	130	35.	1
Chrysene	380		ug/kg	130	23.	1
Acenaphthylene	ND		ug/kg	170	34.	1
Anthracene	66	J	ug/kg	130	43.	1
Benzo(ghi)perylene	150	J	ug/kg	170	26.	1
Fluorene	33	J	ug/kg	220	21.	1
Phenanthrene	560		ug/kg	130	26.	1
Dibenzo(a,h)anthracene	49	J	ug/kg	130	25.	1
Indeno(1,2,3-cd)pyrene	170		ug/kg	170	30.	1
Pyrene	690		ug/kg	130	22.	1
Biphenyl	ND		ug/kg	500	51.	1
4-Chloroaniline	ND		ug/kg	220	40.	1
2-Nitroaniline	ND		ug/kg	220	42.	1
3-Nitroaniline	ND		ug/kg	220	41.	1
4-Nitroaniline	ND		ug/kg	220	90.	1
Dibenzofuran	ND		ug/kg	220	21.	1
2-Methylnaphthalene	ND		ug/kg	260	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	220	23.	1
Acetophenone	ND		ug/kg	220	27.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	41.	1
p-Chloro-m-cresol	ND		ug/kg	220	32.	1
2-Chlorophenol	ND		ug/kg	220	26.	1
2,4-Dichlorophenol	ND		ug/kg	200	35.	1
2,4-Dimethylphenol	ND		ug/kg	220	72.	1
2-Nitrophenol	ND		ug/kg	470	82.	1
4-Nitrophenol	ND		ug/kg	310	89.	1
2,4-Dinitrophenol	ND		ug/kg	1000	100	1
4,6-Dinitro-o-cresol	ND		ug/kg	570	100	1
Pentachlorophenol	ND		ug/kg	170	48.	1
Phenol	ND		ug/kg	220	33.	1
2-Methylphenol	ND		ug/kg	220	34.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	310	34.	1
2,4,5-Trichlorophenol	ND		ug/kg	220	42.	1
Benzoic Acid	ND		ug/kg	710	220	1
Benzyl Alcohol	ND		ug/kg	220	67.	1
Carbazole	ND		ug/kg	220	21.	1

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
2-Fluorophenol	66		25-120
Phenol-d6	69		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	68		10-136
4-Terphenyl-d14	67		18-120

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/11/17 01:08
Analytical Date:	04/11/17 11:00		
Analyst:	PS		
Percent Solids:	83%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	86	J	ug/kg	160	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	23.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
1,2-Dichlorobenzene	ND		ug/kg	200	36.	1
1,3-Dichlorobenzene	ND		ug/kg	200	34.	1
1,4-Dichlorobenzene	ND		ug/kg	200	34.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	1300		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	59	J	ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	68.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	67.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Semivolatile Organics by GC/MS - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Benzo(a)anthracene	580		ug/kg	120	22.	1
Benzo(a)pyrene	530		ug/kg	160	48.	1
Benzo(b)fluoranthene	660		ug/kg	120	33.	1
Benzo(k)fluoranthene	220		ug/kg	120	32.	1
Chrysene	560		ug/kg	120	20.	1
Acenaphthylene	43	J	ug/kg	160	30.	1
Anthracene	300		ug/kg	120	39.	1
Benzo(ghi)perylene	250		ug/kg	160	23.	1
Fluorene	94	J	ug/kg	200	19.	1
Phenanthrene	1100		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	72	J	ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	300		ug/kg	160	28.	1
Pyrene	1100		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	450	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	68	J	ug/kg	200	19.	1
2-Methylnaphthalene	28	J	ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	38.	1
p-Chloro-m-cresol	ND		ug/kg	200	30.	1
2-Chlorophenol	ND		ug/kg	200	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	65.	1
2-Nitrophenol	ND		ug/kg	430	74.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	950	92.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	95.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Benzoic Acid	ND		ug/kg	640	200	1
Benzyl Alcohol	ND		ug/kg	200	60.	1
Carbazole	110	J	ug/kg	200	19.	1

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	65		25-120
Phenol-d6	66		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	67		30-120
2,4,6-Tribromophenol	69		10-136
4-Terphenyl-d14	61		18-120

SAMPLE RESULTS

Lab ID: L1711107-03
Client ID: DS06_3-4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/11/17 11:27
Analyst: PS
Percent Solids: 91%

Date Collected: 04/10/17 14:00
Date Received: 04/10/17
Field Prep: Not Specified
Extraction Method: EPA 3546
Extraction Date: 04/11/17 01:08

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	29	J	ug/kg	150	19.	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	21.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	25.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
1,2-Dichlorobenzene	ND		ug/kg	180	33.	1
1,3-Dichlorobenzene	ND		ug/kg	180	31.	1
1,4-Dichlorobenzene	ND		ug/kg	180	32.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Fluoranthene	950		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	160	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	63.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	540		ug/kg	110	20.	1
Benzo(a)pyrene	550		ug/kg	150	45.	1
Benzo(b)fluoranthene	670		ug/kg	110	31.	1
Benzo(k)fluoranthene	240		ug/kg	110	29.	1
Chrysene	540		ug/kg	110	19.	1
Acenaphthylene	54	J	ug/kg	150	28.	1
Anthracene	110		ug/kg	110	36.	1
Benzo(ghi)perylene	260		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	470		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	81	J	ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	300		ug/kg	150	26.	1
Pyrene	910		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	42.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	76.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	400	69.	1
4-Nitrophenol	ND		ug/kg	260	75.	1
2,4-Dinitrophenol	ND		ug/kg	880	85.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	88.	1
Pentachlorophenol	ND		ug/kg	150	40.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Benzoic Acid	ND		ug/kg	590	180	1
Benzyl Alcohol	ND		ug/kg	180	56.	1
Carbazole	35	J	ug/kg	180	18.	1

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**19**	Q	25-120
Phenol-d6	49		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	66		30-120
2,4,6-Tribromophenol	**6**	Q	10-136
4-Terphenyl-d14	64		18-120

SAMPLE RESULTS

Lab ID:	L1711107-03 RE\D	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/11/17 12:32
Analytical Date:	04/16/17 18:56		
Analyst:	KV		
Percent Solids:	91%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	8900		ug/kg	540	100	5
Phenanthrene	9300		ug/kg	540	110	5
Pyrene	7700		ug/kg	540	89.	5

SAMPLE RESULTS

Lab ID:	L1711107-03 RE	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/11/17 12:32
Analytical Date:	04/14/17 13:28		
Analyst:	CB		
Percent Solids:	91%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	1100		ug/kg	140	18.	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	20.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
1,2-Dichlorobenzene	ND		ug/kg	180	32.	1
1,3-Dichlorobenzene	ND		ug/kg	180	31.	1
1,4-Dichlorobenzene	ND		ug/kg	180	31.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	47.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Fluoranthene	11000	E	ug/kg	110	20.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	27.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	30.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	510	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	230		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	26.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	62.	1
Butyl benzyl phthalate	ND		ug/kg	180	45.	1
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	61.	1
Diethyl phthalate	ND		ug/kg	180	16.	1
Dimethyl phthalate	ND		ug/kg	180	37.	1

SAMPLE RESULTS

Lab ID:	L1711107-03	RE	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4		Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY		Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	4800		ug/kg	110	20.	1
Benzo(a)pyrene	3700		ug/kg	140	44.	1
Benzo(b)fluoranthene	4800		ug/kg	110	30.	1
Benzo(k)fluoranthene	1600		ug/kg	110	28.	1
Chrysene	4600		ug/kg	110	18.	1
Acenaphthylene	380		ug/kg	140	28.	1
Anthracene	2700		ug/kg	110	35.	1
Benzo(ghi)perylene	1900		ug/kg	140	21.	1
Fluorene	1200		ug/kg	180	17.	1
Phenanthrene	11000	E	ug/kg	110	22.	1
Dibenzo(a,h)anthracene	540		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	2100		ug/kg	140	25.	1
Pyrene	9500	E	ug/kg	110	18.	1
Biphenyl	120	J	ug/kg	410	41.	1
4-Chloroaniline	ND		ug/kg	180	32.	1
2-Nitroaniline	ND		ug/kg	180	34.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	74.	1
Dibenzofuran	550		ug/kg	180	17.	1
2-Methylnaphthalene	290		ug/kg	210	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	22.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	34.	1
p-Chloro-m-cresol	ND		ug/kg	180	26.	1
2-Chlorophenol	ND		ug/kg	180	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	59.	1
2-Nitrophenol	ND		ug/kg	380	67.	1
4-Nitrophenol	ND		ug/kg	250	73.	1
2,4-Dinitrophenol	ND		ug/kg	860	83.	1
4,6-Dinitro-o-cresol	ND		ug/kg	460	86.	1
Pentachlorophenol	ND		ug/kg	140	39.	1
Phenol	ND		ug/kg	180	27.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	34.	1
Benzoic Acid	ND		ug/kg	580	180	1
Benzyl Alcohol	ND		ug/kg	180	55.	1
Carbazole	720		ug/kg	180	17.	1

SAMPLE RESULTS

Lab ID:	L1711107-03	RE	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4		Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY		Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	**18**	Q	25-120
Phenol-d6	47		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	63		30-120
2,4,6-Tribromophenol	11		10-136
4-Terphenyl-d14	57		18-120

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/11/17 07:57
Analyst: PS

Extraction Method: EPA 3546
Extraction Date: 04/11/17 00:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG992911-1					
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	18.
Hexachlorobenzene	ND		ug/kg	97	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	28.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	97	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/11/17 07:57
Analyst: PS

Extraction Method: EPA 3546
Extraction Date: 04/11/17 00:47

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG992911-1					
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	97	27.
Benzo(k)fluoranthene	ND		ug/kg	97	26.
Chrysene	ND		ug/kg	97	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Dibenzo(a,h)anthracene	ND		ug/kg	97	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	97	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	190	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	97	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8270D	Extraction Method:	EPA 3546
Analytical Date:	04/11/17 07:57	Extraction Date:	04/11/17 00:47
Analyst:	PS		

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG992911-1					
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	530	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	72		25-120
Phenol-d6	71		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	69		30-120
2,4,6-Tribromophenol	57		10-136
4-Terphenyl-d14	67		18-120

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/12/17 02:41
Analyst: PS

Extraction Method: EPA 3546
Extraction Date: 04/11/17 12:32

Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG993100-1

Parameter	Result	Qualifier	Units	RL	MDL
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	18.
Hexachlorobenzene	ND		ug/kg	97	18.
Bis(2-chloroethyl)ether	ND		ug/kg	140	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	29.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	28.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	97	18.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	170	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	140	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	140	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/12/17 02:41
Analyst: PS

Extraction Method: EPA 3546
Extraction Date: 04/11/17 12:32

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG993100-1					
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	39.
Benzo(b)fluoranthene	ND		ug/kg	97	27.
Benzo(k)fluoranthene	ND		ug/kg	97	26.
Chrysene	ND		ug/kg	97	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Dibenzo(a,h)anthracene	ND		ug/kg	97	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	22.
Pyrene	ND		ug/kg	97	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	29.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	30.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	190	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	97	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	140	26.
2,4-Dimethylphenol	ND		ug/kg	160	53.
2-Nitrophenol	ND		ug/kg	350	61.

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8270D	Extraction Method:	EPA 3546
Analytical Date:	04/12/17 02:41	Extraction Date:	04/11/17 12:32
Analyst:	PS		

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG993100-1					
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	75.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	520	160
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/kg		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	64		25-120
Phenol-d6	64		10-120
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	64		30-120
2,4,6-Tribromophenol	56		10-136
4-Terphenyl-d14	72		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG992911-2 WG992911-3								
Acenaphthene	71		70		31-137	1		50
1,2,4-Trichlorobenzene	73		71		38-107	3		50
Hexachlorobenzene	71		71		40-140	0		50
Bis(2-chloroethyl)ether	73		72		40-140	1		50
2-Chloronaphthalene	70		68		40-140	3		50
1,2-Dichlorobenzene	71		68		40-140	4		50
1,3-Dichlorobenzene	71		69		40-140	3		50
1,4-Dichlorobenzene	70		68		28-104	3		50
3,3'-Dichlorobenzidine	48		43		40-140	11		50
2,4-Dinitrotoluene	69		70		40-132	1		50
2,6-Dinitrotoluene	67		68		40-140	1		50
Fluoranthene	73		71		40-140	3		50
4-Chlorophenyl phenyl ether	73		72		40-140	1		50
4-Bromophenyl phenyl ether	73		73		40-140	0		50
Bis(2-chloroisopropyl)ether	74		73		40-140	1		50
Bis(2-chloroethoxy)methane	77		76		40-117	1		50
Hexachlorobutadiene	66		64		40-140	3		50
Hexachlorocyclopentadiene	78		78		40-140	0		50
Hexachloroethane	70		69		40-140	1		50
Isophorone	76		75		40-140	1		50
Naphthalene	69		67		40-140	3		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG992911-2 WG992911-3								
Nitrobenzene	73		74		40-140	1		50
NDPA/DPA	75		74		36-157	1		50
n-Nitrosodi-n-propylamine	76		75		32-121	1		50
Bis(2-ethylhexyl)phthalate	80		78		40-140	3		50
Butyl benzyl phthalate	75		76		40-140	1		50
Di-n-butylphthalate	76		75		40-140	1		50
Di-n-octylphthalate	74		73		40-140	1		50
Diethyl phthalate	74		73		40-140	1		50
Dimethyl phthalate	71		71		40-140	0		50
Benzo(a)anthracene	72		71		40-140	1		50
Benzo(a)pyrene	73		72		40-140	1		50
Benzo(b)fluoranthene	71		71		40-140	0		50
Benzo(k)fluoranthene	72		71		40-140	1		50
Chrysene	72		70		40-140	3		50
Acenaphthylene	72		71		40-140	1		50
Anthracene	76		73		40-140	4		50
Benzo(ghi)perylene	72		69		40-140	4		50
Fluorene	74		72		40-140	3		50
Phenanthrene	71		70		40-140	1		50
Dibenzo(a,h)anthracene	74		71		40-140	4		50
Indeno(1,2,3-cd)pyrene	72		70		40-140	3		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Lab Number: L1711107

Project Number: 170301202

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG992911-2 WG992911-3								
Pyrene	72		71		35-142	1		50
Biphenyl	76		75		54-104	1		50
4-Chloroaniline	48		44		40-140	9		50
2-Nitroaniline	65		67		47-134	3		50
3-Nitroaniline	61		59		26-129	3		50
4-Nitroaniline	72		72		41-125	0		50
Dibenzofuran	72		70		40-140	3		50
2-Methylnaphthalene	70		68		40-140	3		50
1,2,4,5-Tetrachlorobenzene	73		70		40-117	4		50
Acetophenone	79		78		14-144	1		50
2,4,6-Trichlorophenol	70		72		30-130	3		50
p-Chloro-m-cresol	73		72		26-103	1		50
2-Chlorophenol	74		73		25-102	1		50
2,4-Dichlorophenol	78		76		30-130	3		50
2,4-Dimethylphenol	90		88		30-130	2		50
2-Nitrophenol	67		68		30-130	1		50
4-Nitrophenol	72		74		11-114	3		50
2,4-Dinitrophenol	45		54		4-130	18		50
4,6-Dinitro-o-cresol	63		66		10-130	5		50
Pentachlorophenol	64		65		17-109	2		50
Phenol	80		76		26-90	5		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711107
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG992911-2 WG992911-3								
2-Methylphenol	77		75		30-130.	3		50
3-Methylphenol/4-Methylphenol	81		80		30-130	1		50
2,4,5-Trichlorophenol	71		73		30-130	3		50
Benzoic Acid	**7**	Q	**9**	Q	10-110	25		50
Benzyl Alcohol	75		73		40-140	3		50
Carbazole	73		71		54-128	3		50

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*
2-Fluorophenol	72		69		25-120
Phenol-d6	72		69		10-120
Nitrobenzene-d5	69		68		23-120
2-Fluorobiphenyl	66		64		30-120
2,4,6-Tribromophenol	67		67		10-136
4-Terphenyl-d14	67		64		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993100-2 WG993100-3								
Acenaphthene	70		70		31-137	0		50
1,2,4-Trichlorobenzene	70		71		38-107	1		50
Hexachlorobenzene	74		74		40-140	0		50
Bis(2-chloroethyl)ether	66		67		40-140	2		50
2-Chloronaphthalene	70		70		40-140	0		50
1,2-Dichlorobenzene	67		69		40-140	3		50
1,3-Dichlorobenzene	66		68		40-140	3		50
1,4-Dichlorobenzene	65		68		28-104	5		50
3,3'-Dichlorobenzidine	45		44		40-140	2		50
2,4-Dinitrotoluene	80		81		40-132	1		50
2,6-Dinitrotoluene	81		80		40-140	1		50
Fluoranthene	74		75		40-140	1		50
4-Chlorophenyl phenyl ether	73		73		40-140	0		50
4-Bromophenyl phenyl ether	73		74		40-140	1		50
Bis(2-chloroisopropyl)ether	70		71		40-140	1		50
Bis(2-chloroethoxy)methane	70		71		40-117	1		50
Hexachlorobutadiene	70		72		40-140	3		50
Hexachlorocyclopentadiene	65		65		40-140	0		50
Hexachloroethane	67		69		40-140	3		50
Isophorone	73		73		40-140	0		50
Naphthalene	68		70		40-140	3		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993100-2 WG993100-3								
Nitrobenzene	69		69		40-140	0		50
NDPA/DPA	74		75		36-157	1		50
n-Nitrosodi-n-propylamine	73		73		32-121	0		50
Bis(2-ethylhexyl)phthalate	78		79		40-140	1		50
Butyl benzyl phthalate	78		78		40-140	0		50
Di-n-butylphthalate	80		80		40-140	0		50
Di-n-octylphthalate	75		76		40-140	1		50
Diethyl phthalate	74		75		40-140	1		50
Dimethyl phthalate	76		76		40-140	0		50
Benzo(a)anthracene	72		73		40-140	1		50
Benzo(a)pyrene	78		78		40-140	0		50
Benzo(b)fluoranthene	73		73		40-140	0		50
Benzo(k)fluoranthene	75		76		40-140	1		50
Chrysene	69		71		40-140	3		50
Acenaphthylene	76		75		40-140	1		50
Anthracene	76		76		40-140	0		50
Benzo(ghi)perylene	73		74		40-140	1		50
Fluorene	73		73		40-140	0		50
Phenanthrene	72		72		40-140	0		50
Dibenzo(a,h)anthracene	73		74		40-140	1		50
Indeno(1,2,3-cd)pyrene	65		66		40-140	2		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993100-2 WG993100-3								
Pyrene	73		73		35-142	0		50
Biphenyl	75		74		54-104	1		50
4-Chloroaniline	49		46		40-140	6		50
2-Nitroaniline	74		73		47-134	1		50
3-Nitroaniline	60		58		26-129	3		50
4-Nitroaniline	71		73		41-125	3		50
Dibenzofuran	72		72		40-140	0		50
2-Methylnaphthalene	71		71		40-140	0		50
1,2,4,5-Tetrachlorobenzene	75		75		40-117	0		50
Acetophenone	75		75		14-144	0		50
2,4,6-Trichlorophenol	79		78		30-130	1		50
p-Chloro-m-cresol	81		80		26-103	1		50
2-Chlorophenol	73		74		25-102	1		50
2,4-Dichlorophenol	79		78		30-130	1		50
2,4-Dimethylphenol	88		87		30-130	1		50
2-Nitrophenol	76		77		30-130	1		50
4-Nitrophenol	76		65		11-114	16		50
2,4-Dinitrophenol	43		46		4-130	7		50
4,6-Dinitro-o-cresol	63		65		10-130	3		50
Pentachlorophenol	58		60		17-109	3		50
Phenol	73		74		26-90	1		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*%Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG993100-2 WG993100-3								
2-Methylphenol	77		77		30-130.	0		50
3-Methylphenol/4-Methylphenol	75		76		30-130	1		50
2,4,5-Trichlorophenol	80		78		30-130	3		50
Benzoic Acid	14		16		10-110	13		50
Benzyl Alcohol	75		74		40-140	1		50
Carbazole	73		74		54-128	1		50

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*
2-Fluorophenol	72		73		25-120
Phenol-d6	73		73		10-120
Nitrobenzene-d5	68		70		23-120
2-Fluorobiphenyl	72		72		30-120
2,4,6-Tribromophenol	68		68		10-136
4-Terphenyl-d14	72		71		18-120

PCBS

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/11/17 02:28
Analytical Date:	04/11/17 15:36	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	04/11/17
Percent Solids:	74%	Cleanup Method:	EPA 3660B
		Cleanup Date:	04/11/17

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	43.6	3.45	1	A
Aroclor 1221	ND		ug/kg	43.6	4.02	1	A
Aroclor 1232	ND		ug/kg	43.6	5.12	1	A
Aroclor 1242	ND		ug/kg	43.6	5.34	1	A
Aroclor 1248	ND		ug/kg	43.6	3.68	1	A
Aroclor 1254	ND		ug/kg	43.6	3.59	1	A
Aroclor 1260	ND		ug/kg	43.6	3.33	1	A
Aroclor 1262	ND		ug/kg	43.6	2.16	1	A
Aroclor 1268	ND		ug/kg	43.6	6.33	1	A
PCBs, Total	ND		ug/kg	43.6	2.16	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		30-150	A
Decachlorobiphenyl	59		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	64		30-150	B

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/11/17 02:28
Analytical Date:	04/11/17 15:49	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	04/11/17
Percent Solids:	83%	Cleanup Method:	EPA 3660B
		Cleanup Date:	04/11/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.9	3.07	1	A
Aroclor 1221	ND		ug/kg	38.9	3.59	1	A
Aroclor 1232	ND		ug/kg	38.9	4.56	1	A
Aroclor 1242	ND		ug/kg	38.9	4.76	1	A
Aroclor 1248	ND		ug/kg	38.9	3.28	1	A
Aroclor 1254	ND		ug/kg	38.9	3.20	1	A
Aroclor 1260	ND		ug/kg	38.9	2.96	1	A
Aroclor 1262	ND		ug/kg	38.9	1.93	1	A
Aroclor 1268	ND		ug/kg	38.9	5.64	1	A
PCBs, Total	ND		ug/kg	38.9	1.93	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	90		30-150	A
Decachlorobiphenyl	59		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	62		30-150	B

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/11/17 02:28
Analytical Date:	04/11/17 16:01	Cleanup Method:	EPA 3665A
Analyst:	JA	Cleanup Date:	04/11/17
Percent Solids:	91%	Cleanup Method:	EPA 3660B
		Cleanup Date:	04/11/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.2	2.86	1	A
Aroclor 1221	ND		ug/kg	36.2	3.34	1	A
Aroclor 1232	ND		ug/kg	36.2	4.24	1	A
Aroclor 1242	ND		ug/kg	36.2	4.43	1	A
Aroclor 1248	ND		ug/kg	36.2	3.05	1	A
Aroclor 1254	ND		ug/kg	36.2	2.97	1	A
Aroclor 1260	ND		ug/kg	36.2	2.76	1	A
Aroclor 1262	ND		ug/kg	36.2	1.79	1	A
Aroclor 1268	ND		ug/kg	36.2	5.25	1	A
PCBs, Total	ND		ug/kg	36.2	1.79	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	98		30-150	A
Decachlorobiphenyl	67		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	68		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 04/11/17 14:04
Analyst: JA

Extraction Method: EPA 3546
Extraction Date: 04/10/17 09:20
Cleanup Method: EPA 3665A
Cleanup Date: 04/10/17
Cleanup Method: EPA 3660B
Cleanup Date: 04/10/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-03 Batch: WG992646-1						
Aroclor 1016	ND		ug/kg	32.2	2.54	A
Aroclor 1221	ND		ug/kg	32.2	2.97	A
Aroclor 1232	ND		ug/kg	32.2	3.77	A
Aroclor 1242	ND		ug/kg	32.2	3.94	A
Aroclor 1248	ND		ug/kg	32.2	2.72	A
Aroclor 1254	ND		ug/kg	32.2	2.65	A
Aroclor 1260	ND		ug/kg	32.2	2.45	A
Aroclor 1262	ND		ug/kg	32.2	1.60	A
Aroclor 1268	ND		ug/kg	32.2	4.67	A
PCBs, Total	ND		ug/kg	32.2	1.60	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	65		30-150	A
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	71		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG992646-2 WG992646-3									
Aroclor 1016	81		94		40-140	15		50	A
Aroclor 1260	66		80		40-140	19		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		96		30-150	A
Decachlorobiphenyl	56		67		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		91		30-150	B
Decachlorobiphenyl	61		72		30-150	B

PESTICIDES

SAMPLE RESULTS

Lab ID: L1711107-01
Client ID: DS04_3-4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 04/11/17 13:32
Analyst: DM
Percent Solids: 74%

Date Collected: 04/10/17 13:30
Date Received: 04/10/17
Field Prep: Not Specified
Extraction Method:EPA 3546
Extraction Date: 04/11/17 02:44
Cleanup Method: EPA 3620B
Cleanup Date: 04/11/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	2.08	0.408	1	A
Lindane	ND		ug/kg	0.867	0.388	1	A
Alpha-BHC	ND		ug/kg	0.867	0.246	1	A
Beta-BHC	ND		ug/kg	2.08	0.789	1	A
Heptachlor	ND		ug/kg	1.04	0.467	1	A
Aldrin	ND		ug/kg	2.08	0.733	1	A
Heptachlor epoxide	ND		ug/kg	3.90	1.17	1	A
Endrin	ND		ug/kg	0.867	0.356	1	A
Endrin aldehyde	ND		ug/kg	2.60	0.911	1	A
Endrin ketone	ND		ug/kg	2.08	0.536	1	A
Dieldrin	ND		ug/kg	1.30	0.650	1	A
4,4'-DDE	ND		ug/kg	2.08	0.481	1	A
4,4'-DDD	ND		ug/kg	2.08	0.742	1	A
4,4'-DDT	ND		ug/kg	3.90	1.67	1	A
Endosulfan I	ND		ug/kg	2.08	0.492	1	A
Endosulfan II	ND		ug/kg	2.08	0.696	1	A
Endosulfan sulfate	ND		ug/kg	0.867	0.413	1	A
Methoxychlor	ND		ug/kg	3.90	1.21	1	A
Toxaphene	ND		ug/kg	39.0	10.9	1	A
cis-Chlordane	ND		ug/kg	2.60	0.725	1	A
trans-Chlordane	0.916	JPI	ug/kg	2.60	0.687	1	A
Chlordane	ND		ug/kg	16.9	6.90	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	98		30-150	B
Decachlorobiphenyl	82		30-150	B
2,4,5,6-Tetrachloro-m-xylene	91		30-150	A
Decachlorobiphenyl	79		30-150	A

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	04/11/17 03:42
Analytical Date:	04/11/17 15:27		
Analyst:	DM		
Percent Solids:	74%		
Methylation Date:	04/11/17 12:13		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	222	14.0	1	A
2,4,5-T	ND		ug/kg	222	6.87	1	A
2,4,5-TP (Silvex)	ND		ug/kg	222	5.90	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
DCAA	76		30-150	A
DCAA	58		30-150	B

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8081B	Extraction Date:	04/11/17 02:44
Analytical Date:	04/11/17 13:44	Cleanup Method:	EPA 3620B
Analyst:	DM	Cleanup Date:	04/11/17
Percent Solids:	83%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.85	0.362	1	A
Lindane	ND		ug/kg	0.770	0.344	1	A
Alpha-BHC	ND		ug/kg	0.770	0.219	1	A
Beta-BHC	ND		ug/kg	1.85	0.701	1	A
Heptachlor	ND		ug/kg	0.924	0.414	1	A
Aldrin	ND		ug/kg	1.85	0.651	1	A
Heptachlor epoxide	ND		ug/kg	3.46	1.04	1	A
Endrin	ND		ug/kg	0.770	0.316	1	A
Endrin aldehyde	ND		ug/kg	2.31	0.808	1	A
Endrin ketone	ND		ug/kg	1.85	0.476	1	A
Dieldrin	ND		ug/kg	1.16	0.578	1	A
4,4'-DDE	ND		ug/kg	1.85	0.427	1	A
4,4'-DDD	ND		ug/kg	1.85	0.659	1	A
4,4'-DDT	ND		ug/kg	3.46	1.49	1	A
Endosulfan I	ND		ug/kg	1.85	0.437	1	A
Endosulfan II	ND		ug/kg	1.85	0.618	1	A
Endosulfan sulfate	ND		ug/kg	0.770	0.366	1	A
Methoxychlor	ND		ug/kg	3.46	1.08	1	A
Toxaphene	ND		ug/kg	34.6	9.70	1	A
cis-Chlordane	ND		ug/kg	2.31	0.644	1	A
trans-Chlordane	3.82	P	ug/kg	2.31	0.610	1	B
Chlordane	ND		ug/kg	15.0	6.12	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	93		30-150	B
Decachlorobiphenyl	80		30-150	B
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	83		30-150	A

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

SAMPLE RESULTS

Lab ID:	L1711107-02	Date Collected:	04/10/17 10:30
Client ID:	DS05_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	04/11/17 03:42
Analytical Date:	04/11/17 15:47		
Analyst:	DM		
Percent Solids:	83%		
Methylation Date:	04/11/17 12:13		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	195	12.3	1	A
2,4,5-T	ND		ug/kg	195	6.05	1	A
2,4,5-TP (Silvex)	ND		ug/kg	195	5.19	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	91		30-150	A
DCAA	69		30-150	B

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8081B	Extraction Date:	04/11/17 02:44
Analytical Date:	04/11/17 13:57	Cleanup Method:	EPA 3620B
Analyst:	DM	Cleanup Date:	04/11/17
Percent Solids:	91%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.70	0.334	1	A
Lindane	ND		ug/kg	0.710	0.317	1	A
Alpha-BHC	ND		ug/kg	0.710	0.202	1	A
Beta-BHC	ND		ug/kg	1.70	0.646	1	A
Heptachlor	ND		ug/kg	0.852	0.382	1	A
Aldrin	ND		ug/kg	1.70	0.600	1	A
Heptachlor epoxide	ND		ug/kg	3.20	0.959	1	A
Endrin	ND		ug/kg	0.710	0.291	1	A
Endrin aldehyde	ND		ug/kg	2.13	0.746	1	A
Endrin ketone	ND		ug/kg	1.70	0.439	1	A
Dieldrin	ND		ug/kg	1.06	0.533	1	A
4,4'-DDE	ND		ug/kg	1.70	0.394	1	A
4,4'-DDD	ND		ug/kg	1.70	0.608	1	A
4,4'-DDT	ND		ug/kg	3.20	1.37	1	A
Endosulfan I	ND		ug/kg	1.70	0.403	1	A
Endosulfan II	ND		ug/kg	1.70	0.570	1	A
Endosulfan sulfate	ND		ug/kg	0.710	0.338	1	A
Methoxychlor	ND		ug/kg	3.20	0.994	1	A
Toxaphene	ND		ug/kg	32.0	8.95	1	A
cis-Chlordane	ND		ug/kg	2.13	0.594	1	A
trans-Chlordane	ND		ug/kg	2.13	0.562	1	A
Chlordane	ND		ug/kg	13.8	5.64	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	96		30-150	A
Decachlorobiphenyl	94		30-150	A

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	04/11/17 03:42
Analytical Date:	04/11/17 16:06		
Analyst:	DM		
Percent Solids:	91%		
Methylation Date:	04/11/17 12:13		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	180	11.4	1	A
2,4,5-T	ND		ug/kg	180	5.59	1	A
2,4,5-TP (Silvex)	ND		ug/kg	180	4.80	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
DCAA	88		30-150	A
DCAA	66		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 04/11/17 11:51
Analyst: KEG

Extraction Method: EPA 3546
Extraction Date: 04/10/17 09:34
Cleanup Method: EPA 3620B
Cleanup Date: 04/11/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-03 Batch: WG992650-1						
Delta-BHC	ND		ug/kg	1.54	0.301	A
Lindane	ND		ug/kg	0.641	0.286	A
Alpha-BHC	ND		ug/kg	0.641	0.182	A
Beta-BHC	ND		ug/kg	1.54	0.583	A
Heptachlor	ND		ug/kg	0.769	0.345	A
Aldrin	ND		ug/kg	1.54	0.542	A
Heptachlor epoxide	ND		ug/kg	2.88	0.865	A
Endrin	ND		ug/kg	0.641	0.263	A
Endrin aldehyde	ND		ug/kg	1.92	0.673	A
Endrin ketone	ND		ug/kg	1.54	0.396	A
Dieldrin	ND		ug/kg	0.962	0.481	A
4,4'-DDE	ND		ug/kg	1.54	0.356	A
4,4'-DDD	ND		ug/kg	1.54	0.549	A
4,4'-DDT	ND		ug/kg	2.88	1.24	A
Endosulfan I	ND		ug/kg	1.54	0.363	A
Endosulfan II	ND		ug/kg	1.54	0.514	A
Endosulfan sulfate	ND		ug/kg	0.641	0.305	A
Methoxychlor	ND		ug/kg	2.88	0.897	A
Toxaphene	ND		ug/kg	28.8	8.08	A
cis-Chlordane	ND		ug/kg	1.92	0.536	A
trans-Chlordane	ND		ug/kg	1.92	0.508	A
Chlordane	ND		ug/kg	12.5	5.10	A

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8081B	Extraction Method:	EPA 3546
Analytical Date:	04/11/17 11:51	Extraction Date:	04/10/17 09:34
Analyst:	KEG	Cleanup Method:	EPA 3620B
		Cleanup Date:	04/11/17

Parameter	Result	Qualifier	Units	RL	MDL
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-03 Batch: WG992650-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	B
Decachlorobiphenyl	72		30-150	B
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	60		30-150	A

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8151A	Extraction Method:	EPA 8151A
Analytical Date:	04/11/17 11:40	Extraction Date:	04/10/17 19:56
Analyst:	KEG		

Methylation Date: 04/11/17 02:56

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 01-03 Batch: WG992871-1						
2,4-D	ND		ug/kg	165	10.4	A
2,4,5-T	ND		ug/kg	165	5.12	A
2,4,5-TP (Silvex)	ND		ug/kg	165	4.39	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	**27**	Q	30-150	A
DCAA	**24**	Q	30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG992650-2 WG992650-3									
Delta-BHC	96		93		30-150	3		30	A
Lindane	85		82		30-150	4		30	A
Alpha-BHC	91		88		30-150	3		30	A
Beta-BHC	96		91		30-150	5		30	A
Heptachlor	89		86		30-150	3		30	A
Aldrin	86		80		30-150	7		30	A
Heptachlor epoxide	84		81		30-150	4		30	A
Endrin	91		88		30-150	3		30	A
Endrin aldehyde	76		76		30-150	0		30	A
Endrin ketone	88		88		30-150	0		30	A
Dieldrin	96		91		30-150	5		30	A
4,4'-DDE	97		91		30-150	6		30	A
4,4'-DDD	93		89		30-150	4		30	A
4,4'-DDT	96		91		30-150	5		30	A
Endosulfan I	88		84		30-150	5		30	A
Endosulfan II	88		85		30-150	3		30	A
Endosulfan sulfate	84		83		30-150	1		30	A
Methoxychlor	88		87		30-150	1		30	A
cis-Chlordane	89		82		30-150	8		30	A
trans-Chlordane	90		84		30-150	7		30	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG992650-2 WG992650-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	95		86		30-150	B
Decachlorobiphenyl	84		75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	88		82		30-150	A
Decachlorobiphenyl	65		61		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01-03 Batch: WG992871-2 WG992871-3									
2,4-D	46		50		30-150	8		30	A
2,4,5-T	46		56		30-150	20		30	A
2,4,5-TP (Silvex)	41		49		30-150	18		30	A

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*	*Column*
DCAA	**28**	Q	36		30-150	A
DCAA	**25**	Q	**26**	Q	30-150	B

METALS

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	74%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3200		mg/kg	10	2.8	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Antimony, Total	7.1		mg/kg	5.2	0.40	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Arsenic, Total	19		mg/kg	1.0	0.22	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Barium, Total	31		mg/kg	1.0	0.18	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Beryllium, Total	0.36	J	mg/kg	0.52	0.03	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Cadmium, Total	0.38	J	mg/kg	1.0	0.10	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Calcium, Total	2000		mg/kg	10	3.7	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Chromium, Total	37		mg/kg	1.0	0.10	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Cobalt, Total	9.1		mg/kg	2.1	0.17	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Copper, Total	140		mg/kg	1.0	0.27	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Iron, Total	41000		mg/kg	5.2	0.94	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Lead, Total	200		mg/kg	5.2	0.28	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Magnesium, Total	1100		mg/kg	10	1.6	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Manganese, Total	370		mg/kg	1.0	0.17	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Mercury, Total	190		mg/kg	8.5	1.8	100	04/11/17 08:25	04/11/17 17:37	EPA 7471B	1,7471B	BV
Nickel, Total	26		mg/kg	2.6	0.25	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Potassium, Total	1400		mg/kg	260	15.	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Selenium, Total	ND		mg/kg	2.1	0.27	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Silver, Total	ND		mg/kg	1.0	0.30	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Sodium, Total	270		mg/kg	210	3.3	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Thallium, Total	ND		mg/kg	2.1	0.33	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Vanadium, Total	48		mg/kg	1.0	0.21	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
Zinc, Total	100		mg/kg	5.2	0.31	2	04/11/17 18:20	04/12/17 17:52	EPA 3050B	1,6010C	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	35		mg/kg	1.1	1.1	1		04/12/17 19:19	NA	107,-	

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

SAMPLE RESULTS

Lab ID: L1711107-02
Client ID: DS05_3-4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil
Percent Solids: 83%
Date Collected: 04/10/17 10:30
Date Received: 04/10/17
Field Prep: Not Specified

Total Metals - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Aluminum, Total	4600		mg/kg	9.4	2.5	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Antimony, Total	ND		mg/kg	4.7	0.36	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Arsenic, Total	4.3		mg/kg	0.94	0.20	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Barium, Total	31		mg/kg	0.94	0.16	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Beryllium, Total	0.21	J	mg/kg	0.47	0.03	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Cadmium, Total	0.28	J	mg/kg	0.94	0.09	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Calcium, Total	1600		mg/kg	9.4	3.3	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Chromium, Total	9.0		mg/kg	0.94	0.09	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Cobalt, Total	4.6		mg/kg	1.9	0.16	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Copper, Total	89		mg/kg	0.94	0.24	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Iron, Total	10000		mg/kg	4.7	0.85	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Lead, Total	66		mg/kg	4.7	0.25	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Magnesium, Total	2200		mg/kg	9.4	1.4	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Manganese, Total	200		mg/kg	0.94	0.15	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Mercury, Total	7.2		mg/kg	0.39	0.08	5	04/11/17 08:25	04/11/17 17:39	EPA 7471B	1,7471B	BV
Nickel, Total	23		mg/kg	2.3	0.23	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Potassium, Total	540		mg/kg	230	14.	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Selenium, Total	ND		mg/kg	1.9	0.24	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Silver, Total	ND		mg/kg	0.94	0.26	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Sodium, Total	70	J	mg/kg	190	3.0	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Thallium, Total	ND		mg/kg	1.9	0.30	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Vanadium, Total	13		mg/kg	0.94	0.19	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM
Zinc, Total	240		mg/kg	4.7	0.27	2	04/11/17 18:20	04/12/17 17:56	EPA 3050B	1,6010C	AM

General Chemistry - Mansfield Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Chromium, Trivalent	8.6	J	mg/kg	0.96	0.96	1		04/12/17 19:20	NA	107,-	

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

SAMPLE RESULTS

Lab ID:	L1711107-03	Date Collected:	04/10/17 14:00
Client ID:	DS06_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	91%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	5100		mg/kg	8.7	2.4	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Antimony, Total	3.1	J	mg/kg	4.4	0.33	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Arsenic, Total	7.7		mg/kg	0.87	0.18	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Barium, Total	67		mg/kg	0.87	0.15	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Beryllium, Total	0.31	J	mg/kg	0.44	0.03	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Cadmium, Total	2.2		mg/kg	0.87	0.09	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Calcium, Total	2200		mg/kg	8.7	3.0	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Chromium, Total	12		mg/kg	0.87	0.08	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Cobalt, Total	5.0		mg/kg	1.7	0.14	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Copper, Total	300		mg/kg	0.87	0.22	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Iron, Total	11000		mg/kg	4.4	0.79	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Lead, Total	140		mg/kg	4.4	0.23	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Magnesium, Total	2100		mg/kg	8.7	1.3	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Manganese, Total	200		mg/kg	0.87	0.14	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Mercury, Total	0.62		mg/kg	0.07	0.02	1	04/11/17 08:25	04/11/17 17:35	EPA 7471B	1,7471B	BV
Nickel, Total	18		mg/kg	2.2	0.21	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Potassium, Total	1000		mg/kg	220	12.	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Selenium, Total	ND		mg/kg	1.7	0.22	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Silver, Total	ND		mg/kg	0.87	0.25	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Sodium, Total	84	J	mg/kg	170	2.7	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Thallium, Total	ND		mg/kg	1.7	0.27	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Vanadium, Total	18		mg/kg	0.87	0.18	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
Zinc, Total	680		mg/kg	4.4	0.26	2	04/11/17 18:20	04/12/17 18:00	EPA 3050B	1,6010C	AM
General Chemistry - Mansfield Lab											
Chromium, Trivalent	12		mg/kg	0.88	0.88	1		04/12/17 19:20	NA	107,-	

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG992932-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	04/11/17 08:25	04/11/17 16:48	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03 Batch: WG993212-1										
Aluminum, Total	ND		mg/kg	4.0	1.1	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Antimony, Total	ND		mg/kg	2.0	0.15	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Arsenic, Total	ND		mg/kg	0.40	0.08	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Barium, Total	ND		mg/kg	0.40	0.07	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Beryllium, Total	ND		mg/kg	0.20	0.01	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Cadmium, Total	ND		mg/kg	0.40	0.04	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Calcium, Total	ND		mg/kg	4.0	1.4	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Chromium, Total	ND		mg/kg	0.40	0.04	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Cobalt, Total	ND		mg/kg	0.80	0.07	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Copper, Total	ND		mg/kg	0.40	0.10	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Iron, Total	ND		mg/kg	2.0	0.36	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Lead, Total	ND		mg/kg	2.0	0.11	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Magnesium, Total	ND		mg/kg	4.0	0.62	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Manganese, Total	0.07	J	mg/kg	0.40	0.06	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Nickel, Total	ND		mg/kg	1.0	0.10	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Potassium, Total	ND		mg/kg	100	5.8	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Selenium, Total	ND		mg/kg	0.80	0.10	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Silver, Total	ND		mg/kg	0.40	0.11	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Sodium, Total	ND		mg/kg	80	1.3	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Thallium, Total	ND		mg/kg	0.80	0.13	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Vanadium, Total	ND		mg/kg	0.40	0.08	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM
Zinc, Total	ND		mg/kg	2.0	0.12	1	04/11/17 18:20	04/12/17 10:48	1,6010C	AM

Project Name:	450 UNION STREET	**Lab Number:**	L1711107
Project Number:	170301202	**Report Date:**	04/17/17

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG992932-2 SRM Lot Number: D091-540								
Mercury, Total	98		-		72-128	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG993212-2 SRM Lot Number: D091-540					
Aluminum, Total	75	-	52-148	-	
Antimony, Total	179	-	1-200	-	
Arsenic, Total	110	-	80-121	-	
Barium, Total	110	-	84-117	-	
Beryllium, Total	100	-	83-117	-	
Cadmium, Total	105	-	83-117	-	
Calcium, Total	97	-	81-118	-	
Chromium, Total	105	-	80-119	-	
Cobalt, Total	104	-	84-115	-	
Copper, Total	110	-	82-117	-	
Iron, Total	100	-	47-154	-	
Lead, Total	110	-	82-118	-	
Magnesium, Total	91	-	77-123	-	
Manganese, Total	107	-	82-118	-	
Nickel, Total	108	-	83-117	-	
Potassium, Total	88	-	72-128	-	
Selenium, Total	101	-	79-121	-	
Silver, Total	96	-	75-124	-	
Sodium, Total	99	-	73-126	-	
Thallium, Total	99	-	80-121	-	
Vanadium, Total	104	-	78-122	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 Batch: WG993212-2 SRM Lot Number: D091-540					
Zinc, Total	98	-	82-118	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711107
Report Date: 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG992932-3 WG992932-4 QC Sample: L1711022-02 Client ID: MS Sample												
Mercury, Total	ND	0.139	0.18	**130**	Q	0.19	**133**	Q	80-120	5		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG993212-3 WG993212-4 QC Sample: L1710996-04 Client ID: MS Sample												
Aluminum, Total	5900	190	6700	**420**	Q	5700	**0**	Q	75-125	16		20
Antimony, Total	ND	47.6	44	92		44	93		75-125	0		20
Arsenic, Total	6.1	11.4	18	104		17	96		75-125	6		20
Barium, Total	62.	190	250	99		230	88		75-125	8		20
Beryllium, Total	0.20J	4.76	4.3	90		4.3	91		75-125	0		20
Cadmium, Total	ND	4.86	4.4	90		4.4	91		75-125	0		20
Calcium, Total	57000	953	60000	**315**	Q	47000	**0**	Q	75-125	**24**	Q	20
Chromium, Total	9.3	19	26	88		23	**72**	Q	75-125	12		20
Cobalt, Total	2.9	47.6	44	86		43	84		75-125	2		20
Copper, Total	15.	23.8	44	122		42	114		75-125	5		20
Iron, Total	8000	95.3	8600	**630**	Q	6600	**0**	Q	75-125	**26**	Q	20
Lead, Total	82.	48.6	140	119		140	120		75-125	0		20
Magnesium, Total	7300	953	8800	**157**	Q	6800	**0**	Q	75-125	**26**	Q	20
Manganese, Total	290	47.6	340	105		250	**0**	Q	75-125	**31**	Q	20
Nickel, Total	12.	47.6	53	86		48	76		75-125	10		20
Potassium, Total	740	953	1800	111		1600	91		75-125	12		20
Selenium, Total	0.47J	11.4	11	96		11	97		75-125	0		20
Silver, Total	ND	28.6	28	98		28	98		75-125	0		20
Sodium, Total	600	953	1600	105		1600	105		75-125	0		20
Thallium, Total	ND	11.4	8.8	77		9.6	84		75-125	9		20
Vanadium, Total	15.	47.6	60	94		58	91		75-125	3		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711107
Report Date: 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG993212-3 WG993212-4 QC Sample: L1710996-04 Client ID: MS Sample									
Zinc, Total	34.	47.6	81	99	89	116	75-125	9	20

INORGANICS
&
MISCELLANEOUS

SAMPLE RESULTS

Lab ID:	L1711107-01	Date Collected:	04/10/17 13:30
Client ID:	DS04_3-4	Date Received:	04/10/17
Sample Location:	450 UNION STREET, BROOKLYN, NY	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Date Prepared**	**Date Analyzed**	**Analytical Method**	**Analyst**
General Chemistry - Westborough Lab										
Solids, Total	74.0		%	0.100	NA	1	-	04/11/17 00:54	121,2540G	CG
Cyanide, Total	0.23	J	mg/kg	1.3	0.22	1	04/11/17 09:45	04/11/17 17:13	1,9010C/9012B	JO
Chromium, Hexavalent	1.9		mg/kg	1.1	0.22	1	04/11/17 13:16	04/12/17 19:19	1,7196A	WR

SAMPLE RESULTS

Lab ID: L1711107-02
Client ID: DS05_3-4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil

Date Collected: 04/10/17 10:30
Date Received: 04/10/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.3		%	0.100	NA	1	-	04/11/17 00:54	121,2540G	CG
Cyanide, Total	ND		mg/kg	1.1	0.19	1	04/11/17 09:45	04/11/17 17:04	1,9010C/9012B	JO
Chromium, Hexavalent	0.36	J	mg/kg	0.96	0.19	1	04/11/17 13:16	04/12/17 19:20	1,7196A	WR

SAMPLE RESULTS

Lab ID: L1711107-03
Client ID: DS06_3-4
Sample Location: 450 UNION STREET, BROOKLYN, NY
Matrix: Soil

Date Collected: 04/10/17 14:00
Date Received: 04/10/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.5		%	0.100	NA	1	-	04/11/17 00:54	121,2540G	CG
Cyanide, Total	ND		mg/kg	1.1	0.18	1	04/11/17 09:45	04/11/17 17:04	1,9010C/9012B	JO
Chromium, Hexavalent	ND		mg/kg	0.88	0.18	1	04/11/17 13:16	04/12/17 19:20	1,7196A	WR

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG993000-1										
Cyanide, Total	ND		mg/kg	0.94	0.16	1	04/11/17 09:45	04/11/17 15:48	1,9010C/9012B	JO
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG993111-1										
Chromium, Hexavalent	ND		mg/kg	0.80	0.16	1	04/11/17 13:16	04/12/17 19:06	1,7196A	WR

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Lab Number: L1711107
Project Number: 170301202
Report Date: 04/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG993000-2 WG993000-3								
Cyanide, Total	86		91		80-120	6		35
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG993111-2								
Chromium, Hexavalent	86		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION STREET
Project Number: 170301202

Lab Number: L1711107
Report Date: 04/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG993000-4 WG993000-5 QC Sample: L1711082-01 Client ID: MS Sample												
Cyanide, Total	ND	12	13	110		12	100		65-135	8		35
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG993111-4 QC Sample: L1711107-03 Client ID: DS06_3-4												
Chromium, Hexavalent	ND	1240	1200	97		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION STREET

Project Number: 170301202

Lab Number: L1711107

Report Date: 04/17/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG992908-1 QC Sample: L1711087-01 Client ID: DUP Sample						
Solids, Total	92.6	94.2	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG993111-6 QC Sample: L1711107-03 Client ID: DS06_3-4						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 04/11/2017 00:53

Cooler Information

Cooler	**Custody Seal**
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1711107-01A	Vial MeOH preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-01B	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-01C	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-01D	Metals Only - Glass 60mL/2oz unp	A	N/A	4.2	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1711107-01E	Plastic 2oz unpreserved for TS	A	N/A	4.2	Y	Absent	TS(7)
L1711107-01F	Glass 500ml/16oz unpreserved	A	N/A	4.2	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1711107-02A	Vial MeOH preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-02B	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-02C	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-02D	Metals Only - Glass 60mL/2oz unp	A	N/A	4.2	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1711107-02E	Plastic 2oz unpreserved for TS	A	N/A	4.2	Y	Absent	TS(7)

*Values in parentheses indicate holding time in days

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1711107-02F	Glass 500ml/16oz unpreserved	A	N/A	4.2	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)
L1711107-03A	Vial MeOH preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-03B	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-03C	Vial water preserved	A	N/A	4.2	Y	Absent	NYTCL-8260HLW(14)
L1711107-03D	Metals Only - Glass 60mL/2oz unp	A	N/A	4.2	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1711107-03E	Plastic 2oz unpreserved for TS	A	N/A	4.2	Y	Absent	TS(7)
L1711107-03F	Glass 500ml/16oz unpreserved	A	N/A	4.2	Y	Absent	NYTCL-8270(14),TCN-9010(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(14),HEXCR-7196(30)

*Values in parentheses indicate holding time in days

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The lower value for the two columns has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
S	- Analytical results are from modified screening analysis.
J	- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
ND	- Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Alpha Analytical, Inc. ID No.:**17873**
Facility: **Company-wide** Revision 10
Department: **Quality Assurance** Published Date: 1/16/2017 11:00:05 AM
Title: **Certificate/Approval Program Summary** Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab 4/10/17

ALPHA Job # L1711107

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: 450 Union Street
Project Location: 450 Union Street, Brooklyn, NY
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: Nicole Rice
ALPHAQuote #:

Client Information

Client: Langan Engineering
Address: 360 W 31st Street, Manhattan, NY 10001
Phone: ~~22~~ 212-479-5400
Fax:
Email: nrice@langan.com

Turn-Around Time

Standard ☐
Rush (only if pre approved) ☒
Due Date:
# of Days: ASAP

Deliverables

☐ ASP-A
☑ ASP-B
☐ EQuIS (1 File)
☐ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ NY TOGS
☐ NY Part 375
☐ AWQ Standards
☐ NY CP-51
☐ NY Restricted Use
☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Billing Information

☐ Same as Client Info
PO #

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ
☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ **Done**
☐ **Lab to do**
Preservation
☐ **Lab to do**

(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs	SVOCs	Pesticides	Herbicides	PCBs	Metals	TCLP Metals		Sample Specific Comments	Total Bottle
11107-01	DS04_3-4	4/10/17	13:30	Soil	KT	X	X	X	X	X	X				
02	DS05_3-4	4/10/17	10:30	Soil	KT	X	X	X	X	X	X				
03	DS06_3-4	4/10/17	14:00	Soil	KT	X	X	X	X	X	X				
	~~WC-041017~~	~~4/10/17~~	~~13:40~~	~~Soil~~	~~KT~~	~~X~~				~~X~~		~~X~~			YT

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type									
Preservative									

Relinquished By:	Date/Time	Received By:	Date/Time
Kyle Twombly KT	4/10/17 14:15	AAL	4/10/17 14:15
AAL2	4/10/17 16:45	Paul Mazzella	4/10/17 1743
Paul Mazzella	4/10/17 2345		4/10/17 23:45

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1713623
Client:	Langan Engineering & Environmental 21 Penn Plaza 360 W. 31st Street, 8th Floor New York, NY 10001-2727
ATTN:	Nicole Rice
Phone:	(212) 479-5400
Project Name:	450 UNION ST
Project Number:	170301202
Report Date:	05/05/17

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), NJ NELAP (MA935), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-14-00197).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1713623-01	DS07_3-4	SOIL	BROOKLYN, NEW YORK	04/28/17 11:20	04/28/17
L1713623-02	DS08_1-2	SOIL	BROOKLYN, NEW YORK	04/28/17 12:45	04/28/17

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Semivolatile Organics

The WG998923-2/-3 LCS/LCSD recoveries, associated with L1713623-01 and -02, are below the acceptance criteria for benzoic acid (0%/0%); however, it has been identified as a "difficult" analyte. The results of the associated samples are reported.

Metals

L1713623-01 and -02: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

Cyanide, Total

L1713623-02: The sample has an elevated detection limit due to the dilution required by the sample matrix.

Chromium, Hexavalent

The WG1000286-5 Soluble MS recovery (15%), performed on L1713623-02, was outside the acceptance criteria. This has been attributed to matrix interference. A post-spike was performed with a recovery of 99%.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 05/05/17

ORGANICS

VOLATILES

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	05/04/17 12:00		
Analyst:	JC		
Percent Solids:	76%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	12	2.0	1
1,1-Dichloroethane	ND		ug/kg	1.8	0.32	1
Chloroform	ND		ug/kg	1.8	0.44	1
Carbon tetrachloride	ND		ug/kg	1.2	0.41	1
1,2-Dichloropropane	ND		ug/kg	4.2	0.27	1
Dibromochloromethane	ND		ug/kg	1.2	0.21	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	0.37	1
Tetrachloroethene	ND		ug/kg	1.2	0.36	1
Chlorobenzene	ND		ug/kg	1.2	0.42	1
Trichlorofluoromethane	ND		ug/kg	6.0	0.50	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	0.42	1
Bromodichloromethane	ND		ug/kg	1.2	0.37	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.25	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	0.28	1
1,3-Dichloropropene, Total	ND		ug/kg	1.2	0.25	1
1,1-Dichloropropene	ND		ug/kg	6.0	0.39	1
Bromoform	ND		ug/kg	4.8	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.36	1
Benzene	0.45	J	ug/kg	1.2	0.23	1
Toluene	0.73	J	ug/kg	1.8	0.23	1
Ethylbenzene	ND		ug/kg	1.2	0.20	1
Chloromethane	ND		ug/kg	6.0	0.52	1
Bromomethane	ND		ug/kg	2.4	0.40	1
Vinyl chloride	ND		ug/kg	2.4	0.38	1
Chloroethane	ND		ug/kg	2.4	0.38	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.44	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.29	1
Trichloroethene	ND		ug/kg	1.2	0.36	1
1,2-Dichlorobenzene	ND		ug/kg	6.0	0.22	1

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	6.0	0.26	1
1,4-Dichlorobenzene	ND		ug/kg	6.0	0.22	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.18	1
p/m-Xylene	0.59	J	ug/kg	2.4	0.42	1
o-Xylene	ND		ug/kg	2.4	0.40	1
Xylenes, Total	0.59	J	ug/kg	2.4	0.40	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.41	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	0.29	1
Dibromomethane	ND		ug/kg	12	0.28	1
Styrene	ND		ug/kg	2.4	0.48	1
Dichlorodifluoromethane	ND		ug/kg	12	0.60	1
Acetone	17		ug/kg	12	2.7	1
Carbon disulfide	ND		ug/kg	12	1.3	1
2-Butanone	ND		ug/kg	12	0.82	1
Vinyl acetate	ND		ug/kg	12	0.18	1
4-Methyl-2-pentanone	ND		ug/kg	12	0.29	1
1,2,3-Trichloropropane	ND		ug/kg	12	0.21	1
2-Hexanone	ND		ug/kg	12	0.80	1
Bromochloromethane	ND		ug/kg	6.0	0.43	1
2,2-Dichloropropane	ND		ug/kg	6.0	0.54	1
1,2-Dibromoethane	ND		ug/kg	4.8	0.24	1
1,3-Dichloropropane	ND		ug/kg	6.0	0.22	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.2	0.38	1
Bromobenzene	ND		ug/kg	6.0	0.26	1
n-Butylbenzene	ND		ug/kg	1.2	0.27	1
sec-Butylbenzene	ND		ug/kg	1.2	0.26	1
tert-Butylbenzene	ND		ug/kg	6.0	0.30	1
o-Chlorotoluene	ND		ug/kg	6.0	0.26	1
p-Chlorotoluene	ND		ug/kg	6.0	0.22	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.0	0.47	1
Hexachlorobutadiene	ND		ug/kg	6.0	0.42	1
Isopropylbenzene	ND		ug/kg	1.2	0.23	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.24	1
Naphthalene	ND		ug/kg	6.0	0.16	1
Acrylonitrile	ND		ug/kg	12	0.61	1
n-Propylbenzene	ND		ug/kg	1.2	0.26	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.0	0.30	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.0	0.26	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.0	0.19	1

SAMPLE RESULTS

Lab ID: L1713623-01
Client ID: DS07_3-4
Sample Location: BROOKLYN, NEW YORK

Date Collected: 04/28/17 11:20
Date Received: 04/28/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	6.0	0.22	1
1,4-Dioxane	ND		ug/kg	48	17.	1
p-Diethylbenzene	ND		ug/kg	4.8	4.8	1
p-Ethyltoluene	ND		ug/kg	4.8	0.28	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.8	0.19	1
Ethyl ether	ND		ug/kg	6.0	0.31	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	6.0	0.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil		
Analytical Method:	1,8260C		
Analytical Date:	05/04/17 12:28		
Analyst:	JC		
Percent Solids:	79%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	12	2.0	1
1,1-Dichloroethane	ND		ug/kg	1.8	0.32	1
Chloroform	0.66	J	ug/kg	1.8	0.44	1
Carbon tetrachloride	ND		ug/kg	1.2	0.41	1
1,2-Dichloropropane	ND		ug/kg	4.2	0.27	1
Dibromochloromethane	ND		ug/kg	1.2	0.21	1
1,1,2-Trichloroethane	ND		ug/kg	1.8	0.38	1
Tetrachloroethene	ND		ug/kg	1.2	0.36	1
Chlorobenzene	ND		ug/kg	1.2	0.42	1
Trichlorofluoromethane	ND		ug/kg	6.0	0.50	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	1.2	0.42	1
Bromodichloromethane	ND		ug/kg	1.2	0.37	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.25	1
cis-1,3-Dichloropropene	ND		ug/kg	1.2	0.28	1
1,3-Dichloropropene, Total	ND		ug/kg	1.2	0.25	1
1,1-Dichloropropene	ND		ug/kg	6.0	0.39	1
Bromoform	ND		ug/kg	4.8	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.2	0.36	1
Benzene	ND		ug/kg	1.2	0.23	1
Toluene	2.0		ug/kg	1.8	0.23	1
Ethylbenzene	0.33	J	ug/kg	1.2	0.20	1
Chloromethane	ND		ug/kg	6.0	0.52	1
Bromomethane	ND		ug/kg	2.4	0.40	1
Vinyl chloride	ND		ug/kg	2.4	0.38	1
Chloroethane	ND		ug/kg	2.4	0.38	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.44	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.29	1
Trichloroethene	ND		ug/kg	1.2	0.36	1
1,2-Dichlorobenzene	ND		ug/kg	6.0	0.22	1

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified

Volatile Organics by 8260/5035 - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Dichlorobenzene	ND		ug/kg	6.0	0.26	1
1,4-Dichlorobenzene	ND		ug/kg	6.0	0.22	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.18	1
p/m-Xylene	1.7	J	ug/kg	2.4	0.42	1
o-Xylene	0.67	J	ug/kg	2.4	0.40	1
Xylenes, Total	2.4	J	ug/kg	2.4	0.40	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.41	1
1,2-Dichloroethene, Total	ND		ug/kg	1.2	0.29	1
Dibromomethane	ND		ug/kg	12	0.29	1
Styrene	ND		ug/kg	2.4	0.48	1
Dichlorodifluoromethane	ND		ug/kg	12	0.60	1
Acetone	3.1	J	ug/kg	12	2.7	1
Carbon disulfide	ND		ug/kg	12	1.3	1
2-Butanone	ND		ug/kg	12	0.83	1
Vinyl acetate	ND		ug/kg	12	0.18	1
4-Methyl-2-pentanone	ND		ug/kg	12	0.29	1
1,2,3-Trichloropropane	ND		ug/kg	12	0.21	1
2-Hexanone	ND		ug/kg	12	0.80	1
Bromochloromethane	ND		ug/kg	6.0	0.43	1
2,2-Dichloropropane	ND		ug/kg	6.0	0.54	1
1,2-Dibromoethane	ND		ug/kg	4.8	0.24	1
1,3-Dichloropropane	ND		ug/kg	6.0	0.22	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.2	0.38	1
Bromobenzene	ND		ug/kg	6.0	0.26	1
n-Butylbenzene	ND		ug/kg	1.2	0.27	1
sec-Butylbenzene	ND		ug/kg	1.2	0.26	1
tert-Butylbenzene	ND		ug/kg	6.0	0.30	1
o-Chlorotoluene	ND		ug/kg	6.0	0.26	1
p-Chlorotoluene	ND		ug/kg	6.0	0.22	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	6.0	0.47	1
Hexachlorobutadiene	ND		ug/kg	6.0	0.42	1
Isopropylbenzene	ND		ug/kg	1.2	0.23	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.24	1
Naphthalene	ND		ug/kg	6.0	0.16	1
Acrylonitrile	ND		ug/kg	12	0.62	1
n-Propylbenzene	ND		ug/kg	1.2	0.26	1
1,2,3-Trichlorobenzene	ND		ug/kg	6.0	0.30	1
1,2,4-Trichlorobenzene	ND		ug/kg	6.0	0.26	1
1,3,5-Trimethylbenzene	ND		ug/kg	6.0	0.19	1

SAMPLE RESULTS

Lab ID: L1713623-02
Client ID: DS08_1-2
Sample Location: BROOKLYN, NEW YORK
Date Collected: 04/28/17 12:45
Date Received: 04/28/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,2,4-Trimethylbenzene	ND		ug/kg	6.0	0.22	1
1,4-Dioxane	ND		ug/kg	48	17.	1
p-Diethylbenzene	ND		ug/kg	4.8	4.8	1
p-Ethyltoluene	ND		ug/kg	4.8	0.28	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.8	0.19	1
Ethyl ether	ND		ug/kg	6.0	0.31	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	6.0	0.47	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	112		70-130
Dibromofluoromethane	105		70-130

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/04/17 10:11
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG1000373-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
1,3-Dichloropropene, Total	ND		ug/kg	1.0	0.21
1,1-Dichloropropene	ND		ug/kg	5.0	0.33
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/04/17 10:11
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG1000373-5					
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
Xylenes, Total	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.24
Dibromomethane	ND		ug/kg	10	0.24
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	1.9	J	ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
Vinyl acetate	ND		ug/kg	10	0.15
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
1,2,3-Trichloropropane	ND		ug/kg	10	0.18
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
2,2-Dichloropropane	ND		ug/kg	5.0	0.45
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,3-Dichloropropane	ND		ug/kg	5.0	0.18
1,1,1,2-Tetrachloroethane	ND		ug/kg	1.0	0.32
Bromobenzene	ND		ug/kg	5.0	0.22
n-Butylbenzene	ND		ug/kg	1.0	0.23
sec-Butylbenzene	ND		ug/kg	1.0	0.22
tert-Butylbenzene	ND		ug/kg	5.0	0.25
o-Chlorotoluene	ND		ug/kg	5.0	0.22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 05/04/17 10:11
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG1000373-5					
p-Chlorotoluene	ND		ug/kg	5.0	0.18
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Hexachlorobutadiene	ND		ug/kg	5.0	0.35
Isopropylbenzene	ND		ug/kg	1.0	0.19
p-Isopropyltoluene	ND		ug/kg	1.0	0.20
Naphthalene	ND		ug/kg	5.0	0.14
Acrylonitrile	ND		ug/kg	10	0.51
n-Propylbenzene	ND		ug/kg	1.0	0.22
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
1,3,5-Trimethylbenzene	ND		ug/kg	5.0	0.16
1,2,4-Trimethylbenzene	ND		ug/kg	5.0	0.19
1,4-Dioxane	ND		ug/kg	40	14.
p-Diethylbenzene	ND		ug/kg	4.0	4.0
p-Ethyltoluene	ND		ug/kg	4.0	0.23
1,2,4,5-Tetramethylbenzene	ND		ug/kg	4.0	0.16
Ethyl ether	ND		ug/kg	5.0	0.26
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	0.39

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG1000373-3 WG1000373-4								
Methylene chloride	109		102		70-130	7		30
1,1-Dichloroethane	108		101		70-130	7		30
Chloroform	106		101		70-130	5		30
Carbon tetrachloride	116		111		70-130	4		30
1,2-Dichloropropane	106		101		70-130	5		30
Dibromochloromethane	105		101		70-130	4		30
1,1,2-Trichloroethane	102		97		70-130	5		30
Tetrachloroethene	108		100		70-130	8		30
Chlorobenzene	105		99		70-130	6		30
Trichlorofluoromethane	110		104		70-139	6		30
1,2-Dichloroethane	100		96		70-130	4		30
1,1,1-Trichloroethane	109		102		70-130	7		30
Bromodichloromethane	104		100		70-130	4		30
trans-1,3-Dichloropropene	102		97		70-130	5		30
cis-1,3-Dichloropropene	105		102		70-130	3		30
1,1-Dichloropropene	111		106		70-130	5		30
Bromoform	105		103		70-130	2		30
1,1,2,2-Tetrachloroethane	98		96		70-130	2		30
Benzene	108		102		70-130	6		30
Toluene	106		100		70-130	6		30
Ethylbenzene	107		100		70-130	7		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG1000373-3 WG1000373-4

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Chloromethane	102		97		52-130	5		30
Bromomethane	104		102		57-147	2		30
Vinyl chloride	102		94		67-130	8		30
Chloroethane	95		87		50-151	9		30
1,1-Dichloroethene	102		104		65-135	2		30
trans-1,2-Dichloroethene	110		104		70-130	6		30
Trichloroethene	108		103		70-130	5		30
1,2-Dichlorobenzene	100		95		70-130	5		30
1,3-Dichlorobenzene	102		97		70-130	5		30
1,4-Dichlorobenzene	101		96		70-130	5		30
Methyl tert butyl ether	101		97		66-130	4		30
p/m-Xylene	109		102		70-130	7		30
o-Xylene	108		101		70-130	7		30
cis-1,2-Dichloroethene	106		101		70-130	5		30
Dibromomethane	102		99		70-130	3		30
Styrene	108		101		70-130	7		30
Dichlorodifluoromethane	102		95		30-146	7		30
Acetone	90		97		54-140	7		30
Carbon disulfide	88		130		59-130	**39**	Q	30
2-Butanone	86		86		70-130	0		30
Vinyl acetate	104		102		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG1000373-3 WG1000373-4								
4-Methyl-2-pentanone	97		94		70-130	3		30
1,2,3-Trichloropropane	96		94		68-130	2		30
2-Hexanone	90		89		70-130	1		30
Bromochloromethane	107		101		70-130	6		30
2,2-Dichloropropane	110		103		70-130	7		30
1,2-Dibromoethane	102		97		70-130	5		30
1,3-Dichloropropane	101		96		69-130	5		30
1,1,1,2-Tetrachloroethane	106		101		70-130	5		30
Bromobenzene	103		98		70-130	5		30
n-Butylbenzene	106		100		70-130	6		30
sec-Butylbenzene	107		101		70-130	6		30
tert-Butylbenzene	107		100		70-130	7		30
o-Chlorotoluene	87		83		70-130	5		30
p-Chlorotoluene	102		98		70-130	4		30
1,2-Dibromo-3-chloropropane	98		99		68-130	1		30
Hexachlorobutadiene	106		99		67-130	7		30
Isopropylbenzene	108		101		70-130	7		30
p-Isopropyltoluene	107		101		70-130	6		30
Naphthalene	93		92		70-130	1		30
Acrylonitrile	101		100		70-130	1		30
n-Propylbenzene	107		101		70-130	6		30

Lab Control Sample Analysis
Batch Quality Control

Parameter	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*%Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG1000373-3 WG1000373-4								
1,2,3-Trichlorobenzene	98		93		70-130	5		30
1,2,4-Trichlorobenzene	98		94		70-130	4		30
1,3,5-Trimethylbenzene	106		99		70-130	7		30
1,2,4-Trimethylbenzene	106		100		70-130	6		30
1,4-Dioxane	109		111		65-136	2		30
p-Diethylbenzene	108		100		70-130	8		30
p-Ethyltoluene	107		101		70-130	6		30
1,2,4,5-Tetramethylbenzene	104		98		70-130	6		30
Ethyl ether	94		90		67-130	4		30
trans-1,4-Dichloro-2-butene	98		96		70-130	2		30

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*
1,2-Dichloroethane-d4	96		96		70-130
Toluene-d8	101		99		70-130
4-Bromofluorobenzene	99		99		70-130
Dibromofluoromethane	101		101		70-130

SEMIVOLATILES

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8270D	Extraction Date:	04/30/17 02:38
Analytical Date:	05/04/17 16:43		
Analyst:	SZ		
Percent Solids:	76%		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	130	J	ug/kg	170	22.	1
1,2,4-Trichlorobenzene	ND		ug/kg	220	25.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	200	29.	1
2-Chloronaphthalene	ND		ug/kg	220	22.	1
1,2-Dichlorobenzene	ND		ug/kg	220	39.	1
1,3-Dichlorobenzene	ND		ug/kg	220	37.	1
1,4-Dichlorobenzene	ND		ug/kg	220	38.	1
3,3'-Dichlorobenzidine	ND		ug/kg	220	58.	1
2,4-Dinitrotoluene	ND		ug/kg	220	43.	1
2,6-Dinitrotoluene	ND		ug/kg	220	37.	1
Fluoranthene	4400		ug/kg	130	25.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	220	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	220	33.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	260	37.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	22.	1
Hexachlorobutadiene	ND		ug/kg	220	32.	1
Hexachlorocyclopentadiene	ND		ug/kg	620	200	1
Hexachloroethane	ND		ug/kg	170	35.	1
Isophorone	ND		ug/kg	200	28.	1
Naphthalene	110	J	ug/kg	220	26.	1
Nitrobenzene	ND		ug/kg	200	32.	1
NDPA/DPA	ND		ug/kg	170	25.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	220	34.	1
Bis(2-ethylhexyl)phthalate	170	J	ug/kg	220	75.	1
Butyl benzyl phthalate	ND		ug/kg	220	55.	1
Di-n-butylphthalate	ND		ug/kg	220	41.	1
Di-n-octylphthalate	ND		ug/kg	220	74.	1
Diethyl phthalate	ND		ug/kg	220	20.	1
Dimethyl phthalate	ND		ug/kg	220	46.	1

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified

Semivolatile Organics by GC/MS - Westborough Lab

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Benzo(a)anthracene	2400		ug/kg	130	24.	1
Benzo(a)pyrene	1900		ug/kg	170	53.	1
Benzo(b)fluoranthene	2500		ug/kg	130	36.	1
Benzo(k)fluoranthene	860		ug/kg	130	35.	1
Chrysene	2400		ug/kg	130	22.	1
Acenaphthylene	190		ug/kg	170	34.	1
Anthracene	510		ug/kg	130	42.	1
Benzo(ghi)perylene	1200		ug/kg	170	26.	1
Fluorene	120	J	ug/kg	220	21.	1
Phenanthrene	2300		ug/kg	130	26.	1
Dibenzo(a,h)anthracene	340		ug/kg	130	25.	1
Indeno(1,2,3-cd)pyrene	1400		ug/kg	170	30.	1
Pyrene	4100		ug/kg	130	22.	1
Biphenyl	ND		ug/kg	500	50.	1
4-Chloroaniline	ND		ug/kg	220	40.	1
2-Nitroaniline	ND		ug/kg	220	42.	1
3-Nitroaniline	ND		ug/kg	220	41.	1
4-Nitroaniline	ND		ug/kg	220	90.	1
Dibenzofuran	87	J	ug/kg	220	20.	1
2-Methylnaphthalene	60	J	ug/kg	260	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	220	23.	1
Acetophenone	ND		ug/kg	220	27.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	41.	1
p-Chloro-m-cresol	ND		ug/kg	220	32.	1
2-Chlorophenol	ND		ug/kg	220	26.	1
2,4-Dichlorophenol	ND		ug/kg	200	35.	1
2,4-Dimethylphenol	ND		ug/kg	220	72.	1
2-Nitrophenol	ND		ug/kg	470	82.	1
4-Nitrophenol	ND		ug/kg	300	89.	1
2,4-Dinitrophenol	ND		ug/kg	1000	100	1
4,6-Dinitro-o-cresol	ND		ug/kg	560	100	1
Pentachlorophenol	ND		ug/kg	170	48.	1
Phenol	ND		ug/kg	220	33.	1
2-Methylphenol	ND		ug/kg	220	34.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	310	34.	1
2,4,5-Trichlorophenol	ND		ug/kg	220	42.	1
Benzoic Acid	ND		ug/kg	700	220	1
Benzyl Alcohol	ND		ug/kg	220	66.	1
Carbazole	210	J	ug/kg	220	21.	1

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	53		25-120
Phenol-d6	55		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	48		30-120
2,4,6-Tribromophenol	53		10-136
4-Terphenyl-d14	37		18-120

SAMPLE RESULTS

Lab ID: L1713623-02
Client ID: DS08_1-2
Sample Location: BROOKLYN, NEW YORK
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 05/05/17 03:11
Analyst: RC
Percent Solids: 79%

Date Collected: 04/28/17 12:45
Date Received: 04/28/17
Field Prep: Not Specified
Extraction Method:EPA 3546
Extraction Date: 04/30/17 02:38

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	31	J	ug/kg	170	22.	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	24.	1
Hexachlorobenzene	ND		ug/kg	120	23.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	28.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
1,2-Dichlorobenzene	ND		ug/kg	210	37.	1
1,3-Dichlorobenzene	ND		ug/kg	210	36.	1
1,4-Dichlorobenzene	ND		ug/kg	210	36.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	55.	1
2,4-Dinitrotoluene	ND		ug/kg	210	42.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	880		ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	21.	1
Hexachlorobutadiene	ND		ug/kg	210	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	600	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	38	J	ug/kg	210	25.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	72.	1
Butyl benzyl phthalate	ND		ug/kg	210	52.	1
Di-n-butylphthalate	ND		ug/kg	210	39.	1
Di-n-octylphthalate	ND		ug/kg	210	71.	1
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	44.	1

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(a)anthracene	490		ug/kg	120	23.	1
Benzo(a)pyrene	440		ug/kg	170	51.	1
Benzo(b)fluoranthene	570		ug/kg	120	35.	1
Benzo(k)fluoranthene	210		ug/kg	120	33.	1
Chrysene	500		ug/kg	120	22.	1
Acenaphthylene	32	J	ug/kg	170	32.	1
Anthracene	120		ug/kg	120	40.	1
Benzo(ghi)perylene	300		ug/kg	170	24.	1
Fluorene	36	J	ug/kg	210	20.	1
Phenanthrene	440		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	78	J	ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	320		ug/kg	170	29.	1
Pyrene	840		ug/kg	120	21.	1
Biphenyl	ND		ug/kg	470	48.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	39.	1
4-Nitroaniline	ND		ug/kg	210	86.	1
Dibenzofuran	20	J	ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	39.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	33.	1
2,4-Dimethylphenol	ND		ug/kg	210	69.	1
2-Nitrophenol	ND		ug/kg	450	78.	1
4-Nitrophenol	ND		ug/kg	290	85.	1
2,4-Dinitrophenol	ND		ug/kg	1000	97.	1
4,6-Dinitro-o-cresol	ND		ug/kg	540	100	1
Pentachlorophenol	ND		ug/kg	170	46.	1
Phenol	ND		ug/kg	210	31.	1
2-Methylphenol	ND		ug/kg	210	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Benzoic Acid	ND		ug/kg	670	210	1
Benzyl Alcohol	ND		ug/kg	210	64.	1
Carbazole	51	J	ug/kg	210	20.	1

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		25-120
Phenol-d6	53		10-120
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	51		30-120
2,4,6-Tribromophenol	48		10-136
4-Terphenyl-d14	38		18-120

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 05/02/17 21:03
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 04/30/17 02:38

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG998923-1					
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
1,2-Dichlorobenzene	ND		ug/kg	160	30.
1,3-Dichlorobenzene	ND		ug/kg	160	28.
1,4-Dichlorobenzene	ND		ug/kg	160	29.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.

Project Name:	450 UNION ST	**Lab Number:**	L1713623
Project Number:	170301202	**Report Date:**	05/05/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8270D	Extraction Method:	EPA 3546
Analytical Date:	05/02/17 21:03	Extraction Date:	04/30/17 02:38
Analyst:	RC		

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG998923-1					
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 05/02/17 21:03
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 04/30/17 02:38

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG998923-1					
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Benzoic Acid	ND		ug/kg	530	170
Benzyl Alcohol	ND		ug/kg	160	50.
Carbazole	ND		ug/kg	160	16.

Tentatively Identified Compounds		
No Tentatively Identified Compounds	ND	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		25-120
Phenol-d6	61		10-120
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	58		30-120
2,4,6-Tribromophenol	51		10-136
4-Terphenyl-d14	62		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST
Lab Number: L1713623
Project Number: 170301202
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG998923-2 WG998923-3								
Acenaphthene	54		61		31-137	12		50
1,2,4-Trichlorobenzene	52		58		38-107	11		50
Hexachlorobenzene	54		61		40-140	12		50
Bis(2-chloroethyl)ether	51		58		40-140	13		50
2-Chloronaphthalene	52		59		40-140	13		50
1,2-Dichlorobenzene	50		55		40-140	10		50
1,3-Dichlorobenzene	50		55		40-140	10		50
1,4-Dichlorobenzene	50		56		28-104	11		50
3,3'-Dichlorobenzidine	52		59		40-140	13		50
2,4-Dinitrotoluene	57		68		40-132	18		50
2,6-Dinitrotoluene	56		63		40-140	12		50
Fluoranthene	57		64		40-140	12		50
4-Chlorophenyl phenyl ether	55		62		40-140	12		50
4-Bromophenyl phenyl ether	54		64		40-140	17		50
Bis(2-chloroisopropyl)ether	51		59		40-140	15		50
Bis(2-chloroethoxy)methane	53		61		40-117	14		50
Hexachlorobutadiene	46		52		40-140	12		50
Hexachlorocyclopentadiene	51		60		40-140	16		50
Hexachloroethane	49		54		40-140	10		50
Isophorone	56		64		40-140	13		50
Naphthalene	50		56		40-140	11		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG998923-2 WG998923-3								
Nitrobenzene	51		60		40-140	16		50
NDPA/DPA	57		65		36-157	13		50
n-Nitrosodi-n-propylamine	54		62		32-121	14		50
Bis(2-ethylhexyl)phthalate	55		64		40-140	15		50
Butyl benzyl phthalate	57		67		40-140	16		50
Di-n-butylphthalate	60		69		40-140	14		50
Di-n-octylphthalate	55		63		40-140	14		50
Diethyl phthalate	57		65		40-140	13		50
Dimethyl phthalate	55		62		40-140	12		50
Benzo(a)anthracene	58		65		40-140	11		50
Benzo(a)pyrene	61		70		40-140	14		50
Benzo(b)fluoranthene	59		67		40-140	13		50
Benzo(k)fluoranthene	59		67		40-140	13		50
Chrysene	56		63		40-140	12		50
Acenaphthylene	55		62		40-140	12		50
Anthracene	58		64		40-140	10		50
Benzo(ghi)perylene	60		68		40-140	13		50
Fluorene	56		63		40-140	12		50
Phenanthrene	55		62		40-140	12		50
Dibenzo(a,h)anthracene	60		69		40-140	14		50
Indeno(1,2,3-cd)pyrene	59		68		40-140	14		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST

Project Number: 170301202

Lab Number: L1713623

Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG998923-2 WG998923-3								
Pyrene	56		64		35-142	13		50
Biphenyl	55		62		54-104	12		50
4-Chloroaniline	40		44		40-140	10		50
2-Nitroaniline	55		64		47-134	15		50
3-Nitroaniline	50		56		26-129	11		50
4-Nitroaniline	56		65		41-125	15		50
Dibenzofuran	55		62		40-140	12		50
2-Methylnaphthalene	51		58		40-140	13		50
1,2,4,5-Tetrachlorobenzene	53		60		40-117	12		50
Acetophenone	56		65		14-144	15		50
2,4,6-Trichlorophenol	54		61		30-130	12		50
p-Chloro-m-cresol	57		64		26-103	12		50
2-Chlorophenol	52		61		25-102	16		50
2,4-Dichlorophenol	57		65		30-130	13		50
2,4-Dimethylphenol	67		79		30-130	16		50
2-Nitrophenol	52		62		30-130	18		50
4-Nitrophenol	56		65		11-114	15		50
2,4-Dinitrophenol	36		37		4-130	3		50
4,6-Dinitro-o-cresol	46		52		10-130	12		50
Pentachlorophenol	48		57		17-109	17		50
Phenol	54		64		26-90	17		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST
Lab Number: L1713623
Project Number: 170301202
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG998923-2 WG998923-3								
2-Methylphenol	56		65		30-130.	15		50
3-Methylphenol/4-Methylphenol	56		65		30-130	15		50
2,4,5-Trichlorophenol	56		63		30-130	12		50
Benzoic Acid	**0**	Q	**0**	Q	10-110	NC		50
Benzyl Alcohol	54		62		40-140	14		50
Carbazole	56		65		54-128	15		50

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*
2-Fluorophenol	52		61		25-120
Phenol-d6	55		64		10-120
Nitrobenzene-d5	51		59		23-120
2-Fluorobiphenyl	51		58		30-120
2,4,6-Tribromophenol	54		62		10-136
4-Terphenyl-d14	55		63		18-120

PCBS

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/30/17 18:56
Analytical Date:	05/03/17 20:34	Cleanup Method:	EPA 3665A
Analyst:	AF	Cleanup Date:	05/01/17
Percent Solids:	76%	Cleanup Method:	EPA 3660B
		Cleanup Date:	05/01/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.9	3.31	1	A
Aroclor 1221	ND		ug/kg	41.9	3.86	1	A
Aroclor 1232	ND		ug/kg	41.9	4.91	1	A
Aroclor 1242	ND		ug/kg	41.9	5.13	1	A
Aroclor 1248	ND		ug/kg	41.9	3.54	1	A
Aroclor 1254	ND		ug/kg	41.9	3.44	1	A
Aroclor 1260	ND		ug/kg	41.9	3.19	1	A
Aroclor 1262	ND		ug/kg	41.9	2.08	1	A
Aroclor 1268	ND		ug/kg	41.9	6.08	1	A
PCBs, Total	ND		ug/kg	41.9	2.08	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	64		30-150	A
Decachlorobiphenyl	49		30-150	A
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	50		30-150	B

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8082A	Extraction Date:	04/30/17 18:56
Analytical Date:	05/03/17 20:46	Cleanup Method:	EPA 3665A
Analyst:	AF	Cleanup Date:	05/01/17
Percent Solids:	79%	Cleanup Method:	EPA 3660B
		Cleanup Date:	05/01/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.0	3.24	1	A
Aroclor 1221	ND		ug/kg	41.0	3.78	1	A
Aroclor 1232	ND		ug/kg	41.0	4.81	1	A
Aroclor 1242	ND		ug/kg	41.0	5.02	1	A
Aroclor 1248	ND		ug/kg	41.0	3.46	1	A
Aroclor 1254	23.2	J	ug/kg	41.0	3.37	1	A
Aroclor 1260	16.0	J	ug/kg	41.0	3.13	1	B
Aroclor 1262	ND		ug/kg	41.0	2.04	1	A
Aroclor 1268	ND		ug/kg	41.0	5.95	1	A
PCBs, Total	39.2	J	ug/kg	41.0	3.13	1	B

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	51		30-150	A
2,4,5,6-Tetrachloro-m-xylene	68		30-150	B
Decachlorobiphenyl	57		30-150	B

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 05/02/17 03:25
Analyst: HT

Extraction Method: EPA 3546
Extraction Date: 04/30/17 18:56
Cleanup Method: EPA 3665A
Cleanup Date: 05/01/17
Cleanup Method: EPA 3660B
Cleanup Date: 05/01/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-02 Batch: WG998983-1						
Aroclor 1016	ND		ug/kg	33.0	2.60	A
Aroclor 1221	ND		ug/kg	33.0	3.04	A
Aroclor 1232	ND		ug/kg	33.0	3.86	A
Aroclor 1242	ND		ug/kg	33.0	4.03	A
Aroclor 1248	ND		ug/kg	33.0	2.78	A
Aroclor 1254	ND		ug/kg	33.0	2.71	A
Aroclor 1260	ND		ug/kg	33.0	2.51	A
Aroclor 1262	ND		ug/kg	33.0	1.63	A
Aroclor 1268	ND		ug/kg	33.0	4.78	A
PCBs, Total	ND		ug/kg	33.0	1.63	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		30-150	B
Decachlorobiphenyl	64		30-150	B

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION ST
Lab Number: L1713623
Project Number: 170301202
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG998983-2 WG998983-3									
Aroclor 1016	99		93		40-140	6		50	A
Aroclor 1260	93		88		40-140	6		50	A

Surrogate	*LCS %Recovery*	*Qual*	*LCSD %Recovery*	*Qual*	*Acceptance Criteria*	*Column*
2,4,5,6-Tetrachloro-m-xylene	99		89		30-150	A
Decachlorobiphenyl	66		58		30-150	A
2,4,5,6-Tetrachloro-m-xylene	94		85		30-150	B
Decachlorobiphenyl	69		60		30-150	B

PESTICIDES

SAMPLE RESULTS

Lab ID: L1713623-01
Client ID: DS07_3-4
Sample Location: BROOKLYN, NEW YORK
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 05/04/17 12:54
Analyst: GP
Percent Solids: 76%

Date Collected: 04/28/17 11:20
Date Received: 04/28/17
Field Prep: Not Specified
Extraction Method:EPA 3546
Extraction Date: 04/30/17 13:08
Cleanup Method: EPA 3620B
Cleanup Date: 05/01/17

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	2.02	0.396	1	A
Lindane	ND		ug/kg	0.842	0.376	1	A
Alpha-BHC	ND		ug/kg	0.842	0.239	1	A
Beta-BHC	ND		ug/kg	2.02	0.766	1	A
Heptachlor	ND		ug/kg	1.01	0.453	1	A
Aldrin	ND		ug/kg	2.02	0.711	1	A
Heptachlor epoxide	1.26	J	ug/kg	3.79	1.14	1	B
Endrin	3.47	PI	ug/kg	0.842	0.345	1	B
Endrin aldehyde	ND		ug/kg	2.52	0.884	1	A
Endrin ketone	16.9	P	ug/kg	2.02	0.520	1	B
Dieldrin	ND		ug/kg	1.26	0.631	1	A
4,4'-DDE	ND		ug/kg	2.02	0.467	1	A
4,4'-DDD	1.14	JPI	ug/kg	2.02	0.721	1	A
4,4'-DDT	ND		ug/kg	3.79	1.62	1	A
Endosulfan I	ND		ug/kg	2.02	0.477	1	A
Endosulfan II	ND		ug/kg	2.02	0.675	1	A
Endosulfan sulfate	ND		ug/kg	0.842	0.401	1	A
Methoxychlor	20.7	PI	ug/kg	3.79	1.18	1	A
Toxaphene	ND		ug/kg	37.9	10.6	1	A
cis-Chlordane	0.806	J	ug/kg	2.52	0.704	1	B
trans-Chlordane	2.21	JPI	ug/kg	2.52	0.667	1	A
Chlordane	ND		ug/kg	16.4	6.69	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
2,4,5,6-Tetrachloro-m-xylene	78		30-150	B
Decachlorobiphenyl	68		30-150	B
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	67		30-150	A

Project Name: 450 UNION ST
Lab Number: L1713623
Project Number: 170301202
Report Date: 05/05/17

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	05/01/17 06:28
Analytical Date:	05/02/17 21:38		
Analyst:	SL		
Percent Solids:	76%		
Methylation Date:	05/02/17 00:30		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	215	13.6	1	A
2,4,5-T	ND		ug/kg	215	6.67	1	A
2,4,5-TP (Silvex)	ND		ug/kg	215	5.72	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	113		30-150	A
DCAA	80		30-150	B

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	1,8081B	Extraction Date:	04/30/17 13:08
Analytical Date:	05/04/17 13:07	Cleanup Method:	EPA 3620B
Analyst:	GP	Cleanup Date:	05/01/17
Percent Solids:	79%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.94	0.380	1	A
Lindane	ND		ug/kg	0.808	0.361	1	A
Alpha-BHC	ND		ug/kg	0.808	0.229	1	A
Beta-BHC	ND		ug/kg	1.94	0.735	1	A
Heptachlor	ND		ug/kg	0.969	0.434	1	A
Aldrin	3.54		ug/kg	1.94	0.682	1	A
Heptachlor epoxide	2.69	J	ug/kg	3.64	1.09	1	B
Endrin	ND		ug/kg	0.808	0.331	1	A
Endrin aldehyde	ND		ug/kg	2.42	0.848	1	A
Endrin ketone	ND		ug/kg	1.94	0.499	1	A
Dieldrin	13.3		ug/kg	1.21	0.606	1	B
4,4'-DDE	3.24	P	ug/kg	1.94	0.448	1	A
4,4'-DDD	3.35	P	ug/kg	1.94	0.691	1	A
4,4'-DDT	6.64		ug/kg	3.64	1.56	1	B
Endosulfan I	ND		ug/kg	1.94	0.458	1	A
Endosulfan II	ND		ug/kg	1.94	0.648	1	A
Endosulfan sulfate	ND		ug/kg	0.808	0.384	1	A
Methoxychlor	ND		ug/kg	3.64	1.13	1	A
Toxaphene	ND		ug/kg	36.4	10.2	1	A
cis-Chlordane	11.5		ug/kg	2.42	0.675	1	A
trans-Chlordane	7.92	PI	ug/kg	2.42	0.640	1	A
Chlordane	87.2		ug/kg	15.8	6.42	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	60		30-150	B
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	51		30-150	A

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 8151A
Analytical Method:	1,8151A	Extraction Date:	05/01/17 06:28
Analytical Date:	05/02/17 21:18		
Analyst:	SL		
Percent Solids:	79%		
Methylation Date:	05/02/17 00:30		

Parameter	**Result**	**Qualifier**	**Units**	**RL**	**MDL**	**Dilution Factor**	**Column**
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/kg	209	13.1	1	A
2,4,5-T	ND		ug/kg	209	6.47	1	A
2,4,5-TP (Silvex)	ND		ug/kg	209	5.55	1	A

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**	**Column**
DCAA	108		30-150	A
DCAA	72		30-150	B

Project Name:	450 UNION ST	**Lab Number:**	L1713623
Project Number:	170301202	**Report Date:**	05/05/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8081B	Extraction Method:	EPA 3546
Analytical Date:	05/03/17 20:26	Extraction Date:	04/30/17 13:08
Analyst:	DM	Cleanup Method:	EPA 3620B
		Cleanup Date:	05/01/17

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG998961-1						
Delta-BHC	ND		ug/kg	1.55	0.303	A
Lindane	ND		ug/kg	0.645	0.288	A
Alpha-BHC	ND		ug/kg	0.645	0.183	A
Beta-BHC	ND		ug/kg	1.55	0.587	A
Heptachlor	ND		ug/kg	0.774	0.347	A
Aldrin	ND		ug/kg	1.55	0.545	A
Heptachlor epoxide	ND		ug/kg	2.90	0.871	A
Endrin	ND		ug/kg	0.645	0.264	A
Endrin aldehyde	ND		ug/kg	1.94	0.677	A
Endrin ketone	ND		ug/kg	1.55	0.399	A
Dieldrin	ND		ug/kg	0.968	0.484	A
4,4'-DDE	ND		ug/kg	1.55	0.358	A
4,4'-DDD	ND		ug/kg	1.55	0.552	A
4,4'-DDT	ND		ug/kg	2.90	1.24	A
Endosulfan I	ND		ug/kg	1.55	0.366	A
Endosulfan II	ND		ug/kg	1.55	0.517	A
Endosulfan sulfate	ND		ug/kg	0.645	0.307	A
Methoxychlor	ND		ug/kg	2.90	0.903	A
Toxaphene	ND		ug/kg	29.0	8.13	A
cis-Chlordane	ND		ug/kg	1.94	0.539	A
trans-Chlordane	ND		ug/kg	1.94	0.511	A
Chlordane	ND		ug/kg	12.6	5.13	A

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 05/03/17 20:26
Analyst: DM

Extraction Method: EPA 3546
Extraction Date: 04/30/17 13:08
Cleanup Method: EPA 3620B
Cleanup Date: 05/01/17

Parameter	Result	Qualifier	Units	RL	MDL
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-02 Batch: WG998961-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	B
Decachlorobiphenyl	59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	70		30-150	A
Decachlorobiphenyl	71		30-150	A

Project Name:	450 UNION ST	**Lab Number:**	L1713623
Project Number:	170301202	**Report Date:**	05/05/17

Method Blank Analysis
Batch Quality Control

Analytical Method:	1,8151A	Extraction Method:	EPA 8151A
Analytical Date:	05/02/17 12:06	Extraction Date:	05/01/17 06:28
Analyst:	SL		

Methylation Date: 05/02/17 00:30

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 01-02 Batch: WG999019-1						
2,4-D	ND		ug/kg	162	10.2	A
2,4,5-T	ND		ug/kg	162	5.02	A
2,4,5-TP (Silvex)	ND		ug/kg	162	4.31	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	60		30-150	A
DCAA	61		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST

Project Number: 170301202

Lab Number: L1713623

Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG998961-2 WG998961-3									
Delta-BHC	84		88		30-150	5		30	A
Lindane	83		87		30-150	5		30	A
Alpha-BHC	87		90		30-150	3		30	A
Beta-BHC	91		88		30-150	3		30	A
Heptachlor	86		90		30-150	5		30	A
Aldrin	83		87		30-150	5		30	A
Heptachlor epoxide	83		86		30-150	4		30	A
Endrin	88		93		30-150	6		30	A
Endrin aldehyde	64		68		30-150	6		30	A
Endrin ketone	84		85		30-150	1		30	A
Dieldrin	91		96		30-150	5		30	A
4,4'-DDE	88		91		30-150	3		30	A
4,4'-DDD	84		87		30-150	4		30	A
4,4'-DDT	95		98		30-150	3		30	A
Endosulfan I	82		87		30-150	6		30	A
Endosulfan II	87		88		30-150	1		30	A
Endosulfan sulfate	71		71		30-150	0		30	A
Methoxychlor	93		91		30-150	2		30	A
cis-Chlordane	78		84		30-150	7		30	A
trans-Chlordane	74		77		30-150	4		30	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST
Lab Number: L1713623
Project Number: 170301202
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG998961-2 WG998961-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		84		30-150	B
Decachlorobiphenyl	72		75		30-150	B
2,4,5,6-Tetrachloro-m-xylene	81		85		30-150	A
Decachlorobiphenyl	84		85		30-150	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202
Lab Number: L1713623
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01-02 Batch: WG999019-2 WG999019-3									
2,4-D	57		67		30-150	16		30	A
2,4,5-T	64		76		30-150	17		30	A
2,4,5-TP (Silvex)	59		70		30-150	17		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	49		57		30-150	A
DCAA	58		64		30-150	B

METALS

Project Name:	450 UNION ST	**Lab Number:**	L1713623
Project Number:	170301202	**Report Date:**	05/05/17

SAMPLE RESULTS

Lab ID:	L1713623-01	Date Collected:	04/28/17 11:20
Client ID:	DS07_3-4	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	76%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4700		mg/kg	10	2.8	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Antimony, Total	3.6	J	mg/kg	5.2	0.40	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Arsenic, Total	14		mg/kg	1.0	0.22	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Barium, Total	79		mg/kg	1.0	0.18	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Beryllium, Total	0.26	J	mg/kg	0.52	0.03	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Cadmium, Total	0.93	J	mg/kg	1.0	0.10	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Calcium, Total	6500		mg/kg	10	3.6	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Chromium, Total	16		mg/kg	1.0	0.10	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Cobalt, Total	7.7		mg/kg	2.1	0.17	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Copper, Total	500		mg/kg	1.0	0.27	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Iron, Total	45000		mg/kg	5.2	0.94	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Lead, Total	410		mg/kg	5.2	0.28	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Magnesium, Total	1600		mg/kg	10	1.6	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Manganese, Total	450		mg/kg	1.0	0.16	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Mercury, Total	1.3		mg/kg	0.09	0.02	1	05/02/17 08:10	05/02/17 12:31	EPA 7471B	1,7471B	BV
Nickel, Total	24		mg/kg	2.6	0.25	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Potassium, Total	820		mg/kg	260	15.	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	2.1	0.27	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	1.0	0.30	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Sodium, Total	150	J	mg/kg	210	3.3	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	2.1	0.33	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Vanadium, Total	22		mg/kg	1.0	0.21	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
Zinc, Total	510		mg/kg	5.2	0.30	2	05/02/17 18:55	05/03/17 15:31	EPA 3050B	1,6010C	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	15	J	mg/kg	1.0	1.0	1		05/04/17 22:57	NA	107,-	

Project Name:	450 UNION ST	**Lab Number:**	L1713623
Project Number:	170301202	**Report Date:**	05/05/17

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil		
Percent Solids:	79%		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3000		mg/kg	10	2.7	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Antimony, Total	ND		mg/kg	5.1	0.39	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Arsenic, Total	2.5		mg/kg	1.0	0.21	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Barium, Total	28		mg/kg	1.0	0.18	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Beryllium, Total	0.08	J	mg/kg	0.51	0.03	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Cadmium, Total	0.20	J	mg/kg	1.0	0.10	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Calcium, Total	9700		mg/kg	10	3.6	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Chromium, Total	6.6		mg/kg	1.0	0.10	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Cobalt, Total	2.4		mg/kg	2.0	0.17	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Copper, Total	72		mg/kg	1.0	0.26	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Iron, Total	5100		mg/kg	5.1	0.92	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Lead, Total	32		mg/kg	5.1	0.27	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Magnesium, Total	3200		mg/kg	10	1.6	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Manganese, Total	120		mg/kg	1.0	0.16	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Mercury, Total	0.18		mg/kg	0.08	0.02	1	05/02/17 08:10	05/02/17 12:33	EPA 7471B	1,7471B	BV
Nickel, Total	7.0		mg/kg	2.5	0.24	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Potassium, Total	460		mg/kg	250	15.	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Selenium, Total	ND		mg/kg	2.0	0.26	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Silver, Total	ND		mg/kg	1.0	0.29	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Sodium, Total	100	J	mg/kg	200	3.2	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Thallium, Total	ND		mg/kg	2.0	0.32	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Vanadium, Total	8.7		mg/kg	1.0	0.21	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
Zinc, Total	61		mg/kg	5.1	0.30	2	05/02/17 18:55	05/03/17 16:08	EPA 3050B	1,6010C	AB
General Chemistry - Mansfield Lab											
Chromium, Trivalent	5.9	J	mg/kg	1.0	1.0	1		05/04/17 22:57	NA	107,-	

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG999336-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	05/02/17 08:10	05/02/17 12:14	1,7471B	BV

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG999647-1										
Aluminum, Total	ND		mg/kg	4.0	1.1	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Antimony, Total	ND		mg/kg	2.0	0.15	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Arsenic, Total	ND		mg/kg	0.40	0.08	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Barium, Total	ND		mg/kg	0.40	0.07	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Beryllium, Total	ND		mg/kg	0.20	0.01	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Cadmium, Total	ND		mg/kg	0.40	0.04	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Calcium, Total	ND		mg/kg	4.0	1.4	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Chromium, Total	ND		mg/kg	0.40	0.04	1	05/02/17 18:55	05/03/17 17:56	1,6010C	AB
Cobalt, Total	ND		mg/kg	0.80	0.07	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Copper, Total	ND		mg/kg	0.40	0.10	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Iron, Total	ND		mg/kg	2.0	0.36	1	05/02/17 18:55	05/03/17 17:56	1,6010C	AB
Lead, Total	ND		mg/kg	2.0	0.11	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Magnesium, Total	ND		mg/kg	4.0	0.62	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Manganese, Total	0.13	J	mg/kg	0.40	0.06	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Nickel, Total	0.70	J	mg/kg	1.0	0.10	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Potassium, Total	ND		mg/kg	100	5.8	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Selenium, Total	ND		mg/kg	0.80	0.10	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Silver, Total	ND		mg/kg	0.40	0.11	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Sodium, Total	ND		mg/kg	80	1.3	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Thallium, Total	ND		mg/kg	0.80	0.13	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Vanadium, Total	ND		mg/kg	0.40	0.08	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB
Zinc, Total	ND		mg/kg	2.0	0.12	1	05/02/17 18:55	05/03/17 15:43	1,6010C	AB

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG999336-2 SRM Lot Number: D091-540								
Mercury, Total	106		-		72-128	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST

Project Number: 170301202

Lab Number: L1713623

Report Date: 05/05/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG999647-2 SRM Lot Number: D091-540					
Aluminum, Total	58	-	52-148	-	
Antimony, Total	163	-	1-200	-	
Arsenic, Total	96	-	80-121	-	
Barium, Total	91	-	84-117	-	
Beryllium, Total	88	-	83-117	-	
Cadmium, Total	99	-	83-117	-	
Calcium, Total	84	-	81-118	-	
Chromium, Total	91	-	80-119	-	
Cobalt, Total	104	-	84-115	-	
Copper, Total	92	-	82-117	-	
Iron, Total	73	-	47-154	-	
Lead, Total	96	-	82-118	-	
Magnesium, Total	87	-	77-123	-	
Manganese, Total	91	-	82-118	-	
Nickel, Total	101	-	83-117	-	
Potassium, Total	83	-	72-128	-	
Selenium, Total	96	-	79-121	-	
Silver, Total	80	-	75-124	-	
Sodium, Total	86	-	73-126	-	
Thallium, Total	99	-	80-121	-	
Vanadium, Total	87	-	78-122	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST

Project Number: 170301202

Lab Number: L1713623

Report Date: 05/05/17

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG999647-2 SRM Lot Number: D091-540					
Zinc, Total	93	-	82-118	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG999336-3 QC Sample: L1713631-01 Client ID: MS Sample												
Mercury, Total	6.2	0.156	27	**13400**	Q	-	-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG999647-3 QC Sample: L1713603-01 Client ID: MS Sample										
Aluminum, Total	3100	187	3600	**268**	Q	-	-	75-125	-	20
Antimony, Total	0.43J	46.6	29	**62**	Q	-	-	75-125	-	20
Arsenic, Total	15.	11.2	22	**62**	Q	-	-	75-125	-	20
Barium, Total	27.	187	150	**66**	Q	-	-	75-125	-	20
Beryllium, Total	0.06J	4.66	2.8	**60**	Q	-	-	75-125	-	20
Cadmium, Total	0.16J	4.76	3.1	**65**	Q	-	-	75-125	-	20
Calcium, Total	1000	933	1500	**54**	Q	-	-	75-125	-	20
Chromium, Total	23.	18.7	31	**43**	Q	-	-	75-125	-	20
Cobalt, Total	2.5	46.6	28	**55**	Q	-	-	75-125	-	20
Copper, Total	30.	23.3	44	**60**	Q	-	-	75-125	-	20
Iron, Total	21000	93.3	19000	**0**	Q	-	-	75-125	-	20
Lead, Total	15.	47.6	43	**59**	Q	-	-	75-125	-	20
Magnesium, Total	440	933	870	**46**	Q	-	-	75-125	-	20
Manganese, Total	56.	46.6	68	**26**	Q	-	-	75-125	-	20
Nickel, Total	5.8	46.6	32	**56**	Q	-	-	75-125	-	20
Potassium, Total	260	933	770	**55**	Q	-	-	75-125	-	20
Selenium, Total	ND	11.2	6.3	**56**	Q	-	-	75-125	-	20
Silver, Total	ND	28	17	**61**	Q	-	-	75-125	-	20
Sodium, Total	28.J	933	610	**65**	Q	-	-	75-125	-	20
Thallium, Total	ND	11.2	5.0	**45**	Q	-	-	75-125	-	20
Vanadium, Total	21.	46.6	60	84		-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG999647-3 QC Sample: L1713603-01 Client ID: MS Sample										
Zinc, Total	45.	46.6	68	**49**	Q	-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG999336-4 QC Sample: L1713631-01 Client ID: DUP Sample						
Mercury, Total	6.2	3.8	mg/kg	**48**	Q	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG999647-4 QC Sample: L1713603-01 Client ID: DUP Sample						
Aluminum, Total	3100	3100	mg/kg	0		20
Antimony, Total	0.43J	1.1J	mg/kg	NC		20
Arsenic, Total	15.	11	mg/kg	**31**	Q	20
Barium, Total	27.	26	mg/kg	4		20
Beryllium, Total	0.06J	0.09J	mg/kg	NC		20
Cadmium, Total	0.16J	0.27J	mg/kg	NC		20
Calcium, Total	1000	910	mg/kg	9		20
Chromium, Total	23.	26	mg/kg	12		20
Cobalt, Total	2.5	4.1	mg/kg	**48**	Q	20
Copper, Total	30.	37	mg/kg	**21**	Q	20
Iron, Total	21000	25000	mg/kg	17		20
Lead, Total	15.	26	mg/kg	**54**	Q	20
Magnesium, Total	440	420	mg/kg	5		20
Manganese, Total	56.	83	mg/kg	**39**	Q	20
Nickel, Total	5.8	6.2	mg/kg	7		20
Potassium, Total	260	260	mg/kg	0		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Sodium, Total	28.J	25J	mg/kg	NC		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG999647-4 QC Sample: L1713603-01 Client ID: DUP Sample					
Thallium, Total	ND	ND	mg/kg	NC	20
Vanadium, Total	21.	25	mg/kg	17	20
Zinc, Total	45.	52	mg/kg	14	20

INORGANICS
&
MISCELLANEOUS

SAMPLE RESULTS

Lab ID: L1713623-01
Client ID: DS07_3-4
Sample Location: BROOKLYN, NEW YORK
Matrix: Soil

Date Collected: 04/28/17 11:20
Date Received: 04/28/17
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.0		%	0.100	NA	1	-	04/29/17 10:28	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.20	1	04/29/17 17:19	05/02/17 12:21	1,9010C/9012B	DE
Chromium, Hexavalent	0.91	J	mg/kg	1.0	0.21	1	05/04/17 10:54	05/04/17 22:57	1,7196A	WR

SAMPLE RESULTS

Lab ID:	L1713623-02	Date Collected:	04/28/17 12:45
Client ID:	DS08_1-2	Date Received:	04/28/17
Sample Location:	BROOKLYN, NEW YORK	Field Prep:	Not Specified
Matrix:	Soil		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.7		%	0.100	NA	1	-	04/29/17 10:28	121,2540G	RI
Cyanide, Total	ND		mg/kg	2.4	0.40	2	05/02/17 11:55	05/02/17 15:38	1,9010C/9012B	DE
Chromium, Hexavalent	0.74	J	mg/kg	1.0	0.20	1	05/04/17 10:54	05/04/17 22:57	1,7196A	WR

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1000286-1										
Chromium, Hexavalent	0.26	J	mg/kg	0.80	0.16	1	05/04/17 10:54	05/04/17 22:57	1,7196A	WR
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG998878-1										
Cyanide, Total	ND		mg/kg	0.98	0.16	1	04/29/17 17:19	05/02/17 11:57	1,9010C/9012B	DE

Lab Control Sample Analysis

Batch Quality Control

Project Name: 450 UNION ST

Project Number: 170301202

Lab Number: L1713623

Report Date: 05/05/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1000286-2								
Chromium, Hexavalent	99		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG998878-2 WG998878-3								
Cyanide, Total	99		95		80-120	3		35

Matrix Spike Analysis
Batch Quality Control

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1000286-4 QC Sample: L1713623-02 Client ID: DS08_1-2												
Chromium, Hexavalent	0.74J	1190	980	82		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG998878-4 WG998878-5 QC Sample: L1713546-14 Client ID: MS Sample												
Cyanide, Total	ND	12	10	86		10	87		65-135	0		35

Lab Duplicate Analysis

Batch Quality Control

Project Name: 450 UNION ST

Project Number: 170301202

Lab Number: L1713623

Report Date: 05/05/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1000286-6 QC Sample: L1713623-02 Client ID: DS08_1-2						
Chromium, Hexavalent	0.74J	ND	mg/kg	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG998811-1 QC Sample: L1713775-03 Client ID: DUP Sample						
Solids, Total	85.7	86.2	%	1		20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: 04/29/2017 09:11

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1713623-01A	Vial MeOH preserved	A	N/A	2.2	Y	Absent	NYTCL-8260HLW(14)
L1713623-01B	Vial water preserved	A	N/A	2.2	Y	Absent	NYTCL-8260HLW(14)
L1713623-01C	Vial water preserved	A	N/A	2.2	Y	Absent	NYTCL-8260HLW(14)
L1713623-01D	Plastic 2oz unpreserved for TS	A	N/A	2.2	Y	Absent	TS(7)
L1713623-01E	Metals Only - Glass 60mL/2oz unp	A	N/A	2.2	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1713623-01F	Glass 250ml/8oz unpreserved	A	N/A	2.2	Y	Absent	TCN-9010(14),HEXCR-7196(30)
L1713623-01G	Glass 500ml/16oz unpreserved	A	N/A	2.2	Y	Absent	NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(14)
L1713623-02A	Vial MeOH preserved	A	N/A	2.2	Y	Absent	NYTCL-8260HLW(14)
L1713623-02B	Vial water preserved	A	N/A	2.2	Y	Absent	NYTCL-8260HLW(14)
L1713623-02C	Vial water preserved	A	N/A	2.2	Y	Absent	NYTCL-8260HLW(14)
L1713623-02D	Plastic 2oz unpreserved for TS	A	N/A	2.2	Y	Absent	TS(7)
L1713623-02E	Metals Only - Glass 60mL/2oz unp	A	N/A	2.2	Y	Absent	BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1713623-02F	Glass 250ml/8oz unpreserved	A	N/A	2.2	Y	Absent	TCN-9010(14),HEXCR-7196(30)
L1713623-02G	Glass 500ml/16oz unpreserved	A	N/A	2.2	Y	Absent	NYTCL-8270(14),HERB-APA(14),NYTCL-8081(14),NYTCL-8082(14)

*Values in parentheses indicate holding time in days

Project Name: 450 UNION ST
Project Number: 170301202

Lab Number: L1713623
Report Date: 05/05/17

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)

*Values in parentheses indicate holding time in days

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Data Qualifiers

reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The lower value for the two columns has been reported due to obvious interference.
M	- Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
NJ	- Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
P	- The RPD between the results for the two columns exceeds the method-specified criteria.
Q	- The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
R	- Analytical results are from sample re-analysis.
RE	- Analytical results are from sample re-extraction.
S	- Analytical results are from modified screening analysis.
J	- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
ND	- Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

REFERENCES

1	Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
107	Alpha Analytical - In-house calculation method.
121	Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Alpha Analytical, Inc. ID No.:**17873**
Facility: **Company-wide** Revision 10
Department: **Quality Assurance** Published Date: 1/16/2017 11:00:05 AM
Title: **Certificate/Approval Program Summary** Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 300: DW: Bromide
EPA 6860: NPW and SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
EPA 9012B: NPW: Total Cyanide
EPA 9050A: NPW: Specific Conductance
SM3500: NPW: Ferrous Iron
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.
SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility
SM 2540D: TSS
EPA 3005A NPW
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.**

Mansfield Facility:

Drinking Water
EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1** Hg.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab 4/29/17

ALPHA Job # L1713623

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Project Information

Project Name: 450 Union St
Project Location: Brooklyn, New York
Project # 170301202
(Use Project name as Project #) ☐
Project Manager: ~~Nicole Ri~~ Nicole Rice
ALPHAQuote #:

Turn-Around Time

Standard ☒
Rush (only if pre approved) ☐
Due Date:
# of Days:

Deliverables

☐ ASP-A
☐ ASP-B
☐ EQuIS (1 File)
☐ EQuIS (4 File)
☒ Other Standard excel, PDF

Billing Information

☒ Same as Client Info
PO #

Regulatory Requirement

☐ NY TOGS
☐ NY Part 375
☐ AWQ Standards
☐ NY CP-51
☐ NY Restricted Use
☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information

Please identify below location of applicable disposal facilities.

Disposal Facility:
☐ NJ
☐ NY
☐ Other:

Client Information

Client: Langan Engineering
Address: 360 West 31st St
New York, New York
Phone: 212-479-5400
Fax: nrice@langan.com
Email: atashji@langan.com

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs, SVOCs, PCBs	Herbicides, Pesticides, Hex chrome, total cyanide	TAL Metals	Total Solids					Sample Specific Comments	Total Bottle
13623-01	DS07_3-4	4/28/17	1120	S	WK	X	X	X	X						
-02	DS08_1-2	↓	1245	↓	↓	X	X	X	X						

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type								
Preservative								

Relinquished By:	Date/Time	Received By:	Date/Time
	4/28/17 / 1255	/Alpha	4/28/17 12:55
/Alpha	4/28/17 2000		4/28/17 2000
	4/29/17 0111		4/29/17 0120

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

YORK
ANALYTICAL LABORATORIES INC

Technical Report

prepared for:

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Albert Tashji

Report Date: 05/18/2020
Client Project ID: 170301202
York Project (SDG) No.: 20D0655

Revision No. 1.0

CT Cert. No. PH-0723   New Jersey Cert. No. CT005 and NY037   New York Cert. Nos. 10854 and 12058   PA Cert. No. 68-04440

Report Date: 05/18/2020
Client Project ID: 170301202
York Project (SDG) No.: 20D0655

Langan Engineering & Environmental Services (NYC)
21 Penn Plaza, 360 West 31st Street
New York NY, 10001
Attention: Albert Tashji

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on April 23, 2020 and listed below. The project was identified as your project: **170301202**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
20D0655-01	**SB01_02**	**Soil**	**04/23/2020**	**04/23/2020**
20D0655-02	**SB02_02**	**Soil**	**04/23/2020**	**04/23/2020**
20D0655-03	**SB03_02**	**Soil**	**04/23/2020**	**04/23/2020**
20D0655-04	**SB04_02**	**Soil**	**04/23/2020**	**04/23/2020**
20D0655-05	**DUP01_04232020**	**Soil**	**04/23/2020**	**04/23/2020**
20D0655-06	**FB01_04232020**	**Water**	**04/23/2020**	**04/23/2020**
20D0655-07	**TB01_04232020**	**Water**	**04/23/2020**	**04/23/2020**

General Notes for York Project (SDG) No.: 20D0655

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc. Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: **Date:** 05/18/2020

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID:	**SB01_02**	**York Sample ID:**	**20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP		
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.054	0.11	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	**2-Butanone**	**0.0090**		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID:	SB01_02	York Sample ID:	20D0655-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
67-64-1	**Acetone**	**0.031**	CCV-E, B	mg/kg dry	0.0054	0.011	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
107-02-8	Acrolein	ND		mg/kg dry	0.0054	0.011	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
71-43-2	Benzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
75-25-2	Bromoform	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
74-83-9	Bromomethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
75-00-3	Chloroethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
67-66-3	Chloroform	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
74-87-3	Chloromethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
110-82-7	Cyclohexane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
74-95-3	Dibromomethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP
75-71-8	Dichlorodifluoromethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 19:56	TMP

Sample Information

Client Sample ID: SB01_02 **York Sample ID:** 20D0655-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-20-9	Methyl acetate	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		mg/kg dry	0.0054	0.011	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-47-6	o-Xylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0054	0.011	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-42-5	Styrene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-88-3	Toluene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB01_02** **York Sample ID:** **20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0027	0.0054	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0081	0.016	1	EPA 8260C	04/27/2020 06:29	04/27/2020 19:56	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*106 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*105 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*101 %*	*76-130*

Semi-Volatiles, 8270 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	**1,1-Biphenyl**	**0.0824**	J	mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
58-90-2	2,3,4,6-Tetrachlorophenol	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-95-4	2,4,5-Trichlorophenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
88-06-2	2,4,6-Trichlorophenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-83-2	2,4-Dichlorophenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
105-67-9	2,4-Dimethylphenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
51-28-5	2,4-Dinitrophenol	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
121-14-2	2,4-Dinitrotoluene	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
606-20-2	2,6-Dinitrotoluene	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-58-7	2-Chloronaphthalene	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-57-8	2-Chlorophenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-57-6	**2-Methylnaphthalene**	**0.210**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB01_02** **York Sample ID:** **20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
88-74-4	2-Nitroaniline	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
88-75-5	2-Nitrophenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-94-1	3,3-Dichlorobenzidine	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
99-09-2	3-Nitroaniline	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
534-52-1	4,6-Dinitro-2-methylphenol	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
101-55-3	4-Bromophenyl phenyl ether	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
59-50-7	4-Chloro-3-methylphenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
106-47-8	4-Chloroaniline	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7005-72-3	4-Chlorophenyl phenyl ether	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
100-01-6	4-Nitroaniline	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
100-02-7	4-Nitrophenol	ND		mg/kg dry	0.112	0.224	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
83-32-9	**Acenaphthene**	**0.485**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	**Acenaphthylene**	**0.232**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
98-86-2	Acetophenone	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
62-53-3	Aniline	ND		mg/kg dry	0.224	0.449	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
120-12-7	**Anthracene**	**1.36**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1912-24-9	Atrazine	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
100-52-7	Benzaldehyde	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
92-87-5	Benzidine	ND		mg/kg dry	0.224	0.449	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,PADEP		
56-55-3	**Benzo(a)anthracene**	**2.09**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: SB01_02 **York Sample ID:** 20D0655-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	**Benzo(a)pyrene**	**2.15**		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
205-99-2	**Benzo(b)fluoranthene**	**1.66**		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
191-24-2	**Benzo(g,h,i)perylene**	**1.12**		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
207-08-9	**Benzo(k)fluoranthene**	**1.43**		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
65-85-0	Benzoic acid	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
100-51-6	Benzyl alcohol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
85-68-7	Benzyl butyl phthalate	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
111-91-1	Bis(2-chloroethoxy)methane	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
111-44-4	Bis(2-chloroethyl)ether	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
108-60-1	Bis(2-chloroisopropyl)ether	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
117-81-7	Bis(2-ethylhexyl)phthalate	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
105-60-2	Caprolactam	ND		mg/kg dry	0.112	0.224	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
86-74-8	**Carbazole**	**0.382**		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
218-01-9	**Chrysene**	**2.00**		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
53-70-3	**Dibenzo(a,h)anthracene**	**0.110**	J	mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
132-64-9	**Dibenzofuran**	**0.366**		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
84-66-2	Diethyl phthalate	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
131-11-3	Dimethyl phthalate	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
84-74-2	Di-n-butyl phthalate	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
117-84-0	Di-n-octyl phthalate	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
122-39-4	Diphenylamine	ND		mg/kg dry	0.112	0.224	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 13:35	KH
206-44-0	**Fluoranthene**	**5.54**		mg/kg dry	0.140	0.280	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 15:29	KH

Sample Information

Client Sample ID:	**SB01_02**		**York Sample ID:**	**20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	**Fluorene**	**0.611**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
77-47-4	Hexachlorocyclopentadiene	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
67-72-1	Hexachloroethane	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.39**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
78-59-1	Isophorone	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**0.420**		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
98-95-3	Nitrobenzene	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
62-75-9	N-Nitrosodimethylamine	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
621-64-7	N-nitroso-di-n-propylamine	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-30-6	N-Nitrosodiphenylamine	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	**Phenanthrene**	**5.41**		mg/kg dry	0.140	0.280	5	EPA 8270D	04/27/2020 14:00	04/29/2020 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-95-2	Phenol	ND		mg/kg dry	0.0562	0.112	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**4.56**		mg/kg dry	0.140	0.280	5	EPA 8270D	04/27/2020 14:00	04/29/2020 15:29	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
110-86-1	Pyridine	ND		mg/kg dry	0.224	0.449	2	EPA 8270D	04/27/2020 14:00	04/28/2020 13:35	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*65.4 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*66.2 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*71.8 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*61.9 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*90.1 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*83.4 %*	*24-116*

Sample Information

Client Sample ID: **SB01_02**

York Sample ID: **20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
72-55-9	4,4'-DDE	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
50-29-3	4,4'-DDT	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
309-00-2	Aldrin	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
319-84-6	alpha-BHC	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
5103-71-9	alpha-Chlordane	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/24/2020 14:05	04/27/2020 17:25	CM
319-85-7	beta-BHC	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
57-74-9	Chlordane, total	ND		ug/kg dry	44.3	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
319-86-8	delta-BHC	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
60-57-1	Dieldrin	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
959-98-8	Endosulfan I	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
33213-65-9	Endosulfan II	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854	04/24/2020 14:05	04/27/2020 17:25	CM
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
72-20-8	Endrin	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
7421-93-4	Endrin aldehyde	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
53494-70-5	Endrin ketone	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
5566-34-7	gamma-Chlordane	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/24/2020 14:05	04/27/2020 17:25	CM
76-44-8	Heptachlor	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	2.22	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM
72-43-5	Methoxychlor	ND		ug/kg dry	11.1	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM

Sample Information

Client Sample ID: **SB01_02** **York Sample ID:** **20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	112	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:25	CM

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*65.5 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*62.4 %*	*30-150*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:03	BJ
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:03	BJ
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:03	BJ
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:03	BJ
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:03	BJ
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:03	BJ
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:03	BJ
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0224	1	EPA 8082A Certifications:	04/24/2020 14:05	04/27/2020 16:03	BJ

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*59.0 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*48.5 %*	*30-140*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		ug/kg dry	26.8	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 07:48	04/27/2020 14:56	BJ
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	26.8	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 07:48	04/27/2020 14:56	BJ
94-75-7	2,4-D	ND		ug/kg dry	26.8	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 07:48	04/27/2020 14:56	BJ

Surrogate Recoveries	Result	Acceptance Range

Sample Information

Client Sample ID:	**SB01_02**	**York Sample ID:**	**20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Herbicides, Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (*	*71.4 %*			*21-150*					

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**20100**		mg/kg dry	6.74	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-36-0	Antimony	ND		mg/kg dry	3.37	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-38-2	**Arsenic**	**7.42**		mg/kg dry	2.02	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-39-3	**Barium**	**124**		mg/kg dry	3.37	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-41-7	Beryllium	ND		mg/kg dry	0.067	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-43-9	Cadmium	ND		mg/kg dry	0.404	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-70-2	**Calcium**	**4850**		mg/kg dry	6.74	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-47-3	**Chromium**	**39.6**		mg/kg dry	0.674	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-48-4	**Cobalt**	**17.6**		mg/kg dry	0.539	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-50-8	**Copper**	**101**		mg/kg dry	2.70	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7439-89-6	**Iron**	**39100**		mg/kg dry	33.7	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7439-92-1	**Lead**	**407**		mg/kg dry	0.674	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7439-95-4	**Magnesium**	**7070**		mg/kg dry	6.74	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7439-96-5	**Manganese**	**311**		mg/kg dry	0.674	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-02-0	**Nickel**	**47.4**		mg/kg dry	1.35	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-09-7	**Potassium**	**3210**		mg/kg dry	6.74	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7782-49-2	Selenium	ND		mg/kg dry	3.37	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML
7440-22-4	Silver	ND		mg/kg dry	0.674	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:14	KML

Sample Information

Client Sample ID: **SB01_02** **York Sample ID:** **20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**3530**		mg/kg dry	67.4	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:14	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-28-0	Thallium	ND		mg/kg dry	3.37	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:14	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-62-2	**Vanadium**	**43.1**		mg/kg dry	1.35	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:14	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-66-6	**Zinc**	**234**		mg/kg dry	3.37	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:14	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.0941**		mg/kg dry	0.0404	1	EPA 7473	04/24/2020 15:32	04/24/2020 18:02	SY
							Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP		

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.674	1	EPA 7196A	04/24/2020 08:00	04/24/2020 11:27	STN
							Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP		

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**39.6**		mg/kg	0.500	1	Calculation	04/29/2020 13:24	04/29/2020 13:24	TJM
							Certifications:			

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg dry	0.674	1	EPA 9014/9010C	04/23/2020 16:56	04/23/2020 21:52	MAO
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **SB01_02** **York Sample ID:** **20D0655-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:45 am	04/23/2020

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**74.2**		%	0.100	1	SM 2540G Certifications: CTDOH	04/24/2020 08:35	04/24/2020 13:16	TJM

Sample Information

Client Sample ID: **SB02_02**

York Sample ID: **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP	04/27/2020 06:29	04/27/2020 20:23	TMP
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP	04/27/2020 06:29	04/27/2020 20:23	TMP
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.049	0.099	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
78-93-3	2-Butanone	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP

Sample Information

Client Sample ID: **SB02_02** **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
67-64-1	Acetone	ND		mg/kg dry	0.0049	0.0099	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-02-8	Acrolein	ND		mg/kg dry	0.0049	0.0099	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
71-43-2	Benzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-25-2	Bromoform	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-83-9	Bromomethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-00-3	Chloroethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
67-66-3	Chloroform	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-87-3	Chloromethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
110-82-7	Cyclohexane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-95-3	Dibromomethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB02_02** **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
79-20-9	Methyl acetate	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
75-09-2	Methylene chloride	ND		mg/kg dry	0.0049	0.0099	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
95-47-6	o-Xylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0049	0.0099	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
100-42-5	Styrene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
108-88-3	Toluene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:23	TMP

Sample Information

Client Sample ID: **SB02_02**

York Sample ID: **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0025	0.0049	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0074	0.015	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:23	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*102 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*105 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*95.4 %*	*76-130*

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	**1,1-Biphenyl**	**0.0755**	J	mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		mg/kg dry	0.148	0.295	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
58-90-2	2,3,4,6-Tetrachlorophenol	ND		mg/kg dry	0.148	0.295	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-95-4	2,4,5-Trichlorophenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
88-06-2	2,4,6-Trichlorophenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-83-2	2,4-Dichlorophenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
105-67-9	2,4-Dimethylphenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
51-28-5	2,4-Dinitrophenol	ND		mg/kg dry	0.148	0.295	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
121-14-2	2,4-Dinitrotoluene	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
606-20-2	2,6-Dinitrotoluene	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-58-7	2-Chloronaphthalene	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-57-8	2-Chlorophenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-57-6	**2-Methylnaphthalene**	**0.222**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: SB02_02 **York Sample ID:** 20D0655-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
88-74-4	2-Nitroaniline	ND		mg/kg dry	0.148	0.295	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
88-75-5	2-Nitrophenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
91-94-1	3,3-Dichlorobenzidine	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
99-09-2	3-Nitroaniline	ND		mg/kg dry	0.148	0.295	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		mg/kg dry	0.148	0.295	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
101-55-3	4-Bromophenyl phenyl ether	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
59-50-7	4-Chloro-3-methylphenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
106-47-8	4-Chloroaniline	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
100-01-6	4-Nitroaniline	ND		mg/kg dry	0.148	0.295	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
100-02-7	4-Nitrophenol	ND		mg/kg dry	0.148	0.295	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
83-32-9	**Acenaphthene**	**0.610**		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
208-96-8	**Acenaphthylene**	**0.505**		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
98-86-2	Acetophenone	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
62-53-3	Aniline	ND		mg/kg dry	0.296	0.591	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
120-12-7	**Anthracene**	**1.85**		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
1912-24-9	Atrazine	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
100-52-7	Benzaldehyde	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
92-87-5	Benzidine	ND		mg/kg dry	0.296	0.591	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
56-55-3	**Benzo(a)anthracene**	**4.26**		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH

Sample Information

Client Sample ID: **SB02_02** **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	**Benzo(a)pyrene**	**3.90**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	**Benzo(b)fluoranthene**	**3.10**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	**Benzo(g,h,i)perylene**	**1.76**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	**Benzo(k)fluoranthene**	**3.12**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
65-85-0	Benzoic acid	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
100-51-6	Benzyl alcohol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
85-68-7	Benzyl butyl phthalate	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
111-91-1	Bis(2-chloroethoxy)methane	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
111-44-4	Bis(2-chloroethyl)ether	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-60-1	Bis(2-chloroisopropyl)ether	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
117-81-7	Bis(2-ethylhexyl)phthalate	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
105-60-2	Caprolactam	ND		mg/kg dry	0.148	0.295	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
86-74-8	**Carbazole**	**0.749**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	**Chrysene**	**3.87**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	**Dibenzo(a,h)anthracene**	**0.513**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	**Dibenzofuran**	**0.427**		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
84-66-2	Diethyl phthalate	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
131-11-3	Dimethyl phthalate	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
84-74-2	Di-n-butyl phthalate	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
117-84-0	Di-n-octyl phthalate	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
122-39-4	Diphenylamine	ND		mg/kg dry	0.148	0.295	2	EPA 8270D	04/27/2020 14:00	04/28/2020 14:05	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**9.24**		mg/kg dry	0.370	0.738	10	EPA 8270D	04/27/2020 14:00	04/29/2020 16:00	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB02_02** | **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	**Fluorene**	**0.754**		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
77-47-4	Hexachlorocyclopentadiene	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
67-72-1	Hexachloroethane	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.43**		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
78-59-1	Isophorone	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
91-20-3	**Naphthalene**	**0.437**		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
98-95-3	Nitrobenzene	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
62-75-9	N-Nitrosodimethylamine	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
621-64-7	N-nitroso-di-n-propylamine	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
86-30-6	N-Nitrosodiphenylamine	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
85-01-8	**Phenanthrene**	**7.10**		mg/kg dry	0.370	0.738	10	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:00	KH
108-95-2	Phenol	ND		mg/kg dry	0.0740	0.148	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH
129-00-0	**Pyrene**	**6.99**		mg/kg dry	0.370	0.738	10	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:00	KH
110-86-1	Pyridine	ND		mg/kg dry	0.296	0.591	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:05	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*74.6 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*74.0 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*76.8 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*77.8 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*92.0 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*97.3 %*	*24-116*

Sample Information

Client Sample ID: **SB02_02** | **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
72-55-9	4,4'-DDE	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
50-29-3	4,4'-DDT	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
309-00-2	Aldrin	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
319-84-6	alpha-BHC	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/24/2020 14:05	04/27/2020 17:42	CM
319-85-7	beta-BHC	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
57-74-9	Chlordane, total	ND		ug/kg dry	38.9	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
319-86-8	delta-BHC	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
60-57-1	Dieldrin	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
959-98-8	Endosulfan I	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
33213-65-9	Endosulfan II	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854	04/24/2020 14:05	04/27/2020 17:42	CM
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
72-20-8	Endrin	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
53494-70-5	Endrin ketone	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
5566-34-7	gamma-Chlordane	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/24/2020 14:05	04/27/2020 17:42	CM
76-44-8	Heptachlor	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM
72-43-5	Methoxychlor	ND		ug/kg dry	9.72	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 17:42	CM

Sample Information

Client Sample ID: **SB02_02** **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	98.4	5	EPA 8081B	04/24/2020 14:05	04/27/2020 17:42	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*61.8 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*58.8 %*	*30-150*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0196	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:17	BJ
							Certifications:			

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*52.5 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*44.0 %*	*30-140*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		ug/kg dry	23.3	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:07	BJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	23.3	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:07	BJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
94-75-7	2,4-D	ND		ug/kg dry	23.3	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:07	BJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Surrogate Recoveries	Result	Acceptance Range

Sample Information

Client Sample ID: **SB02_02** **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (*	*54.8 %*			*21-150*					

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**7200**		mg/kg dry	5.93	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-36-0	Antimony	ND		mg/kg dry	2.97	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-38-2	**Arsenic**	**7.43**		mg/kg dry	1.78	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-39-3	**Barium**	**54.8**		mg/kg dry	2.97	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-41-7	Beryllium	ND		mg/kg dry	0.059	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-43-9	Cadmium	ND		mg/kg dry	0.356	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-70-2	**Calcium**	**10500**		mg/kg dry	5.93	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-47-3	**Chromium**	**12.5**		mg/kg dry	0.593	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-48-4	**Cobalt**	**13.5**		mg/kg dry	0.474	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-50-8	**Copper**	**119**		mg/kg dry	2.37	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7439-89-6	**Iron**	**17300**		mg/kg dry	29.7	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7439-92-1	**Lead**	**161**		mg/kg dry	0.593	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7439-95-4	**Magnesium**	**4360**		mg/kg dry	5.93	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7439-96-5	**Manganese**	**305**		mg/kg dry	0.593	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-02-0	**Nickel**	**25.6**		mg/kg dry	1.19	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-09-7	**Potassium**	**1070**		mg/kg dry	5.93	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7782-49-2	Selenium	ND		mg/kg dry	2.97	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML
7440-22-4	Silver	ND		mg/kg dry	0.593	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:16	KML

Sample Information

Client Sample ID: **SB02_02** **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**1490**		mg/kg dry	59.3	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:16	KML
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-28-0	Thallium	ND		mg/kg dry	2.97	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:16	KML
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-62-2	**Vanadium**	**14.5**		mg/kg dry	1.19	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:16	KML
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
7440-66-6	**Zinc**	**170**		mg/kg dry	2.97	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:16	KML
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.511**		mg/kg dry	0.0356	1	EPA 7473	04/24/2020 15:32	04/24/2020 18:10	SY
							Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP			

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.593	1	EPA 7196A	04/24/2020 08:00	04/24/2020 11:27	STN
							Certifications: NJDEP,CTDOH,NELAC-NY10854,PADEP			

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**12.5**		mg/kg	0.500	1	Calculation	04/29/2020 13:24	04/29/2020 13:24	TJM
							Certifications:			

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg dry	0.593	1	EPA 9014/9010C	04/23/2020 16:56	04/23/2020 21:52	MAO
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **SB02_02** **York Sample ID:** **20D0655-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:25 am	04/23/2020

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**84.3**		%	0.100	1	SM 2540G Certifications: CTDOH	04/24/2020 08:35	04/24/2020 13:16	TJM

Sample Information

Client Sample ID: **SB03_02** **York Sample ID:** **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP	04/27/2020 06:29	04/27/2020 20:49	TMP
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP	04/27/2020 06:29	04/27/2020 20:49	TMP
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.050	0.10	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
78-93-3	2-Butanone	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP

Sample Information

Client Sample ID: **SB03_02** **York Sample ID:** **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
67-64-1	**Acetone**	**0.033**	CCV-E, B	mg/kg dry	0.0050	0.010	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-02-8	Acrolein	ND		mg/kg dry	0.0050	0.010	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
71-43-2	Benzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-25-2	Bromoform	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-83-9	Bromomethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-00-3	Chloroethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
67-66-3	Chloroform	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-87-3	Chloromethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
110-82-7	Cyclohexane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
74-95-3	Dibromomethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-71-8	Dichlorodifluoromethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB03_02**   **York Sample ID:** **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Volatiles, 8260 Comprehensive   **Log-in Notes:**   **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-20-9	Methyl acetate	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		mg/kg dry	0.0050	0.010	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-47-6	o-Xylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0050	0.010	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-42-5	Styrene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-88-3	Toluene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C	04/27/2020 06:29	04/27/2020 20:49	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID:	**SB03_02**		**York Sample ID:**	**20D0655-03**
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0025	0.0050	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 20:49	TMP
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0075	0.015	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP	04/27/2020 06:29	04/27/2020 20:49	TMP

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*104 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*107 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*96.7 %*	*76-130*

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1-Biphenyl	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
58-90-2	2,3,4,6-Tetrachlorophenol	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
95-95-4	2,4,5-Trichlorophenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
88-06-2	2,4,6-Trichlorophenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
120-83-2	2,4-Dichlorophenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
105-67-9	2,4-Dimethylphenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
51-28-5	2,4-Dinitrophenol	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
121-14-2	2,4-Dinitrotoluene	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
606-20-2	2,6-Dinitrotoluene	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
91-58-7	2-Chloronaphthalene	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
95-57-8	2-Chlorophenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
91-57-6	**2-Methylnaphthalene**	**0.145**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH

Sample Information

Client Sample ID:	**SB03_02**			**York Sample ID:**	**20D0655-03**
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time		Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am		04/23/2020

Semi-Volatiles, 8270 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
88-74-4	2-Nitroaniline	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
88-75-5	2-Nitrophenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
91-94-1	3,3-Dichlorobenzidine	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
99-09-2	3-Nitroaniline	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
101-55-3	4-Bromophenyl phenyl ether	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
59-50-7	4-Chloro-3-methylphenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
106-47-8	4-Chloroaniline	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
100-01-6	4-Nitroaniline	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
100-02-7	4-Nitrophenol	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
83-32-9	**Acenaphthene**	**0.473**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
208-96-8	**Acenaphthylene**	**0.420**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
98-86-2	Acetophenone	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
62-53-3	Aniline	ND		mg/kg dry	0.194	0.387	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
120-12-7	**Anthracene**	**1.60**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
1912-24-9	Atrazine	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
100-52-7	Benzaldehyde	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
92-87-5	Benzidine	ND		mg/kg dry	0.194	0.387	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
56-55-3	**Benzo(a)anthracene**	**3.86**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH

Sample Information

Client Sample ID: **SB03_02** **York Sample ID:** **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	**Benzo(a)pyrene**	**3.46**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH
205-99-2	**Benzo(b)fluoranthene**	**2.81**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH
191-24-2	**Benzo(g,h,i)perylene**	**2.12**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
207-08-9	**Benzo(k)fluoranthene**	**2.86**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH
65-85-0	Benzoic acid	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
100-51-6	Benzyl alcohol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
85-68-7	Benzyl butyl phthalate	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
111-91-1	Bis(2-chloroethoxy)methane	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
111-44-4	Bis(2-chloroethyl)ether	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
108-60-1	Bis(2-chloroisopropyl)ether	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
117-81-7	**Bis(2-ethylhexyl)phthalate**	**0.0572**	J	mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
105-60-2	Caprolactam	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
86-74-8	**Carbazole**	**0.491**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
218-01-9	**Chrysene**	**3.70**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH
53-70-3	**Dibenzo(a,h)anthracene**	**0.524**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
132-64-9	Dibenzofuran	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
84-66-2	Diethyl phthalate	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
131-11-3	Dimethyl phthalate	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
84-74-2	Di-n-butyl phthalate	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
117-84-0	Di-n-octyl phthalate	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
122-39-4	Diphenylamine	ND		mg/kg dry	0.0967	0.193	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
206-44-0	**Fluoranthene**	**9.01**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH

Sample Information

Client Sample ID: **SB03_02** | **York Sample ID:** **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	**Fluorene**	**0.541**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
77-47-4	Hexachlorocyclopentadiene	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
67-72-1	Hexachloroethane	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.67**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
78-59-1	Isophorone	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
91-20-3	**Naphthalene**	**0.254**		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
98-95-3	Nitrobenzene	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
62-75-9	N-Nitrosodimethylamine	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
621-64-7	N-nitroso-di-n-propylamine	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
86-30-6	N-Nitrosodiphenylamine	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
85-01-8	**Phenanthrene**	**6.97**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH
108-95-2	Phenol	ND		mg/kg dry	0.0485	0.0967	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH
129-00-0	**Pyrene**	**7.45**		mg/kg dry	0.485	0.967	20	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 16:31	KH
110-86-1	Pyridine	ND		mg/kg dry	0.194	0.387	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 14:36	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*64.4 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*66.3 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*69.1 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*69.0 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*82.8 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*91.5 %*	*24-116*

Sample Information

Client Sample ID:	**SB03_02**			**York Sample ID:**	**20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
72-55-9	4,4'-DDE	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-29-3	4,4'-DDT	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
309-00-2	Aldrin	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
319-84-6	alpha-BHC	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	NELAC-NY10854,NJDEP		
319-85-7	beta-BHC	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
57-74-9	Chlordane, total	ND		ug/kg dry	38.8	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
319-86-8	delta-BHC	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
60-57-1	Dieldrin	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
959-98-8	Endosulfan I	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
33213-65-9	Endosulfan II	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854		
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
72-20-8	Endrin	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53494-70-5	Endrin ketone	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
5566-34-7	gamma-Chlordane	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	NELAC-NY10854,NJDEP		
76-44-8	Heptachlor	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.94	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
72-43-5	Methoxychlor	ND		ug/kg dry	9.69	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:26	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB03_02** **York Sample ID:** **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	98.1	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:26	CM

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*48.9 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*33.1 %*	*30-150*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:31	BJ
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:31	BJ
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:31	BJ
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:31	BJ
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:31	BJ
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:31	BJ
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/24/2020 14:05	04/27/2020 16:31	BJ
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0196	1	EPA 8082A Certifications:	04/24/2020 14:05	04/27/2020 16:31	BJ

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*45.5 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*39.0 %*	*30-140*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		ug/kg dry	23.4	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 07:48	04/27/2020 15:17	BJ
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	23.4	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 07:48	04/27/2020 15:17	BJ
94-75-7	2,4-D	ND		ug/kg dry	23.4	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 07:48	04/27/2020 15:17	BJ

	Surrogate Recoveries	Result	Acceptance Range

Sample Information

Client Sample ID: **SB03_02**

York Sample ID: **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Herbicides, Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (*	*58.0 %*			*21-150*					

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**6920**		mg/kg dry	5.90	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-36-0	Antimony	ND		mg/kg dry	2.95	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-38-2	**Arsenic**	**9.93**		mg/kg dry	1.77	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-39-3	**Barium**	**80.5**		mg/kg dry	2.95	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-41-7	Beryllium	ND		mg/kg dry	0.059	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-43-9	**Cadmium**	**0.938**		mg/kg dry	0.354	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-70-2	**Calcium**	**15900**		mg/kg dry	5.90	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-47-3	**Chromium**	**22.0**		mg/kg dry	0.590	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-48-4	**Cobalt**	**8.57**		mg/kg dry	0.472	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-50-8	**Copper**	**1040**		mg/kg dry	2.36	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7439-89-6	**Iron**	**19700**		mg/kg dry	29.5	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7439-92-1	**Lead**	**347**		mg/kg dry	0.590	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7439-95-4	**Magnesium**	**4140**		mg/kg dry	5.90	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7439-96-5	**Manganese**	**321**		mg/kg dry	0.590	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-02-0	**Nickel**	**35.9**		mg/kg dry	1.18	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-09-7	**Potassium**	**1210**		mg/kg dry	5.90	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7782-49-2	Selenium	ND		mg/kg dry	2.95	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-22-4	Silver	ND		mg/kg dry	0.590	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:19	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID:	**SB03_02**			**York Sample ID:**	**20D0655-03**
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time		Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am		04/23/2020

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**900**		mg/kg dry	59.0	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:19	KML
7440-28-0	Thallium	ND		mg/kg dry	2.95	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:19	KML
7440-62-2	**Vanadium**	**20.7**		mg/kg dry	1.18	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:19	KML
7440-66-6	**Zinc**	**713**		mg/kg dry	2.95	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:19	KML

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.755**		mg/kg dry	0.0354	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	04/24/2020 15:32	04/24/2020 16:25	SY

Chromium, Hexavalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.590	1	EPA 7196A Certifications: NJDEP,CTDOH,NELAC-NY10854,PADEP	04/24/2020 08:00	04/24/2020 11:27	STN

Chromium, Trivalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**22.0**		mg/kg	0.500	1	Calculation Certifications:	04/29/2020 13:24	04/29/2020 13:24	TJM

Cyanide, Total

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg dry	0.590	1	EPA 9014/9010C Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/23/2020 16:56	04/23/2020 21:52	MAO

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **SB03_02** **York Sample ID:** **20D0655-03**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:15 am	04/23/2020

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**84.8**		%	0.100	1	SM 2540G Certifications: CTDOH	04/24/2020 08:35	04/24/2020 13:16	TJM

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP		
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.052	0.10	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
67-64-1	Acetone	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
107-02-8	Acrolein	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
71-43-2	Benzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
75-25-2	Bromoform	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
74-83-9	Bromomethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
75-00-3	Chloroethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
67-66-3	Chloroform	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
74-87-3	Chloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
110-82-7	Cyclohexane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
74-95-3	Dibromomethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP
75-71-8	Dichlorodifluoromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/27/2020 06:29	04/27/2020 21:16	TMP

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-20-9	Methyl acetate	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-47-6	o-Xylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0052	0.010	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-42-5	Styrene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-88-3	Toluene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

YORK
ANALYTICAL LABORATORIES INC

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0026	0.0052	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0077	0.015	1	EPA 8260C	04/27/2020 06:29	04/27/2020 21:16	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*102 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*106 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*97.1 %*	*76-130*

Semi-Volatiles, 8270 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1-Biphenyl	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
58-90-2	2,3,4,6-Tetrachlorophenol	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-95-4	2,4,5-Trichlorophenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
88-06-2	2,4,6-Trichlorophenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-83-2	2,4-Dichlorophenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
105-67-9	2,4-Dimethylphenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
51-28-5	2,4-Dinitrophenol	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
121-14-2	2,4-Dinitrotoluene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
606-20-2	2,6-Dinitrotoluene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-58-7	2-Chloronaphthalene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-57-8	2-Chlorophenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-57-6	2-Methylnaphthalene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
88-74-4	2-Nitroaniline	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
88-75-5	2-Nitrophenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
91-94-1	3,3-Dichlorobenzidine	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
99-09-2	3-Nitroaniline	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
101-55-3	4-Bromophenyl phenyl ether	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
59-50-7	4-Chloro-3-methylphenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
106-47-8	4-Chloroaniline	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
100-01-6	4-Nitroaniline	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
100-02-7	4-Nitrophenol	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
83-32-9	**Acenaphthene**	**0.134**		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
208-96-8	**Acenaphthylene**	**0.270**		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
98-86-2	Acetophenone	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
62-53-3	Aniline	ND		mg/kg dry	0.192	0.384	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
120-12-7	**Anthracene**	**0.528**		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
1912-24-9	Atrazine	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
100-52-7	Benzaldehyde	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
92-87-5	Benzidine	ND		mg/kg dry	0.192	0.384	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
56-55-3	**Benzo(a)anthracene**	**1.91**		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	**Benzo(a)pyrene**	**1.93**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	**Benzo(b)fluoranthene**	**1.49**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	**Benzo(g,h,i)perylene**	**0.990**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	**Benzo(k)fluoranthene**	**1.53**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
65-85-0	Benzoic acid	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
100-51-6	Benzyl alcohol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
85-68-7	Benzyl butyl phthalate	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
111-91-1	Bis(2-chloroethoxy)methane	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
111-44-4	Bis(2-chloroethyl)ether	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
108-60-1	Bis(2-chloroisopropyl)ether	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
117-81-7	Bis(2-ethylhexyl)phthalate	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
105-60-2	Caprolactam	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
86-74-8	**Carbazole**	**0.173**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	**Chrysene**	**1.83**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	**Dibenzo(a,h)anthracene**	**0.248**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
132-64-9	**Dibenzofuran**	**0.0982**		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
84-66-2	Diethyl phthalate	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
131-11-3	Dimethyl phthalate	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
84-74-2	Di-n-butyl phthalate	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
117-84-0	Di-n-octyl phthalate	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
122-39-4	Diphenylamine	ND		mg/kg dry	0.0959	0.192	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:09	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**3.81**		mg/kg dry	0.120	0.240	5	EPA 8270D	04/27/2020 14:00	04/29/2020 17:02	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	**Fluorene**	**0.190**		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
77-47-4	Hexachlorocyclopentadiene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
67-72-1	Hexachloroethane	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
193-39-5	**Indeno(1,2,3-cd)pyrene**	**1.12**		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
78-59-1	Isophorone	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
91-20-3	**Naphthalene**	**0.0890**	J	mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
98-95-3	Nitrobenzene	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
62-75-9	N-Nitrosodimethylamine	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
621-64-7	N-nitroso-di-n-propylamine	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
86-30-6	N-Nitrosodiphenylamine	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
85-01-8	**Phenanthrene**	**2.16**		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
108-95-2	Phenol	ND		mg/kg dry	0.0481	0.0959	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH
129-00-0	**Pyrene**	**3.28**		mg/kg dry	0.120	0.240	5	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 17:02	KH
110-86-1	Pyridine	ND		mg/kg dry	0.192	0.384	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:09	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*62.3 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*64.2 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*62.6 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*60.2 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*88.3 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*82.8 %*	*24-116*

Sample Information

Client Sample ID: **SB04_02** **York Sample ID:** **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
72-55-9	4,4'-DDE	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
50-29-3	4,4'-DDT	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
309-00-2	Aldrin	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
319-84-6	alpha-BHC	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/24/2020 14:05	04/28/2020 12:42	CM
319-85-7	beta-BHC	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
57-74-9	Chlordane, total	ND		ug/kg dry	37.6	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
319-86-8	delta-BHC	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
60-57-1	Dieldrin	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
959-98-8	Endosulfan I	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
33213-65-9	Endosulfan II	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854	04/24/2020 14:05	04/28/2020 12:42	CM
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
72-20-8	Endrin	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
53494-70-5	Endrin ketone	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
5566-34-7	gamma-Chlordane	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/24/2020 14:05	04/28/2020 12:42	CM
76-44-8	Heptachlor	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.88	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM
72-43-5	Methoxychlor	ND		ug/kg dry	9.40	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 14:05	04/28/2020 12:42	CM

Sample Information

Client Sample ID:	**SB04_02**			**York Sample ID:**	**20D0655-04**
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received	
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020	

Pesticides, 8081 target list

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	95.1	5	EPA 8081B	04/24/2020 14:05	04/28/2020 12:42	CM
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*55.7 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*37.1 %*	*30-150*

Polychlorinated Biphenyls (PCB)

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0190	1	EPA 8082A	04/24/2020 14:05	04/27/2020 16:44	BJ
							Certifications:			

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*52.5 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*48.0 %*	*30-140*

Herbicides, Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		ug/kg dry	22.8	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:28	BJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	22.8	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:28	BJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
94-75-7	2,4-D	ND		ug/kg dry	22.8	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:28	BJ
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Surrogate Recoveries	Result	Acceptance Range

Sample Information

Client Sample ID: **SB04_02**

York Sample ID: **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Herbicides, Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (*	*64.4 %*			*21-150*					

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**7340**		mg/kg dry	5.77	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-36-0	Antimony	ND		mg/kg dry	2.89	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-38-2	**Arsenic**	**8.16**		mg/kg dry	1.73	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-39-3	**Barium**	**66.0**		mg/kg dry	2.89	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-41-7	Beryllium	ND		mg/kg dry	0.058	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-43-9	**Cadmium**	**1.22**		mg/kg dry	0.346	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-70-2	**Calcium**	**4710**		mg/kg dry	5.77	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-47-3	**Chromium**	**15.9**		mg/kg dry	0.577	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-48-4	**Cobalt**	**4.40**		mg/kg dry	0.462	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-50-8	**Copper**	**629**		mg/kg dry	2.31	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7439-89-6	**Iron**	**16400**		mg/kg dry	28.9	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7439-92-1	**Lead**	**255**		mg/kg dry	0.577	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7439-95-4	**Magnesium**	**1990**		mg/kg dry	5.77	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7439-96-5	**Manganese**	**110**		mg/kg dry	0.577	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-02-0	**Nickel**	**19.0**		mg/kg dry	1.15	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-09-7	**Potassium**	**1450**		mg/kg dry	5.77	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7782-49-2	Selenium	ND		mg/kg dry	2.89	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-22-4	Silver	ND		mg/kg dry	0.577	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML

Sample Information

Client Sample ID: **SB04_02**

York Sample ID: **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**1130**		mg/kg dry	57.7	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-28-0	Thallium	ND		mg/kg dry	2.89	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-62-2	**Vanadium**	**18.9**		mg/kg dry	1.15	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML
7440-66-6	**Zinc**	**468**		mg/kg dry	2.89	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:34	KML

Mercury by 7473

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**1.24**		mg/kg dry	0.0346	1	EPA 7473 Certifications: CTDOH,NJDEP,NELAC-NY10854,PADEP	04/24/2020 15:32	04/24/2020 18:19	SY

Chromium, Hexavalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.577	1	EPA 7196A Certifications: NJDEP,CTDOH,NELAC-NY10854,PADEP	04/24/2020 08:00	04/24/2020 11:27	STN

Chromium, Trivalent

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**15.9**		mg/kg	0.500	1	Calculation Certifications:	04/29/2020 13:24	04/29/2020 13:24	TJM

Cyanide, Total

Log-in Notes:

Sample Notes:

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg dry	0.577	1	EPA 9014/9010C Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/23/2020 16:56	04/23/2020 21:52	MAO

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **SB04_02**

York Sample ID: **20D0655-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 8:05 am	04/23/2020

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**86.6**		%	0.100	1	SM 2540G Certifications: CTDOH	04/24/2020 08:35	04/24/2020 13:16	TJM

Sample Information

Client Sample ID: **DUP01_04232020** **York Sample ID:** **20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:** **VOA-Re**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
71-55-6	1,1,1-Trichloroethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-34-5	1,1,2,2-Tetrachloroethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		
79-00-5	1,1,2-Trichloroethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-34-3	1,1-Dichloroethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-61-6	1,2,3-Trichlorobenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP		
120-82-1	1,2,4-Trichlorobenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-12-8	1,2-Dibromo-3-chloropropane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-93-4	1,2-Dibromoethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-50-1	1,2-Dichlorobenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-87-5	1,2-Dichloropropane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
541-73-1	1,3-Dichlorobenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		mg/kg dry	0.059	0.12	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID:	**DUP01_04232020**	**York Sample ID:**	**20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:** VOA-Re

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
108-10-1	4-Methyl-2-pentanone	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
67-64-1	Acetone	ND		mg/kg dry	0.0059	0.012	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
107-02-8	Acrolein	ND		mg/kg dry	0.0059	0.012	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
107-13-1	Acrylonitrile	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
71-43-2	Benzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
74-97-5	Bromochloromethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
75-27-4	Bromodichloromethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
75-25-2	Bromoform	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
74-83-9	Bromomethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
75-15-0	Carbon disulfide	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
56-23-5	Carbon tetrachloride	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
108-90-7	Chlorobenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
75-00-3	Chloroethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
67-66-3	Chloroform	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
74-87-3	Chloromethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
156-59-2	cis-1,2-Dichloroethylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
10061-01-5	cis-1,3-Dichloropropylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
110-82-7	Cyclohexane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
124-48-1	Dibromochloromethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
74-95-3	Dibromomethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP
75-71-8	Dichlorodifluoromethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/24/2020 06:27	04/29/2020 18:06	TMP

Sample Information

Client Sample ID: DUP01_04232020 **York Sample ID:** 20D0655-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:** VOA-Re

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-20-9	Methyl acetate	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-87-2	Methylcyclohexane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		mg/kg dry	0.0059	0.012	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
104-51-8	n-Butylbenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
103-65-1	n-Propylbenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-47-6	o-Xylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		mg/kg dry	0.0059	0.012	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
135-98-8	sec-Butylbenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-42-5	Styrene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-65-0	tert-Butyl alcohol (TBA)	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
127-18-4	Tetrachloroethylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-88-3	Toluene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
10061-02-6	trans-1,3-Dichloropropylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-01-6	Trichloroethylene	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-69-4	Trichlorofluoromethane	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: **DUP01_04232020** **York Sample ID:** **20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes: VOA-Re

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		mg/kg dry	0.0030	0.0059	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		mg/kg dry	0.0089	0.018	1	EPA 8260C	04/24/2020 06:27	04/29/2020 18:06	TMP
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*108 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*107 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*97.3 %*	*76-130*

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1-Biphenyl	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		mg/kg dry	0.147	0.294	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
58-90-2	2,3,4,6-Tetrachlorophenol	ND		mg/kg dry	0.147	0.294	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
95-95-4	2,4,5-Trichlorophenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
88-06-2	2,4,6-Trichlorophenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-83-2	2,4-Dichlorophenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
105-67-9	2,4-Dimethylphenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
51-28-5	2,4-Dinitrophenol	ND		mg/kg dry	0.147	0.294	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
121-14-2	2,4-Dinitrotoluene	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
606-20-2	2,6-Dinitrotoluene	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-58-7	2-Chloronaphthalene	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
95-57-8	2-Chlorophenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-57-6	**2-Methylnaphthalene**	**0.134**	J	mg/kg dry	0.0738	0.147	2	EPA 8270D	04/27/2020 14:00	04/28/2020 16:39	KH
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Sample Information

Client Sample ID: DUP01_04232020 **York Sample ID:** 20D0655-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
88-74-4	2-Nitroaniline	ND		mg/kg dry	0.147	0.294	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
88-75-5	2-Nitrophenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
65794-96-9	3- & 4-Methylphenols	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
91-94-1	3,3-Dichlorobenzidine	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
99-09-2	3-Nitroaniline	ND		mg/kg dry	0.147	0.294	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
534-52-1	4,6-Dinitro-2-methylphenol	ND		mg/kg dry	0.147	0.294	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
101-55-3	4-Bromophenyl phenyl ether	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
59-50-7	4-Chloro-3-methylphenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
106-47-8	4-Chloroaniline	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
7005-72-3	4-Chlorophenyl phenyl ether	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
100-01-6	4-Nitroaniline	ND		mg/kg dry	0.147	0.294	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
100-02-7	4-Nitrophenol	ND		mg/kg dry	0.147	0.294	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
83-32-9	**Acenaphthene**	**0.441**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
208-96-8	**Acenaphthylene**	**0.637**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
98-86-2	Acetophenone	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
62-53-3	Aniline	ND		mg/kg dry	0.295	0.590	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
120-12-7	**Anthracene**	**1.70**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
1912-24-9	Atrazine	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
100-52-7	Benzaldehyde	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
92-87-5	Benzidine	ND		mg/kg dry	0.295	0.590	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
56-55-3	**Benzo(a)anthracene**	**4.59**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH

Sample Information

Client Sample ID:	**DUP01_04232020**		**York Sample ID:**	**20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
50-32-8	**Benzo(a)pyrene**	**4.29**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
205-99-2	**Benzo(b)fluoranthene**	**3.39**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
191-24-2	**Benzo(g,h,i)perylene**	**1.85**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
207-08-9	**Benzo(k)fluoranthene**	**3.79**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
65-85-0	Benzoic acid	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
100-51-6	Benzyl alcohol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
85-68-7	Benzyl butyl phthalate	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
111-91-1	Bis(2-chloroethoxy)methane	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
111-44-4	Bis(2-chloroethyl)ether	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
108-60-1	Bis(2-chloroisopropyl)ether	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
117-81-7	Bis(2-ethylhexyl)phthalate	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
105-60-2	Caprolactam	ND		mg/kg dry	0.147	0.294	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
86-74-8	**Carbazole**	**0.653**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
218-01-9	**Chrysene**	**4.29**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
53-70-3	**Dibenzo(a,h)anthracene**	**0.232**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
132-64-9	**Dibenzofuran**	**0.330**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
84-66-2	Diethyl phthalate	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
131-11-3	Dimethyl phthalate	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
84-74-2	Di-n-butyl phthalate	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
117-84-0	Di-n-octyl phthalate	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
122-39-4	Diphenylamine	ND		mg/kg dry	0.147	0.294	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
206-44-0	**Fluoranthene**	**9.51**		mg/kg dry	0.369	0.736	10	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 17:33	KH

Sample Information

Client Sample ID: **DUP01_04232020** **York Sample ID:** **20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
86-73-7	**Fluorene**	**0.676**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
118-74-1	Hexachlorobenzene	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
87-68-3	Hexachlorobutadiene	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
77-47-4	Hexachlorocyclopentadiene	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
67-72-1	Hexachloroethane	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
193-39-5	**Indeno(1,2,3-cd)pyrene**	**2.08**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
78-59-1	Isophorone	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
91-20-3	**Naphthalene**	**0.219**		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
98-95-3	Nitrobenzene	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
62-75-9	N-Nitrosodimethylamine	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
621-64-7	N-nitroso-di-n-propylamine	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
86-30-6	N-Nitrosodiphenylamine	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
87-86-5	Pentachlorophenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
85-01-8	**Phenanthrene**	**6.23**		mg/kg dry	0.369	0.736	10	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 17:33	KH
108-95-2	Phenol	ND		mg/kg dry	0.0738	0.147	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH
129-00-0	**Pyrene**	**7.53**		mg/kg dry	0.369	0.736	10	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/29/2020 17:33	KH
110-86-1	Pyridine	ND		mg/kg dry	0.295	0.590	2	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:00	04/28/2020 16:39	KH

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*61.4 %*	*20-108*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*64.4 %*	*23-114*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*71.1 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*71.5 %*	*21-113*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*85.4 %*	*19-110*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*94.8 %*	*24-116*

Sample Information

Client Sample ID: **DUP01_04232020**

York Sample ID: **20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
72-55-9	4,4'-DDE	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
50-29-3	4,4'-DDT	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
309-00-2	Aldrin	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
319-84-6	alpha-BHC	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
5103-71-9	alpha-Chlordane	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/28/2020 07:44	04/29/2020 14:59	CM
319-85-7	beta-BHC	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
57-74-9	Chlordane, total	ND		ug/kg dry	38.8	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
319-86-8	delta-BHC	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
60-57-1	Dieldrin	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
959-98-8	Endosulfan I	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
33213-65-9	Endosulfan II	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854	04/28/2020 07:44	04/29/2020 14:59	CM
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
72-20-8	Endrin	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
53494-70-5	Endrin ketone	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
5566-34-7	gamma-Chlordane	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: NELAC-NY10854,NJDEP	04/28/2020 07:44	04/29/2020 14:59	CM
76-44-8	Heptachlor	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.94	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM
72-43-5	Methoxychlor	ND		ug/kg dry	9.69	5	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 07:44	04/29/2020 14:59	CM

Sample Information

Client Sample ID: **DUP01_04232020** **York Sample ID:** **20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	98.1	5	EPA 8081B	04/28/2020 07:44	04/29/2020 14:59	CM
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*69.6 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*53.8 %*	*30-150*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			
11104-28-2	Aroclor 1221	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			
11141-16-5	Aroclor 1232	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			
53469-21-9	Aroclor 1242	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			
12672-29-6	Aroclor 1248	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			
11097-69-1	Aroclor 1254	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			
11096-82-5	Aroclor 1260	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP			
1336-36-3	* Total PCBs	ND		mg/kg dry	0.0196	1	EPA 8082A	04/28/2020 07:44	04/28/2020 17:15	BJ
							Certifications:			

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*62.5 %*	*30-140*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*56.5 %*	*30-140*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		ug/kg dry	23.2	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:39	BJ
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	23.2	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:39	BJ
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
94-75-7	2,4-D	ND		ug/kg dry	23.2	1	EPA 8151A	04/27/2020 07:48	04/27/2020 15:39	BJ
							Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range

Sample Information

Client Sample ID: DUP01_04232020

York Sample ID: 20D0655-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Herbicides, Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C/8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (*	*61.8 %*			*21-150*					

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	**Aluminum**	**7060**		mg/kg dry	5.91	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-36-0	Antimony	ND		mg/kg dry	2.96	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-38-2	**Arsenic**	**7.33**		mg/kg dry	1.77	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-39-3	**Barium**	**44.7**		mg/kg dry	2.96	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-41-7	Beryllium	ND		mg/kg dry	0.059	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-43-9	Cadmium	ND		mg/kg dry	0.355	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-70-2	**Calcium**	**6560**		mg/kg dry	5.91	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-47-3	**Chromium**	**12.5**		mg/kg dry	0.591	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-48-4	**Cobalt**	**13.7**		mg/kg dry	0.473	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-50-8	**Copper**	**102**		mg/kg dry	2.37	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7439-89-6	**Iron**	**17900**		mg/kg dry	29.6	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7439-92-1	**Lead**	**169**		mg/kg dry	0.591	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7439-95-4	**Magnesium**	**4490**		mg/kg dry	5.91	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7439-96-5	**Manganese**	**312**		mg/kg dry	0.591	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-02-0	**Nickel**	**25.8**		mg/kg dry	1.18	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-09-7	**Potassium**	**1180**		mg/kg dry	5.91	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7782-49-2	Selenium	ND		mg/kg dry	2.96	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML
7440-22-4	Silver	ND		mg/kg dry	0.591	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/24/2020 09:36	04/29/2020 11:37	KML

Sample Information

Client Sample ID:	DUP01_04232020		York Sample ID:	20D0655-05
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-23-5	**Sodium**	**1400**		mg/kg dry	59.1	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:37	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-28-0	Thallium	ND		mg/kg dry	2.96	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:37	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-62-2	**Vanadium**	**16.4**		mg/kg dry	1.18	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:37	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-66-6	**Zinc**	**170**		mg/kg dry	2.96	1	EPA 6010D	04/24/2020 09:36	04/29/2020 11:37	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.838**		mg/kg dry	0.0355	1	EPA 7473	04/24/2020 15:32	04/24/2020 18:28	SY
							Certifications:	CTDOH,NJDEP,NELAC-NY10854,PADEP		

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3060

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/kg dry	0.591	1	EPA 7196A	04/24/2020 08:00	04/24/2020 11:27	STN
							Certifications:	NJDEP,CTDOH,NELAC-NY10854,PADEP		

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	*** Chromium, Trivalent**	**12.5**		mg/kg	0.500	1	Calculation	04/29/2020 13:24	04/29/2020 13:24	TJM
							Certifications:			

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation Soil

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/kg dry	0.591	1	EPA 9014/9010C	04/23/2020 16:56	04/23/2020 21:52	MAO
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **DUP01_04232020** **York Sample ID:** **20D0655-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Soil	April 23, 2020 12:00 am	04/23/2020

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**84.5**		%	0.100	1	SM 2540G Certifications: CTDOH	04/24/2020 08:35	04/24/2020 13:16	TJM

Sample Information

Client Sample ID: **FB01_04232020** **York Sample ID:** **20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-34-3	1,1-Dichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
106-93-4	1,2-Dibromoethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
107-06-2	1,2-Dichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
78-87-5	1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
123-91-1	1,4-Dioxane	ND		ug/L	40.0	80.0	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
78-93-3	2-Butanone	ND		ug/L	0.200	2.00	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB

YORK
ANALYTICAL LABORATORIES INC

Sample Information

Client Sample ID: FB01_04232020 | **York Sample ID:** 20D0655-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
67-64-1	Acetone	ND		ug/L	1.00	2.00	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
107-02-8	Acrolein	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
107-13-1	Acrylonitrile	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
71-43-2	Benzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
74-97-5	Bromochloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-27-4	Bromodichloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-25-2	Bromoform	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
74-83-9	Bromomethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-15-0	Carbon disulfide	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
56-23-5	Carbon tetrachloride	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
108-90-7	Chlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-00-3	Chloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
67-66-3	Chloroform	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
74-87-3	Chloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
110-82-7	Cyclohexane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
124-48-1	Dibromochloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
74-95-3	Dibromomethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-71-8	Dichlorodifluoromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB

Sample Information

Client Sample ID: FB01_04232020 **York Sample ID:** 20D0655-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
87-68-3	Hexachlorobutadiene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
98-82-8	Isopropylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
79-20-9	Methyl acetate	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
108-87-2	Methylcyclohexane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-09-2	Methylene chloride	ND		ug/L	1.00	2.00	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
104-51-8	n-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
103-65-1	n-Propylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
95-47-6	o-Xylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
179601-23-1	p- & m- Xylenes	ND		ug/L	0.500	1.00	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
99-87-6	p-Isopropyltoluene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
135-98-8	sec-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
100-42-5	Styrene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.500	2.50	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
98-06-6	tert-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
127-18-4	Tetrachloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
108-88-3	Toluene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
79-01-6	Trichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
75-69-4	Trichlorofluoromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB

Sample Information

Client Sample ID:	**FB01_04232020**	**York Sample ID:**	**20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 01:45	AB
1330-20-7	Xylenes, Total	ND		ug/L	0.600	1.50	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP	04/28/2020 12:30	04/29/2020 01:45	AB

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*99.2 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*96.7 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*101 %*	*79-122*

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
92-52-4	1,1-Biphenyl	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
58-90-2	2,3,4,6-Tetrachlorophenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
95-95-4	2,4,5-Trichlorophenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
88-06-2	2,4,6-Trichlorophenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
120-83-2	2,4-Dichlorophenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
105-67-9	2,4-Dimethylphenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
51-28-5	2,4-Dinitrophenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
121-14-2	2,4-Dinitrotoluene	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
606-20-2	2,6-Dinitrotoluene	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
91-58-7	2-Chloronaphthalene	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
95-57-8	2-Chlorophenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
91-57-6	2-Methylnaphthalene	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW

Sample Information

Client Sample ID:	**FB01_04232020**	**York Sample ID:**	**20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-48-7	2-Methylphenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
88-74-4	2-Nitroaniline	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
88-75-5	2-Nitrophenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
65794-96-9	3- & 4-Methylphenols	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
91-94-1	3,3-Dichlorobenzidine	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
99-09-2	3-Nitroaniline	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
101-55-3	4-Bromophenyl phenyl ether	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
59-50-7	4-Chloro-3-methylphenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
106-47-8	4-Chloroaniline	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
100-01-6	4-Nitroaniline	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
100-02-7	4-Nitrophenol	ND		ug/L	5.00	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
98-86-2	Acetophenone	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
62-53-3	Aniline	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
100-52-7	Benzaldehyde	ND	CCV-L	ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
92-87-5	Benzidine	ND		ug/L	5.00	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
65-85-0	Benzoic acid	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
100-51-6	Benzyl alcohol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
85-68-7	Benzyl butyl phthalate	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
111-44-4	Bis(2-chloroethyl)ether	ND		ug/L	1.00	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW

Sample Information

Client Sample ID: **FB01_04232020** **York Sample ID:** **20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-60-1	Bis(2-chloroisopropyl)ether	ND	CCV-L	ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
105-60-2	Caprolactam	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
86-74-8	Carbazole	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
132-64-9	Dibenzofuran	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
84-66-2	Diethyl phthalate	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
131-11-3	Dimethyl phthalate	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
84-74-2	Di-n-butyl phthalate	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
117-84-0	Di-n-octyl phthalate	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
122-39-4	Diphenylamine	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: NELAC-NY10854,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
77-47-4	Hexachlorocyclopentadiene	ND		ug/L	5.00	10.0	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
78-59-1	Isophorone	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
621-64-7	N-nitroso-di-n-propylamine	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
86-30-6	N-Nitrosodiphenylamine	ND	CCV-L	ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
108-95-2	Phenol	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW
110-86-1	Pyridine	ND		ug/L	2.50	5.00	1	EPA 8270D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 15:53	OW

	Surrogate Recoveries	Result	Acceptance Range
367-12-4	*Surrogate: SURR: 2-Fluorophenol*	*32.7 %*	*19.7-63.1*
4165-62-2	*Surrogate: SURR: Phenol-d5*	*17.3 %*	*10.1-41.7*
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*89.0 %*	*50.2-113*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*69.0 %*	*39.9-105*
118-79-6	*Surrogate: SURR: 2,4,6-Tribromophenol*	*85.1 %*	*39.3-151*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*88.5 %*	*30.7-106*

Semi-Volatiles, 8270 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: FB01_04232020 **York Sample ID:** 20D0655-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
208-96-8	Acenaphthylene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
120-12-7	Anthracene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
1912-24-9	Atrazine	ND		ug/L	0.500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW
56-55-3	Benzo(a)anthracene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
50-32-8	Benzo(a)pyrene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
205-99-2	Benzo(b)fluoranthene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/L	0.500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW
218-01-9	Chrysene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
206-44-0	Fluoranthene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
86-73-7	Fluorene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
118-74-1	Hexachlorobenzene	ND		ug/L	0.0200	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW
87-68-3	Hexachlorobutadiene	ND		ug/L	0.500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW
67-72-1	Hexachloroethane	ND		ug/L	0.500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
91-20-3	Naphthalene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
98-95-3	Nitrobenzene	ND		ug/L	0.250	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW
62-75-9	N-Nitrosodimethylamine	ND		ug/L	0.500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW
87-86-5	Pentachlorophenol	ND		ug/L	0.250	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP	04/27/2020 08:25	04/28/2020 17:40	OW

Sample Information

Client Sample ID: **FB01_04232020** **York Sample ID:** **20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Semi-Volatiles, 8270 Comprehensive

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW
129-00-0	Pyrene	ND		ug/L	0.0500	1	EPA 8270D SIM Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 08:25	04/28/2020 17:40	OW

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
72-54-8	4,4'-DDD	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
72-55-9	4,4'-DDE	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
50-29-3	4,4'-DDT	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
309-00-2	Aldrin	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
319-84-6	alpha-BHC	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
5103-71-9	alpha-Chlordane	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
319-85-7	beta-BHC	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
57-74-9	Chlordane, total	ND		ug/L	0.0205	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
319-86-8	delta-BHC	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
60-57-1	Dieldrin	ND		ug/L	0.00205	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
959-98-8	Endosulfan I	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
33213-65-9	Endosulfan II	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
1031-07-8	Endosulfan sulfate	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
72-20-8	Endrin	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
7421-93-4	Endrin aldehyde	ND		ug/L	0.0103	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
53494-70-5	Endrin ketone	ND		ug/L	0.0103	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
58-89-9	gamma-BHC (Lindane)	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM

Sample Information

Client Sample ID: **FB01_04232020** **York Sample ID:** **20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Pesticides, 8081 target list

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
5566-34-7	gamma-Chlordane	ND		ug/L	0.0103	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
76-44-8	Heptachlor	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
1024-57-3	Heptachlor epoxide	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
72-43-5	Methoxychlor	ND		ug/L	0.00410	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM
8001-35-2	Toxaphene	ND		ug/L	0.103	1	EPA 8081B Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/27/2020 14:22	04/29/2020 14:25	CM

	Surrogate Recoveries	Result	Acceptance Range
2051-24-3	*Surrogate: Decachlorobiphenyl*	*70.9 %*	*30-150*
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*85.6 %*	*30-150*

Polychlorinated Biphenyls (PCB)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
12674-11-2	Aroclor 1016	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/27/2020 14:22	04/28/2020 12:09	BJ
11104-28-2	Aroclor 1221	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/27/2020 14:22	04/28/2020 12:09	BJ
11141-16-5	Aroclor 1232	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/27/2020 14:22	04/28/2020 12:09	BJ
53469-21-9	Aroclor 1242	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/27/2020 14:22	04/28/2020 12:09	BJ
12672-29-6	Aroclor 1248	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/27/2020 14:22	04/28/2020 12:09	BJ
11097-69-1	Aroclor 1254	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/27/2020 14:22	04/28/2020 12:09	BJ
11096-82-5	Aroclor 1260	ND		ug/L	0.0513	1	EPA 8082A Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/27/2020 14:22	04/28/2020 12:09	BJ
1336-36-3	* Total PCBs	ND		ug/L	0.0513	1	EPA 8082A Certifications:	04/27/2020 14:22	04/28/2020 12:09	BJ

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*76.0 %*	*30-120*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*78.0 %*	*30-120*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: **FB01_04232020** **York Sample ID:** **20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Sample Prepared by Method: EPA 8151A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
93-76-5	2,4,5-T	ND		ug/L	5.00	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 08:39	04/28/2020 16:57	BJ
93-72-1	2,4,5-TP (Silvex)	ND		ug/L	5.00	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 08:39	04/28/2020 16:57	BJ
94-75-7	2,4-D	ND		ug/L	5.00	1	EPA 8151A Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/28/2020 08:39	04/28/2020 16:57	BJ

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acid (*	*73.0 %*	*30-150*

Metals, Target Analyte, ICP

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	ND		mg/L	0.0556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-39-3	Barium	ND		mg/L	0.0278	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-70-2	**Calcium**	**0.0623**		mg/L	0.0556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-47-3	Chromium	ND		mg/L	0.00556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-48-4	Cobalt	ND		mg/L	0.00444	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-50-8	Copper	ND		mg/L	0.0222	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7439-89-6	Iron	ND		mg/L	0.278	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7439-92-1	Lead	ND		mg/L	0.00556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7439-95-4	Magnesium	ND		mg/L	0.0556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7439-96-5	Manganese	ND		mg/L	0.00556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-02-0	Nickel	ND		mg/L	0.0111	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-09-7	**Potassium**	**0.0676**		mg/L	0.0556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-22-4	Silver	ND		mg/L	0.00556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-23-5	Sodium	ND		mg/L	0.556	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML
7440-62-2	Vanadium	ND		mg/L	0.0111	1	EPA 6010D Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP	04/29/2020 13:00	04/29/2020 14:26	KML

Sample Information

Client Sample ID: **FB01_04232020** **York Sample ID:** **20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Metals, Target Analyte, ICP

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-66-6	Zinc	ND		mg/L	0.0278	1	EPA 6010D	04/29/2020 13:00	04/29/2020 14:26	KML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Metals, Target Analyte, ICPMS

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3015A

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-36-0	Antimony	ND		ug/L	1.11	1	EPA 6020B	04/29/2020 13:02	04/29/2020 16:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-38-2	Arsenic	ND		ug/L	1.11	1	EPA 6020B	04/29/2020 13:02	04/29/2020 16:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-41-7	Beryllium	ND		ug/L	0.333	1	EPA 6020B	04/29/2020 13:02	04/29/2020 16:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-43-9	Cadmium	ND		ug/L	0.556	1	EPA 6020B	04/29/2020 13:02	04/29/2020 16:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7782-49-2	Selenium	ND		ug/L	1.11	1	EPA 6020B	04/29/2020 13:02	04/29/2020 16:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
7440-28-0	Thallium	ND		ug/L	1.11	1	EPA 6020B	04/29/2020 13:02	04/29/2020 16:59	BML
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Mercury by 7473

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 7473 water

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	**Mercury**	**0.00040**		mg/L	0.00020	1	EPA 7473	04/27/2020 10:30	04/27/2020 12:39	SY
							Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

Chromium, Hexavalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
18540-29-9	Chromium, Hexavalent	ND		mg/L	0.0100	1	EPA 7196A	04/23/2020 18:50	04/23/2020 19:11	ZTS
							Certifications:	NELAC-NY10854,CTDOH,NJDEP,PADEP		

Chromium, Trivalent

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
16065-83-1	* Chromium, Trivalent	ND		mg/L	0.0100	1	Calculation	04/30/2020 10:38	04/30/2020 10:39	TJM
							Certifications:			

Cyanide, Total

Log-in Notes: **Sample Notes:**

Sample Information

Client Sample ID: **FB01_04232020** **York Sample ID:** **20D0655-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 10:00 am	04/23/2020

Sample Prepared by Method: Analysis Preparation

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
57-12-5	Cyanide, total	ND		mg/L	0.0100	1	SM 4500 CN C/E Certifications: NELAC-NY10854,CTDOH,NJDEP,PADEP	04/28/2020 08:51	04/28/2020 11:51	JAG

Sample Information

Client Sample ID: TB01_04232020 **York Sample ID:** 20D0655-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
71-55-6	1,1,1-Trichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-00-5	1,1,2-Trichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-34-3	1,1-Dichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-35-4	1,1-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-18-4	1,2,3-Trichloropropane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-93-4	1,2-Dibromoethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-50-1	1,2-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
107-06-2	1,2-Dichloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-87-5	1,2-Dichloropropane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
541-73-1	1,3-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
106-46-7	1,4-Dichlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
123-91-1	1,4-Dioxane	ND		ug/L	40.0	80.0	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
78-93-3	2-Butanone	ND		ug/L	0.200	2.00	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: **TB01_04232020**

York Sample ID: **20D0655-07**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
591-78-6	2-Hexanone	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
108-10-1	4-Methyl-2-pentanone	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
67-64-1	Acetone	ND		ug/L	1.00	2.00	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
107-02-8	Acrolein	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
107-13-1	Acrylonitrile	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
71-43-2	Benzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
74-97-5	Bromochloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
75-27-4	Bromodichloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
75-25-2	Bromoform	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
74-83-9	Bromomethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
75-15-0	Carbon disulfide	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
56-23-5	Carbon tetrachloride	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
108-90-7	Chlorobenzene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
75-00-3	Chloroethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
67-66-3	Chloroform	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
74-87-3	Chloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
110-82-7	Cyclohexane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
124-48-1	Dibromochloromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
74-95-3	Dibromomethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB
75-71-8	Dichlorodifluoromethane	ND		ug/L	0.200	0.500	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP	04/28/2020 12:30	04/29/2020 02:13	AB

Sample Information

Client Sample ID:	TB01_04232020		**York Sample ID:**	20D0655-07
York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-41-4	Ethyl Benzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
87-68-3	Hexachlorobutadiene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-82-8	Isopropylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-20-9	Methyl acetate	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-87-2	Methylcyclohexane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-09-2	Methylene chloride	ND		ug/L	1.00	2.00	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
104-51-8	n-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
103-65-1	n-Propylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
95-47-6	o-Xylene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
179601-23-1	p- & m- Xylenes	ND		ug/L	0.500	1.00	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,PADEP		
99-87-6	p-Isopropyltoluene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
135-98-8	sec-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
100-42-5	Styrene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-65-0	tert-Butyl alcohol (TBA)	ND		ug/L	0.500	2.50	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
98-06-6	tert-Butylbenzene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
127-18-4	Tetrachloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
108-88-3	Toluene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
79-01-6	Trichloroethylene	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
75-69-4	Trichlorofluoromethane	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		

Sample Information

Client Sample ID: TB01_04232020 **York Sample ID:** 20D0655-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
20D0655	170301202	Water	April 23, 2020 12:00 am	04/23/2020

Volatiles, 8260 Comprehensive

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-01-4	Vinyl Chloride	ND		ug/L	0.200	0.500	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP,PADEP		
1330-20-7	Xylenes, Total	ND		ug/L	0.600	1.50	1	EPA 8260C	04/28/2020 12:30	04/29/2020 02:13	AB
								Certifications:	CTDOH,NELAC-NY10854,NELAC-NY12058,NJDEP		

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*99.0 %*	*69-130*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*96.6 %*	*81-117*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*99.3 %*	*79-122*

Analytical Batch Summary

Batch ID: BD01045 **Preparation Method:** Analysis Preparation Soil **Prepared By:** MAO

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/23/20
20D0655-02	SB02_02	04/23/20
20D0655-03	SB03_02	04/23/20
20D0655-04	SB04_02	04/23/20
20D0655-05	DUP01_04232020	04/23/20
BD01045-BLK1	Blank	04/23/20
BD01045-DUP1	Duplicate	04/23/20
BD01045-MS1	Matrix Spike	04/23/20
BD01045-SRM1	Reference	04/23/20

Batch ID: BD01051 **Preparation Method:** Analysis Preparation **Prepared By:** ZTS

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/23/20
BD01051-BLK1	Blank	04/23/20
BD01051-BS1	LCS	04/23/20
BD01051-DUP1	Duplicate	04/23/20
BD01051-MS1	Matrix Spike	04/23/20

Batch ID: BD01065 **Preparation Method:** EPA SW846-3060 **Prepared By:** STN

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/24/20
20D0655-02	SB02_02	04/24/20
20D0655-03	SB03_02	04/24/20
20D0655-04	SB04_02	04/24/20
20D0655-05	DUP01_04232020	04/24/20
BD01065-BLK1	Blank	04/24/20
BD01065-DUP1	Duplicate	04/24/20
BD01065-MS1	Matrix Spike	04/24/20
BD01065-SRM1	Reference	04/24/20

Batch ID: BD01068 **Preparation Method:** % Solids Prep **Prepared By:** TJM

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/24/20
20D0655-02	SB02_02	04/24/20
20D0655-03	SB03_02	04/24/20
20D0655-04	SB04_02	04/24/20
20D0655-05	DUP01_04232020	04/24/20
BD01068-DUP1	Duplicate	04/24/20

Batch ID: BD01084 **Preparation Method:** EPA 3050B **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/24/20
20D0655-02	SB02_02	04/24/20
20D0655-03	SB03_02	04/24/20
20D0655-04	SB04_02	04/24/20
20D0655-05	DUP01_04232020	04/24/20
BD01084-BLK1	Blank	04/24/20
BD01084-DUP1	Duplicate	04/24/20
BD01084-MS1	Matrix Spike	04/24/20
BD01084-PS1	Post Spike	04/24/20
BD01084-SRM1	Reference	04/24/20

Batch ID: BD01095 **Preparation Method:** EPA 3550C **Prepared By:** LJ

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/24/20
20D0655-01	SB01_02	04/24/20
20D0655-02	SB02_02	04/24/20
20D0655-02	SB02_02	04/24/20
20D0655-03	SB03_02	04/24/20
20D0655-03	SB03_02	04/24/20
20D0655-04	SB04_02	04/24/20
20D0655-04	SB04_02	04/24/20
BD01095-BLK1	Blank	04/24/20
BD01095-BLK2	Blank	04/24/20
BD01095-BS1	LCS	04/24/20
BD01095-BS2	LCS	04/24/20
BD01095-MS1	Matrix Spike	04/24/20
BD01095-MS2	Matrix Spike	04/24/20
BD01095-MSD1	Matrix Spike Dup	04/24/20
BD01095-MSD2	Matrix Spike Dup	04/24/20

Batch ID: BD01102 **Preparation Method:** EPA 7473 soil **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/24/20
20D0655-02	SB02_02	04/24/20
20D0655-03	SB03_02	04/24/20
20D0655-04	SB04_02	04/24/20
20D0655-05	DUP01_04232020	04/24/20
BD01102-BLK1	Blank	04/24/20
BD01102-DUP1	Duplicate	04/24/20
BD01102-MS1	Matrix Spike	04/24/20
BD01102-SRM1	Reference	04/24/20

Batch ID: BD01120 **Preparation Method:** EPA 3550C/8151A **Prepared By:** CTD

YORK Sample ID	Client Sample ID	Preparation Date

20D0655-01	SB01_02	04/27/20
20D0655-02	SB02_02	04/27/20
20D0655-03	SB03_02	04/27/20
20D0655-04	SB04_02	04/27/20
20D0655-05	DUP01_04232020	04/27/20
BD01120-BLK1	Blank	04/27/20
BD01120-BS1	LCS	04/27/20
BD01120-MS1	Matrix Spike	04/27/20
BD01120-MSD1	Matrix Spike Dup	04/27/20

Batch ID: BD01130 **Preparation Method:** EPA 3510C **Prepared By:** SMR

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/27/20
BD01130-BLK1	Blank	04/27/20
BD01130-BLK2	Blank	04/27/20
BD01130-BS1	LCS	04/27/20
BD01130-BS2	LCS	04/27/20
BD01130-BSD1	LCS Dup	04/27/20

Batch ID: BD01150 **Preparation Method:** EPA 7473 water **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/27/20
BD01150-BLK1	Blank	04/27/20
BD01150-SRM1	Reference	04/27/20

Batch ID: BD01158 **Preparation Method:** EPA 3550C **Prepared By:** LJ

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/27/20
20D0655-01RE1	SB01_02	04/27/20
20D0655-02	SB02_02	04/27/20
20D0655-02RE1	SB02_02	04/27/20
20D0655-03	SB03_02	04/27/20
20D0655-03RE1	SB03_02	04/27/20
20D0655-04	SB04_02	04/27/20
20D0655-04RE1	SB04_02	04/27/20
20D0655-05	DUP01_04232020	04/27/20
20D0655-05RE1	DUP01_04232020	04/27/20
BD01158-BLK1	Blank	04/27/20
BD01158-BS1	LCS	04/27/20
BD01158-MS1	Matrix Spike	04/27/20
BD01158-MSD1	Matrix Spike Dup	04/27/20

Batch ID: BD01161 **Preparation Method:** EPA SW846-3510C Low Level **Prepared By:** YG

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/27/20

20D0655-06	FB01_04232020	04/27/20
BD01161-BLK1	Blank	04/27/20
BD01161-BLK2	Blank	04/27/20
BD01161-BS1	LCS	04/27/20
BD01161-BS2	LCS	04/27/20
BD01161-BSD1	LCS Dup	04/27/20
BD01161-BSD2	LCS Dup	04/27/20

Batch ID: BD01173 **Preparation Method:** EPA 3550C **Prepared By:** LM

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-05	DUP01_04232020	04/28/20
20D0655-05	DUP01_04232020	04/28/20
BD01173-BLK1	Blank	04/28/20
BD01173-BLK2	Blank	04/28/20
BD01173-BS1	LCS	04/28/20
BD01173-BS2	LCS	04/28/20

Batch ID: BD01179 **Preparation Method:** EPA 8151A **Prepared By:** CTD

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/28/20
BD01179-BLK1	Blank	04/28/20
BD01179-BS1	LCS	04/28/20
BD01179-BSD1	LCS Dup	04/28/20

Batch ID: BD01181 **Preparation Method:** Analysis Preparation **Prepared By:** JAG

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/28/20
BD01181-BLK1	Blank	04/28/20
BD01181-DUP1	Duplicate	04/28/20
BD01181-MS1	Matrix Spike	04/28/20
BD01181-SRM1	Reference	04/28/20

Batch ID: BD01186 **Preparation Method:** EPA 5030B **Prepared By:** CLS2

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/28/20
20D0655-07	TB01_04232020	04/28/20
BD01186-BLK1	Blank	04/28/20
BD01186-BS1	LCS	04/28/20
BD01186-BSD1	LCS Dup	04/28/20

Batch ID: BD01198 **Preparation Method:** EPA 5035A **Prepared By:** TMP

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/27/20

20D0655-02	SB02_02	04/27/20
20D0655-03	SB03_02	04/27/20
20D0655-04	SB04_02	04/27/20
BD01198-BLK1	Blank	04/27/20
BD01198-BLK2	Blank	04/27/20
BD01198-BS1	LCS	04/27/20
BD01198-BSD1	LCS Dup	04/27/20
BD01198-MS1	Matrix Spike	04/27/20
BD01198-MSD1	Matrix Spike Dup	04/27/20

Batch ID: BD01249 **Preparation Method:** EPA 3015A **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/29/20
BD01249-BLK1	Blank	04/29/20
BD01249-BS1	LCS	04/29/20
BD01249-DUP1	Duplicate	04/29/20
BD01249-MS1	Matrix Spike	04/29/20
BD01249-PS1	Post Spike	04/29/20

Batch ID: BD01250 **Preparation Method:** EPA 3015A **Prepared By:** SY

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/29/20
BD01250-BLK1	Blank	04/29/20
BD01250-BS1	LCS	04/29/20
BD01250-DUP1	Duplicate	04/29/20
BD01250-MS1	Matrix Spike	04/29/20

Batch ID: BD01253 **Preparation Method:** Analysis Preparation **Prepared By:** TJM

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-01	SB01_02	04/29/20
20D0655-02	SB02_02	04/29/20
20D0655-03	SB03_02	04/29/20
20D0655-04	SB04_02	04/29/20
20D0655-05	DUP01_04232020	04/29/20

Batch ID: BD01271 **Preparation Method:** EPA 5035A **Prepared By:** TMP

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-05	DUP01_04232020	04/24/20
BD01271-BLK1	Blank	04/29/20
BD01271-BS1	LCS	04/29/20
BD01271-BSD1	LCS Dup	04/29/20

Batch ID: BD01312 **Preparation Method:** Analysis Preparation **Prepared By:** TJM

YORK Sample ID	Client Sample ID	Preparation Date
20D0655-06	FB01_04232020	04/30/20

Batch BD01186 - EPA 5030B

Blank (BD01186-BLK1) Blank Prepared: 04/28/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	ND	0.500	ug/L								
1,1,1-Trichloroethane	ND	0.500	"								
1,1,2,2-Tetrachloroethane	ND	0.500	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.500	"								
1,1,2-Trichloroethane	ND	0.500	"								
1,1-Dichloroethane	ND	0.500	"								
1,1-Dichloroethylene	ND	0.500	"								
1,2,3-Trichlorobenzene	ND	0.500	"								
1,2,3-Trichloropropane	ND	0.500	"								
1,2,4-Trichlorobenzene	ND	0.500	"								
1,2,4-Trimethylbenzene	ND	0.500	"								
1,2-Dibromo-3-chloropropane	ND	0.500	"								
1,2-Dibromoethane	ND	0.500	"								
1,2-Dichlorobenzene	ND	0.500	"								
1,2-Dichloroethane	ND	0.500	"								
1,2-Dichloropropane	ND	0.500	"								
1,3,5-Trimethylbenzene	ND	0.500	"								
1,3-Dichlorobenzene	ND	0.500	"								
1,4-Dichlorobenzene	ND	0.500	"								
1,4-Dioxane	ND	80.0	"								
2-Butanone	ND	0.500	"								
2-Hexanone	ND	0.500	"								
4-Methyl-2-pentanone	ND	0.500	"								
Acetone	ND	2.00	"								
Acrolein	ND	0.500	"								
Acrylonitrile	ND	0.500	"								
Benzene	ND	0.500	"								
Bromochloromethane	ND	0.500	"								
Bromodichloromethane	ND	0.500	"								
Bromoform	ND	0.500	"								
Bromomethane	ND	0.500	"								
Carbon disulfide	ND	0.500	"								
Carbon tetrachloride	ND	0.500	"								
Chlorobenzene	ND	0.500	"								
Chloroethane	ND	0.500	"								
Chloroform	ND	0.500	"								
Chloromethane	ND	0.500	"								
cis-1,2-Dichloroethylene	ND	0.500	"								
cis-1,3-Dichloropropylene	ND	0.500	"								
Cyclohexane	ND	0.500	"								
Dibromochloromethane	ND	0.500	"								
Dibromomethane	ND	0.500	"								
Dichlorodifluoromethane	ND	0.500	"								
Ethyl Benzene	ND	0.500	"								
Hexachlorobutadiene	ND	0.500	"								
Isopropylbenzene	ND	0.500	"								
Methyl acetate	ND	0.500	"								
Methyl tert-butyl ether (MTBE)	ND	0.500	"								
Methylcyclohexane	ND	0.500	"								
Methylene chloride	ND	2.00	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01186 - EPA 5030B

Blank (BD01186-BLK1) Blank

Prepared: 04/28/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
n-Butylbenzene	ND	0.500	ug/L								
n-Propylbenzene	ND	0.500	"								
o-Xylene	ND	0.500	"								
p- & m- Xylenes	ND	1.00	"								
p-Isopropyltoluene	ND	0.500	"								
sec-Butylbenzene	ND	0.500	"								
Styrene	ND	0.500	"								
tert-Butyl alcohol (TBA)	ND	1.00	"								
tert-Butylbenzene	ND	0.500	"								
Tetrachloroethylene	ND	0.500	"								
Toluene	ND	0.500	"								
trans-1,2-Dichloroethylene	ND	0.500	"								
trans-1,3-Dichloropropylene	ND	0.500	"								
Trichloroethylene	ND	0.500	"								
Trichlorofluoromethane	ND	0.500	"								
Vinyl Chloride	ND	0.500	"								
Xylenes, Total	ND	1.50	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.55*		*"*	*10.0*		*95.5*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.86*		*"*	*10.0*		*98.6*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*10.3*		*"*	*10.0*		*103*	*79-122*				

LCS (BD01186-BS1) LCS

Prepared & Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	9.69		ug/L	10.0		96.9	82-126				
1,1,1-Trichloroethane	10.6		"	10.0		106	78-136				
1,1,2,2-Tetrachloroethane	10.2		"	10.0		102	76-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11.2		"	10.0		112	54-165				
1,1,2-Trichloroethane	9.36		"	10.0		93.6	82-123				
1,1-Dichloroethane	10.2		"	10.0		102	82-129				
1,1-Dichloroethylene	10.5		"	10.0		105	68-138				
1,2,3-Trichlorobenzene	10.1		"	10.0		101	76-136				
1,2,3-Trichloropropane	9.55		"	10.0		95.5	77-128				
1,2,4-Trichlorobenzene	9.67		"	10.0		96.7	76-137				
1,2,4-Trimethylbenzene	10.3		"	10.0		103	82-132				
1,2-Dibromo-3-chloropropane	9.50		"	10.0		95.0	45-147				
1,2-Dibromoethane	9.30		"	10.0		93.0	83-124				
1,2-Dichlorobenzene	9.72		"	10.0		97.2	79-123				
1,2-Dichloroethane	9.97		"	10.0		99.7	73-132				
1,2-Dichloropropane	9.62		"	10.0		96.2	78-126				
1,3,5-Trimethylbenzene	10.3		"	10.0		103	80-131				
1,3-Dichlorobenzene	9.81		"	10.0		98.1	86-122				
1,4-Dichlorobenzene	9.81		"	10.0		98.1	85-124				
1,4-Dioxane	113		"	210		53.8	10-349				
2-Butanone	9.03		"	10.0		90.3	49-152				
2-Hexanone	9.10		"	10.0		91.0	51-146				
4-Methyl-2-pentanone	10.1		"	10.0		101	57-145				
Acetone	7.23		"	10.0		72.3	14-150				
Acrolein	7.84		"	10.0		78.4	10-153				
Acrylonitrile	9.93		"	10.0		99.3	51-150				
Benzene	10.8		"	10.0		108	85-126				
Bromochloromethane	10.6		"	10.0		106	77-128				
Bromodichloromethane	9.63		"	10.0		96.3	79-128				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01186 - EPA 5030B											
LCS (BD01186-BS1) LCS								Prepared & Analyzed: 04/28/2020			
Bromoform	9.23		ug/L	10.0		92.3	78-133				
Bromomethane	7.27		"	10.0		72.7	43-168				
Carbon disulfide	9.77		"	10.0		97.7	68-146				
Carbon tetrachloride	10.4		"	10.0		104	77-141				
Chlorobenzene	9.88		"	10.0		98.8	88-120				
Chloroethane	10.8		"	10.0		108	65-136				
Chloroform	10.4		"	10.0		104	82-128				
Chloromethane	9.91		"	10.0		99.1	43-155				
cis-1,2-Dichloroethylene	9.92		"	10.0		99.2	83-129				
cis-1,3-Dichloropropylene	9.21		"	10.0		92.1	80-131				
Cyclohexane	10.8		"	10.0		108	63-149				
Dibromochloromethane	9.59		"	10.0		95.9	80-130				
Dibromomethane	9.43		"	10.0		94.3	72-134				
Dichlorodifluoromethane	12.8		"	10.0		128	44-144				
Ethyl Benzene	10.4		"	10.0		104	80-131				
Hexachlorobutadiene	9.66		"	10.0		96.6	67-146				
Isopropylbenzene	9.98		"	10.0		99.8	76-140				
Methyl acetate	8.24		"	10.0		82.4	51-139				
Methyl tert-butyl ether (MTBE)	10.0		"	10.0		100	76-135				
Methylcyclohexane	9.54		"	10.0		95.4	72-143				
Methylene chloride	11.4		"	10.0		114	55-137				
n-Butylbenzene	9.09		"	10.0		90.9	79-132				
n-Propylbenzene	10.1		"	10.0		101	78-133				
o-Xylene	10.3		"	10.0		103	78-130				
p- & m- Xylenes	21.4		"	20.0		107	77-133				
p-Isopropyltoluene	10.5		"	10.0		105	81-136				
sec-Butylbenzene	10.7		"	10.0		107	79-137				
Styrene	10.3		"	10.0		103	67-132				
tert-Butyl alcohol (TBA)	50.2		"	50.0		100	25-162				
tert-Butylbenzene	10.1		"	10.0		101	77-138				
Tetrachloroethylene	7.63		"	10.0		76.3	82-131	Low Bias			
Toluene	10.3		"	10.0		103	80-127				
trans-1,2-Dichloroethylene	10.8		"	10.0		108	80-132				
trans-1,3-Dichloropropylene	8.85		"	10.0		88.5	78-131				
Trichloroethylene	9.86		"	10.0		98.6	82-128				
Trichlorofluoromethane	10.5		"	10.0		105	67-139				
Vinyl Chloride	10.8		"	10.0		108	58-145				
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.72*		"	*10.0*		*97.2*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.65*		"	*10.0*		*96.5*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*10.1*		"	*10.0*		*101*	*79-122*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01186 - EPA 5030B

LCS Dup (BD01186-BSD1) LCS Dup — Prepared & Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	9.79		ug/L	10.0		97.9	82-126		1.03	30	
1,1,1-Trichloroethane	10.6		"	10.0		106	78-136		0.0946	30	
1,1,2,2-Tetrachloroethane	10.4		"	10.0		104	76-129		2.24	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.9		"	10.0		109	54-165		2.90	30	
1,1,2-Trichloroethane	9.50		"	10.0		95.0	82-123		1.48	30	
1,1-Dichloroethane	10.1		"	10.0		101	82-129		0.590	30	
1,1-Dichloroethylene	10.3		"	10.0		103	68-138		1.73	30	
1,2,3-Trichlorobenzene	10.0		"	10.0		100	76-136		0.596	30	
1,2,3-Trichloropropane	9.98		"	10.0		99.8	77-128		4.40	30	
1,2,4-Trichlorobenzene	9.69		"	10.0		96.9	76-137		0.207	30	
1,2,4-Trimethylbenzene	10.4		"	10.0		104	82-132		0.771	30	
1,2-Dibromo-3-chloropropane	9.67		"	10.0		96.7	45-147		1.77	30	
1,2-Dibromoethane	9.61		"	10.0		96.1	83-124		3.28	30	
1,2-Dichlorobenzene	9.87		"	10.0		98.7	79-123		1.53	30	
1,2-Dichloroethane	10.1		"	10.0		101	73-132		1.49	30	
1,2-Dichloropropane	9.72		"	10.0		97.2	78-126		1.03	30	
1,3,5-Trimethylbenzene	10.5		"	10.0		105	80-131		1.92	30	
1,3-Dichlorobenzene	9.76		"	10.0		97.6	86-122		0.511	30	
1,4-Dichlorobenzene	9.90		"	10.0		99.0	85-124		0.913	30	
1,4-Dioxane	100		"	210		47.8	10-349		11.8	30	
2-Butanone	9.01		"	10.0		90.1	49-152		0.222	30	
2-Hexanone	9.03		"	10.0		90.3	51-146		0.772	30	
4-Methyl-2-pentanone	10.4		"	10.0		104	57-145		2.44	30	
Acetone	7.38		"	10.0		73.8	14-150		2.05	30	
Acrolein	8.20		"	10.0		82.0	10-153		4.49	30	
Acrylonitrile	10.5		"	10.0		105	51-150		5.58	30	
Benzene	10.8		"	10.0		108	85-126		0.370	30	
Bromochloromethane	10.8		"	10.0		108	77-128		1.31	30	
Bromodichloromethane	9.62		"	10.0		96.2	79-128		0.104	30	
Bromoform	9.45		"	10.0		94.5	78-133		2.36	30	
Bromomethane	7.60		"	10.0		76.0	43-168		4.44	30	
Carbon disulfide	9.54		"	10.0		95.4	68-146		2.38	30	
Carbon tetrachloride	10.3		"	10.0		103	77-141		1.06	30	
Chlorobenzene	9.93		"	10.0		99.3	88-120		0.505	30	
Chloroethane	10.8		"	10.0		108	65-136		0.185	30	
Chloroform	10.3		"	10.0		103	82-128		0.774	30	
Chloromethane	10.7		"	10.0		107	43-155		7.29	30	
cis-1,2-Dichloroethylene	9.80		"	10.0		98.0	83-129		1.22	30	
cis-1,3-Dichloropropylene	9.29		"	10.0		92.9	80-131		0.865	30	
Cyclohexane	10.6		"	10.0		106	63-149		1.31	30	
Dibromochloromethane	9.46		"	10.0		94.6	80-130		1.36	30	
Dibromomethane	9.75		"	10.0		97.5	72-134		3.34	30	
Dichlorodifluoromethane	12.4		"	10.0		124	44-144		3.57	30	
Ethyl Benzene	10.4		"	10.0		104	80-131		0.289	30	
Hexachlorobutadiene	9.82		"	10.0		98.2	67-146		1.64	30	
Isopropylbenzene	10.0		"	10.0		100	76-140		0.300	30	
Methyl acetate	8.34		"	10.0		83.4	51-139		1.21	30	
Methyl tert-butyl ether (MTBE)	10.4		"	10.0		104	76-135		3.53	30	
Methylcyclohexane	9.48		"	10.0		94.8	72-143		0.631	30	
Methylene chloride	11.6		"	10.0		116	55-137		1.91	30	
n-Butylbenzene	8.35		"	10.0		83.5	79-132		8.49	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01186 - EPA 5030B

LCS Dup (BD01186-BSD1) LCS Dup Prepared & Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
n-Propylbenzene	10.2		ug/L	10.0		102	78-133		0.592	30	
o-Xylene	10.2		"	10.0		102	78-130		0.880	30	
p- & m- Xylenes	21.4		"	20.0		107	77-133		0.234	30	
p-Isopropyltoluene	10.6		"	10.0		106	81-136		1.04	30	
sec-Butylbenzene	10.8		"	10.0		108	79-137		0.835	30	
Styrene	10.4		"	10.0		104	67-132		0.867	30	
tert-Butyl alcohol (TBA)	49.7		"	50.0		99.5	25-162		1.02	30	
tert-Butylbenzene	10.1		"	10.0		101	77-138		0.593	30	
Tetrachloroethylene	7.58		"	10.0		75.8	82-131	Low Bias	0.657	30	
Toluene	10.2		"	10.0		102	80-127		0.875	30	
trans-1,2-Dichloroethylene	10.6		"	10.0		106	80-132		1.31	30	
trans-1,3-Dichloropropylene	8.95		"	10.0		89.5	78-131		1.12	30	
Trichloroethylene	9.50		"	10.0		95.0	82-128		3.72	30	
Trichlorofluoromethane	10.3		"	10.0		103	67-139		1.83	30	
Vinyl Chloride	10.6		"	10.0		106	58-145		2.05	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*9.89*		*"*	*10.0*		*98.9*	*69-130*				
Surrogate: SURR: Toluene-d8	*9.68*		*"*	*10.0*		*96.8*	*81-117*				
Surrogate: SURR: p-Bromofluorobenzene	*10.1*		*"*	*10.0*		*101*	*79-122*				

Batch BD01198 - EPA 5035A

Blank (BD01198-BLK1) Blank Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet								
1,1,1-Trichloroethane	ND	0.0050	"								
1,1,2,2-Tetrachloroethane	ND	0.0050	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0050	"								
1,1,2-Trichloroethane	ND	0.0050	"								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,3-Trichlorobenzene	ND	0.0050	"								
1,2,3-Trichloropropane	ND	0.0050	"								
1,2,4-Trichlorobenzene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dibromo-3-chloropropane	ND	0.0050	"								
1,2-Dibromoethane	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,2-Dichloropropane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
2-Hexanone	ND	0.0050	"								
4-Methyl-2-pentanone	ND	0.0050	"								
Acetone	ND	0.010	"								
Acrolein	ND	0.010	"								
Acrylonitrile	ND	0.0050	"								
Benzene	ND	0.0050	"								
Bromochloromethane	ND	0.0050	"								
Bromodichloromethane	ND	0.0050	"								

Batch BD01198 - EPA 5035A

Blank (BD01198-BLK1) Blank

Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Bromoform	ND	0.0050	mg/kg wet								
Bromomethane	ND	0.0050	"								
Carbon disulfide	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroethane	ND	0.0050	"								
Chloroform	ND	0.0050	"								
Chloromethane	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
cis-1,3-Dichloropropylene	ND	0.0050	"								
Cyclohexane	ND	0.0050	"								
Dibromochloromethane	ND	0.0050	"								
Dibromomethane	ND	0.0050	"								
Dichlorodifluoromethane	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Hexachlorobutadiene	ND	0.0050	"								
Isopropylbenzene	ND	0.0050	"								
Methyl acetate	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylcyclohexane	ND	0.0050	"								
Methylene chloride	ND	0.010	"								
n-Butylbenzene	ND	0.0050	"								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	ND	0.010	"								
p-Isopropyltoluene	ND	0.0050	"								
sec-Butylbenzene	ND	0.0050	"								
Styrene	ND	0.0050	"								
tert-Butyl alcohol (TBA)	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
trans-1,3-Dichloropropylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Trichlorofluoromethane	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*51.2*		*ug/L*	*50.0*		*102*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.7*		*"*	*50.0*		*105*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.5*		*"*	*50.0*		*95.0*	*76-130*				

Batch BD01198 - EPA 5035A

Blank (BD01198-BLK2) Holding Blank-20D0655 Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet								
1,1,1-Trichloroethane	ND	0.0050	"								
1,1,2,2-Tetrachloroethane	ND	0.0050	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0050	"								
1,1,2-Trichloroethane	ND	0.0050	"								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,3-Trichlorobenzene	ND	0.0050	"								
1,2,3-Trichloropropane	ND	0.0050	"								
1,2,4-Trichlorobenzene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dibromo-3-chloropropane	ND	0.0050	"								
1,2-Dibromoethane	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,2-Dichloropropane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
2-Hexanone	ND	0.0050	"								
4-Methyl-2-pentanone	ND	0.0050	"								
Acetone	0.010	0.010	"								
Acrolein	ND	0.010	"								
Acrylonitrile	ND	0.0050	"								
Benzene	ND	0.0050	"								
Bromochloromethane	ND	0.0050	"								
Bromodichloromethane	ND	0.0050	"								
Bromoform	ND	0.0050	"								
Bromomethane	ND	0.0050	"								
Carbon disulfide	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroethane	ND	0.0050	"								
Chloroform	ND	0.0050	"								
Chloromethane	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
cis-1,3-Dichloropropylene	ND	0.0050	"								
Cyclohexane	ND	0.0050	"								
Dibromochloromethane	ND	0.0050	"								
Dibromomethane	ND	0.0050	"								
Dichlorodifluoromethane	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Hexachlorobutadiene	ND	0.0050	"								
Isopropylbenzene	ND	0.0050	"								
Methyl acetate	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylcyclohexane	ND	0.0050	"								
Methylene chloride	0.0062	0.010	"								
n-Butylbenzene	ND	0.0050	"								

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01198 - EPA 5035A

Blank (BD01198-BLK2) Holding Blank-20D0655 Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
n-Propylbenzene	ND	0.0050	mg/kg wet								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	ND	0.010	"								
p-Isopropyltoluene	ND	0.0050	"								
sec-Butylbenzene	ND	0.0050	"								
Styrene	ND	0.0050	"								
tert-Butyl alcohol (TBA)	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
trans-1,3-Dichloropropylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Trichlorofluoromethane	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*51.6*		*ug/L*	*50.0*		*103*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.4*		*"*	*50.0*		*105*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.5*		*"*	*50.0*		*95.0*	*76-130*				

LCS (BD01198-BS1) LCS Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	60.7		ug/L	50.0		121	75-129				
1,1,1-Trichloroethane	54.0		"	50.0		108	71-137				
1,1,2,2-Tetrachloroethane	50.9		"	50.0		102	79-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	45.5		"	50.0		91.0	58-146				
1,1,2-Trichloroethane	50.0		"	50.0		100	83-123				
1,1-Dichloroethane	46.5		"	50.0		93.0	75-130				
1,1-Dichloroethylene	53.5		"	50.0		107	64-137				
1,2,3-Trichlorobenzene	53.8		"	50.0		108	81-140				
1,2,3-Trichloropropane	49.9		"	50.0		99.8	81-126				
1,2,4-Trichlorobenzene	54.9		"	50.0		110	80-141				
1,2,4-Trimethylbenzene	52.6		"	50.0		105	84-125				
1,2-Dibromo-3-chloropropane	53.5		"	50.0		107	74-142				
1,2-Dibromoethane	51.5		"	50.0		103	86-123				
1,2-Dichlorobenzene	52.8		"	50.0		106	85-122				
1,2-Dichloroethane	47.5		"	50.0		95.0	71-133				
1,2-Dichloropropane	47.2		"	50.0		94.4	81-122				
1,3,5-Trimethylbenzene	51.3		"	50.0		103	82-126				
1,3-Dichlorobenzene	52.2		"	50.0		104	84-124				
1,4-Dichlorobenzene	52.9		"	50.0		106	84-124				
1,4-Dioxane	937		"	1050		89.3	10-228				
2-Butanone	42.7		"	50.0		85.4	58-147				
2-Hexanone	42.6		"	50.0		85.2	70-139				
4-Methyl-2-pentanone	43.2		"	50.0		86.4	72-132				
Acetone	32.4		"	50.0		64.9	36-155				
Acrolein	62.5		"	50.0		125	10-238				
Acrylonitrile	45.6		"	50.0		91.2	66-141				
Benzene	47.9		"	50.0		95.7	77-127				
Bromochloromethane	45.7		"	50.0		91.5	74-129				
Bromodichloromethane	56.2		"	50.0		112	81-124				
Bromoform	63.0		"	50.0		126	80-136				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01198 - EPA 5035A											
LCS (BD01198-BS1) LCS							Prepared & Analyzed: 04/27/2020				
Bromomethane	44.1		ug/L	50.0		88.3	32-177				
Carbon disulfide	48.6		"	50.0		97.2	10-136				
Carbon tetrachloride	62.3		"	50.0		125	66-143				
Chlorobenzene	50.6		"	50.0		101	86-120				
Chloroethane	45.1		"	50.0		90.2	51-142				
Chloroform	49.5		"	50.0		98.9	76-131				
Chloromethane	35.9		"	50.0		71.8	49-132				
cis-1,2-Dichloroethylene	47.2		"	50.0		94.4	74-132				
cis-1,3-Dichloropropylene	54.2		"	50.0		108	81-129				
Cyclohexane	42.9		"	50.0		85.8	70-130				
Dibromochloromethane	61.6		"	50.0		123	10-200				
Dibromomethane	50.8		"	50.0		102	83-124				
Dichlorodifluoromethane	34.2		"	50.0		68.4	28-158				
Ethyl Benzene	50.3		"	50.0		101	84-125				
Hexachlorobutadiene	56.3		"	50.0		113	83-133				
Isopropylbenzene	50.1		"	50.0		100	81-127				
Methyl acetate	37.4		"	50.0		74.8	41-143				
Methyl tert-butyl ether (MTBE)	48.7		"	50.0		97.4	74-131				
Methylcyclohexane	45.1		"	50.0		90.2	70-130				
Methylene chloride	50.0		"	50.0		100	57-141				
n-Butylbenzene	50.0		"	50.0		99.9	80-130				
n-Propylbenzene	50.2		"	50.0		100	74-136				
o-Xylene	50.8		"	50.0		102	83-123				
p- & m- Xylenes	101		"	100		101	82-128				
p-Isopropyltoluene	52.7		"	50.0		105	85-125				
sec-Butylbenzene	52.6		"	50.0		105	83-125				
Styrene	52.6		"	50.0		105	86-126				
tert-Butyl alcohol (TBA)	267		"	250		107	70-130				
tert-Butylbenzene	50.7		"	50.0		101	80-127				
Tetrachloroethylene	49.3		"	50.0		98.5	80-129				
Toluene	49.5		"	50.0		99.0	85-121				
trans-1,2-Dichloroethylene	46.6		"	50.0		93.2	72-132				
trans-1,3-Dichloropropylene	55.0		"	50.0		110	78-132				
Trichloroethylene	50.8		"	50.0		102	84-123				
Trichlorofluoromethane	45.5		"	50.0		91.0	62-140				
Vinyl Chloride	41.6		"	50.0		83.3	52-130				
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.3*		*"*	*50.0*		*101*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.0*		*"*	*50.0*		*104*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.2*		*"*	*50.0*		*96.4*	*76-130*				

Batch BD01198 - EPA 5035A

LCS Dup (BD01198-BSD1) LCS Dup — Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	66.8		ug/L	50.0		134	75-129	High Bias	9.55	30	
1,1,1-Trichloroethane	58.7		"	50.0		117	71-137		8.34	30	
1,1,2,2-Tetrachloroethane	55.4		"	50.0		111	79-129		8.58	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	48.4		"	50.0		96.8	58-146		6.09	30	
1,1,2-Trichloroethane	55.1		"	50.0		110	83-123		9.61	30	
1,1-Dichloroethane	50.2		"	50.0		100	75-130		7.74	30	
1,1-Dichloroethylene	56.3		"	50.0		113	64-137		5.05	30	
1,2,3-Trichlorobenzene	59.3		"	50.0		119	81-140		9.64	30	
1,2,3-Trichloropropane	54.0		"	50.0		108	81-126		7.95	30	
1,2,4-Trichlorobenzene	59.9		"	50.0		120	80-141		8.63	30	
1,2,4-Trimethylbenzene	56.7		"	50.0		113	84-125		7.56	30	
1,2-Dibromo-3-chloropropane	56.6		"	50.0		113	74-142		5.50	30	
1,2-Dibromoethane	55.8		"	50.0		112	86-123		8.16	30	
1,2-Dichlorobenzene	57.3		"	50.0		115	85-122		8.19	30	
1,2-Dichloroethane	51.3		"	50.0		103	71-133		7.69	30	
1,2-Dichloropropane	51.8		"	50.0		104	81-122		9.26	30	
1,3,5-Trimethylbenzene	55.6		"	50.0		111	82-126		8.18	30	
1,3-Dichlorobenzene	56.4		"	50.0		113	84-124		7.75	30	
1,4-Dichlorobenzene	57.2		"	50.0		114	84-124		7.92	30	
1,4-Dioxane	1060		"	1050		101	10-228		12.2	30	
2-Butanone	49.6		"	50.0		99.2	58-147		14.9	30	
2-Hexanone	45.7		"	50.0		91.5	70-139		7.13	30	
4-Methyl-2-pentanone	46.7		"	50.0		93.5	72-132		7.87	30	
Acetone	32.8		"	50.0		65.7	36-155		1.29	30	
Acrolein	52.9		"	50.0		106	10-238		16.6	30	
Acrylonitrile	48.8		"	50.0		97.5	66-141		6.74	30	
Benzene	51.8		"	50.0		104	77-127		7.98	30	
Bromochloromethane	49.3		"	50.0		98.6	74-129		7.53	30	
Bromodichloromethane	60.8		"	50.0		122	81-124		7.97	30	
Bromoform	68.3		"	50.0		137	80-136	High Bias	8.07	30	
Bromomethane	45.2		"	50.0		90.3	32-177		2.28	30	
Carbon disulfide	52.3		"	50.0		105	10-136		7.41	30	
Carbon tetrachloride	67.0		"	50.0		134	66-143		7.21	30	
Chlorobenzene	55.0		"	50.0		110	86-120		8.22	30	
Chloroethane	48.7		"	50.0		97.4	51-142		7.59	30	
Chloroform	53.2		"	50.0		106	76-131		7.34	30	
Chloromethane	37.8		"	50.0		75.6	49-132		5.16	30	
cis-1,2-Dichloroethylene	50.7		"	50.0		101	74-132		7.11	30	
cis-1,3-Dichloropropylene	58.6		"	50.0		117	81-129		7.94	30	
Cyclohexane	46.5		"	50.0		93.0	70-130		8.12	30	
Dibromochloromethane	66.5		"	50.0		133	10-200		7.73	30	
Dibromomethane	55.0		"	50.0		110	83-124		7.87	30	
Dichlorodifluoromethane	36.1		"	50.0		72.1	28-158		5.32	30	
Ethyl Benzene	54.7		"	50.0		109	84-125		8.44	30	
Hexachlorobutadiene	60.4		"	50.0		121	83-133		7.01	30	
Isopropylbenzene	54.2		"	50.0		108	81-127		7.84	30	
Methyl acetate	40.4		"	50.0		80.9	41-143		7.84	30	
Methyl tert-butyl ether (MTBE)	53.0		"	50.0		106	74-131		8.48	30	
Methylcyclohexane	49.1		"	50.0		98.3	70-130		8.53	30	
Methylene chloride	53.6		"	50.0		107	57-141		6.93	30	
n-Butylbenzene	52.6		"	50.0		105	80-130		5.15	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01198 - EPA 5035A

LCS Dup (BD01198-BSD1) LCS Dup Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
n-Propylbenzene	54.1		ug/L	50.0		108	74-136		7.40	30	
o-Xylene	54.4		"	50.0		109	83-123		6.80	30	
p- & m- Xylenes	108		"	100		108	82-128		6.83	30	
p-Isopropyltoluene	57.2		"	50.0		114	85-125		8.20	30	
sec-Butylbenzene	56.8		"	50.0		114	83-125		7.79	30	
Styrene	56.7		"	50.0		113	86-126		7.43	30	
tert-Butyl alcohol (TBA)	292		"	250		117	70-130		8.91	30	
tert-Butylbenzene	55.0		"	50.0		110	80-127		8.04	30	
Tetrachloroethylene	53.4		"	50.0		107	80-129		8.03	30	
Toluene	53.7		"	50.0		107	85-121		8.16	30	
trans-1,2-Dichloroethylene	50.2		"	50.0		100	72-132		7.50	30	
trans-1,3-Dichloropropylene	59.5		"	50.0		119	78-132		7.91	30	
Trichloroethylene	54.9		"	50.0		110	84-123		7.91	30	
Trichlorofluoromethane	48.4		"	50.0		96.8	62-140		6.09	30	
Vinyl Chloride	44.5		"	50.0		88.9	52-130		6.57	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*49.4*		*"*	*50.0*		*98.8*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.2*		*"*	*50.0*		*104*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.4*		*"*	*50.0*		*96.9*	*76-130*				

Matrix Spike (BD01198-MS1) Matrix Spike *Source sample: 20D0655-03 (SB03_02) Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	47.3		ug/L	50.0	0.00	94.7	15-161				
1,1,1-Trichloroethane	47.1		"	50.0	0.00	94.2	42-145				
1,1,2,2-Tetrachloroethane	11.2		"	50.0	0.00	22.5	16-167				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	40.1		"	50.0	0.00	80.2	11-160				
1,1,2-Trichloroethane	37.1		"	50.0	0.00	74.2	44-145				
1,1-Dichloroethane	39.8		"	50.0	0.00	79.7	46-142				
1,1-Dichloroethylene	45.8		"	50.0	0.00	91.6	30-153				
1,2,3-Trichlorobenzene	21.8		"	50.0	0.00	43.7	10-157				
1,2,3-Trichloropropane	35.7		"	50.0	0.00	71.3	38-155				
1,2,4-Trichlorobenzene	20.8		"	50.0	0.00	41.5	10-151				
1,2,4-Trimethylbenzene	36.6		"	50.0	0.00	73.3	10-170				
1,2-Dibromo-3-chloropropane	30.2		"	50.0	0.00	60.4	36-138				
1,2-Dibromoethane	30.1		"	50.0	0.00	60.2	40-142				
1,2-Dichlorobenzene	29.7		"	50.0	0.00	59.4	10-147				
1,2-Dichloroethane	32.6		"	50.0	0.00	65.1	48-133				
1,2-Dichloropropane	39.4		"	50.0	0.00	78.8	47-141				
1,3,5-Trimethylbenzene	38.2		"	50.0	0.00	76.4	10-150				
1,3-Dichlorobenzene	29.0		"	50.0	0.00	58.0	10-144				
1,4-Dichlorobenzene	27.0		"	50.0	0.00	54.1	10-160				
1,4-Dioxane	869		"	1050	0.00	82.8	10-191				
2-Butanone	38.6		"	50.0	0.00	77.1	10-189				
2-Hexanone	30.1		"	50.0	0.00	60.2	10-181				
4-Methyl-2-pentanone	35.6		"	50.0	0.00	71.3	10-166				
Acetone	48.0		"	50.0	28.2	39.5	10-196				
Acrolein	0.00		"	50.0	0.00		10-192	Low Bias			
Acrylonitrile	30.9		"	50.0	0.00	61.7	13-161				
Benzene	39.4		"	50.0	0.00	78.8	43-139				
Bromochloromethane	31.3		"	50.0	0.00	62.6	38-145				
Bromodichloromethane	40.9		"	50.0	0.00	81.9	38-147				
Bromoform	37.4		"	50.0	0.00	74.9	29-156				
Bromomethane	33.4		"	50.0	0.00	66.7	10-166				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01198 - EPA 5035A

Matrix Spike (BD01198-MS1) Matrix Spike *Source sample: 20D0655-03 (SB03_02) Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Carbon disulfide	36.7		ug/L	50.0	0.00	73.4	10-131				
Carbon tetrachloride	51.2		"	50.0	0.00	102	35-145				
Chlorobenzene	34.7		"	50.0	0.00	69.4	21-154				
Chloroethane	39.1		"	50.0	0.00	78.3	15-160				
Chloroform	40.5		"	50.0	0.00	81.0	47-142				
Chloromethane	29.6		"	50.0	0.00	59.2	10-159				
cis-1,2-Dichloroethylene	35.3		"	50.0	0.00	70.5	42-144				
cis-1,3-Dichloropropylene	32.7		"	50.0	0.00	65.5	18-159				
Cyclohexane	38.0		"	50.0	0.00	76.0	70-130				
Dibromochloromethane	41.2		"	50.0	0.00	82.5	10-179				
Dibromomethane	30.7		"	50.0	0.00	61.4	47-143				
Dichlorodifluoromethane	27.4		"	50.0	0.00	54.9	10-145				
Ethyl Benzene	38.6		"	50.0	0.00	77.3	11-158				
Hexachlorobutadiene	32.8		"	50.0	0.00	65.6	10-158				
Isopropylbenzene	39.4		"	50.0	0.00	78.9	10-162				
Methyl acetate	20.8		"	50.0	0.00	41.5	10-149				
Methyl tert-butyl ether (MTBE)	43.5		"	50.0	0.00	87.1	42-152				
Methylcyclohexane	38.2		"	50.0	0.00	76.5	70-130				
Methylene chloride	37.6		"	50.0	0.00	75.2	28-151				
n-Butylbenzene	34.4		"	50.0	0.00	68.8	10-162				
n-Propylbenzene	36.9		"	50.0	0.00	73.8	10-155				
o-Xylene	38.1		"	50.0	0.00	76.3	10-158				
p- & m- Xylenes	75.7		"	100	0.00	75.7	10-156				
p-Isopropyltoluene	38.2		"	50.0	0.00	76.4	10-147				
sec-Butylbenzene	39.4		"	50.0	0.00	78.9	10-157				
Styrene	33.9		"	50.0	0.00	67.8	13-171				
tert-Butyl alcohol (TBA)	219		"	250	0.00	87.4	34-179				
tert-Butylbenzene	39.8		"	50.0	0.00	79.6	10-160				
Tetrachloroethylene	39.2		"	50.0	0.00	78.4	30-167				
Toluene	38.8		"	50.0	0.00	77.5	21-160				
trans-1,2-Dichloroethylene	35.4		"	50.0	0.00	70.8	29-153				
trans-1,3-Dichloropropylene	27.0		"	50.0	0.00	54.1	18-155				
Trichloroethylene	55.9		"	50.0	0.00	112	24-169				
Trichlorofluoromethane	40.1		"	50.0	0.00	80.2	35-142				
Vinyl Chloride	33.8		"	50.0	0.00	67.6	12-160				
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.9*		*"*	*50.0*		*102*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.2*		*"*	*50.0*		*104*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*49.1*		*"*	*50.0*		*98.2*	*76-130*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01198 - EPA 5035A

Matrix Spike Dup (BD01198-M Matrix Spike Dup *Source sample: 20D0655-03 (SB03_02) Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	46.3		ug/L	50.0	0.00	92.6	15-161		2.26	33	
1,1,1-Trichloroethane	45.0		"	50.0	0.00	89.9	42-145		4.63	30	
1,1,2,2-Tetrachloroethane	15.2		"	50.0	0.00	30.4	16-167		30.0	56	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	35.4		"	50.0	0.00	70.7	11-160		12.6	31	
1,1,2-Trichloroethane	37.5		"	50.0	0.00	75.0	44-145		1.15	40	
1,1-Dichloroethane	38.5		"	50.0	0.00	77.0	46-142		3.42	36	
1,1-Dichloroethylene	39.9		"	50.0	0.00	79.8	30-153		13.7	31	
1,2,3-Trichlorobenzene	12.7		"	50.0	0.00	25.4	10-157		52.9	47	Non-dir.
1,2,3-Trichloropropane	36.3		"	50.0	0.00	72.6	38-155		1.81	48	
1,2,4-Trichlorobenzene	11.4		"	50.0	0.00	22.8	10-151		58.3	52	Non-dir.
1,2,4-Trimethylbenzene	27.6		"	50.0	0.00	55.1	10-170		28.3	242	
1,2-Dibromo-3-chloropropane	30.3		"	50.0	0.00	60.6	36-138		0.364	54	
1,2-Dibromoethane	27.9		"	50.0	0.00	55.7	40-142		7.73	39	
1,2-Dichlorobenzene	22.3		"	50.0	0.00	44.6	10-147		28.4	52	
1,2-Dichloroethane	32.3		"	50.0	0.00	64.6	48-133		0.771	32	
1,2-Dichloropropane	38.8		"	50.0	0.00	77.5	47-141		1.66	37	
1,3,5-Trimethylbenzene	28.5		"	50.0	0.00	57.0	10-150		29.0	62	
1,3-Dichlorobenzene	19.6		"	50.0	0.00	39.1	10-144		38.9	51	
1,4-Dichlorobenzene	18.0		"	50.0	0.00	35.9	10-160		40.4	52	
1,4-Dioxane	888		"	1050	0.00	84.6	10-191		2.15	196	
2-Butanone	38.7		"	50.0	0.00	77.4	10-189		0.311	67	
2-Hexanone	31.1		"	50.0	0.00	62.3	10-181		3.40	60	
4-Methyl-2-pentanone	38.1		"	50.0	0.00	76.2	10-166		6.59	47	
Acetone	54.7		"	50.0	28.2	53.0	10-196		13.2	150	
Acrolein	0.00		"	50.0	0.00		10-192	Low Bias		128	
Acrylonitrile	30.9		"	50.0	0.00	61.8	13-161		0.0971	48	
Benzene	36.5		"	50.0	0.00	73.0	43-139		7.67	64	
Bromochloromethane	29.3		"	50.0	0.00	58.6	38-145		6.56	30	
Bromodichloromethane	40.0		"	50.0	0.00	79.9	38-147		2.42	37	
Bromoform	37.6		"	50.0	0.00	75.1	29-156		0.373	51	
Bromomethane	27.2		"	50.0	0.00	54.4	10-166		20.4	42	
Carbon disulfide	25.9		"	50.0	0.00	51.8	10-131		34.5	36	
Carbon tetrachloride	47.5		"	50.0	0.00	95.1	35-145		7.40	31	
Chlorobenzene	28.8		"	50.0	0.00	57.6	21-154		18.6	32	
Chloroethane	31.5		"	50.0	0.00	63.0	15-160		21.6	40	
Chloroform	38.8		"	50.0	0.00	77.5	47-142		4.42	29	
Chloromethane	29.3		"	50.0	0.00	58.6	10-159		1.15	31	
cis-1,2-Dichloroethylene	31.3		"	50.0	0.00	62.6	42-144		11.8	30	
cis-1,3-Dichloropropylene	28.8		"	50.0	0.00	57.7	18-159		12.6	39	
Cyclohexane	29.3		"	50.0	0.00	58.7	70-130	Low Bias	25.7	30	
Dibromochloromethane	40.8		"	50.0	0.00	81.7	10-179		0.950	41	
Dibromomethane	29.2		"	50.0	0.00	58.3	47-143		5.15	41	
Dichlorodifluoromethane	25.5		"	50.0	0.00	51.1	10-145		7.21	34	
Ethyl Benzene	32.2		"	50.0	0.00	64.5	11-158		18.1	42	
Hexachlorobutadiene	11.7		"	50.0	0.00	23.5	10-158		94.6	45	Non-dir.
Isopropylbenzene	30.6		"	50.0	0.00	61.2	10-162		25.3	57	
Methyl acetate	27.6		"	50.0	0.00	55.2	10-149		28.3	64	
Methyl tert-butyl ether (MTBE)	46.2		"	50.0	0.00	92.4	42-152		5.97	47	
Methylcyclohexane	23.5		"	50.0	0.00	47.0	70-130	Low Bias	47.8	30	Non-dir.
Methylene chloride	36.0		"	50.0	0.00	72.0	28-151		4.43	49	
n-Butylbenzene	18.0		"	50.0	0.00	36.0	10-162		62.5	96	

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01198 - EPA 5035A											
Matrix Spike Dup (BD01198-M Matrix Spike Dup *Source sample: 20D0655-03 (SB03_02)							Prepared & Analyzed: 04/27/2020				
n-Propylbenzene	25.6		ug/L	50.0	0.00	51.2	10-155		36.1	56	
o-Xylene	33.2		"	50.0	0.00	66.3	10-158		13.9	51	
p- & m- Xylenes	62.0		"	100	0.00	62.0	10-156		19.8	47	
p-Isopropyltoluene	24.0		"	50.0	0.00	47.9	10-147		45.8	60	
sec-Butylbenzene	23.9		"	50.0	0.00	47.9	10-157		48.9	56	
Styrene	27.2		"	50.0	0.00	54.4	13-171		21.8	39	
tert-Butyl alcohol (TBA)	251		"	250	0.00	100	34-179		13.8	35	
tert-Butylbenzene	27.5		"	50.0	0.00	55.0	10-160		36.6	79	
Tetrachloroethylene	31.1		"	50.0	0.00	62.3	30-167		23.0	33	
Toluene	34.4		"	50.0	0.00	68.9	21-160		11.8	50	
trans-1,2-Dichloroethylene	28.0		"	50.0	0.00	56.0	29-153		23.4	30	
trans-1,3-Dichloropropylene	22.3		"	50.0	0.00	44.7	18-155		19.0	30	
Trichloroethylene	46.6		"	50.0	0.00	93.1	24-169		18.3	30	
Trichlorofluoromethane	35.4		"	50.0	0.00	70.7	35-142		12.6	30	
Vinyl Chloride	31.1		"	50.0	0.00	62.2	12-160		8.29	35	
Surrogate: SURR: 1,2-Dichloroethane-d4	*51.3*		*"*	*50.0*		*103*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.7*		*"*	*50.0*		*105*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*49.8*		*"*	*50.0*		*99.7*	*76-130*				
Batch BD01271 - EPA 5035A											
Blank (BD01271-BLK1) Blank							Prepared & Analyzed: 04/29/2020				
1,1,1,2-Tetrachloroethane	ND	0.0050	mg/kg wet								
1,1,1-Trichloroethane	ND	0.0050	"								
1,1,2,2-Tetrachloroethane	ND	0.0050	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0050	"								
1,1,2-Trichloroethane	ND	0.0050	"								
1,1-Dichloroethane	ND	0.0050	"								
1,1-Dichloroethylene	ND	0.0050	"								
1,2,3-Trichlorobenzene	ND	0.0050	"								
1,2,3-Trichloropropane	ND	0.0050	"								
1,2,4-Trichlorobenzene	ND	0.0050	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,2-Dibromo-3-chloropropane	ND	0.0050	"								
1,2-Dibromoethane	ND	0.0050	"								
1,2-Dichlorobenzene	ND	0.0050	"								
1,2-Dichloroethane	ND	0.0050	"								
1,2-Dichloropropane	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
1,3-Dichlorobenzene	ND	0.0050	"								
1,4-Dichlorobenzene	ND	0.0050	"								
1,4-Dioxane	ND	0.10	"								
2-Butanone	ND	0.0050	"								
2-Hexanone	ND	0.0050	"								
4-Methyl-2-pentanone	ND	0.0050	"								
Acetone	ND	0.010	"								
Acrolein	ND	0.010	"								
Acrylonitrile	ND	0.0050	"								
Benzene	ND	0.0050	"								
Bromochloromethane	ND	0.0050	"								
Bromodichloromethane	ND	0.0050	"								

Batch BD01271 - EPA 5035A

Blank (BD01271-BLK1) Blank   Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Bromoform	ND	0.0050	mg/kg wet								
Bromomethane	ND	0.0050	"								
Carbon disulfide	ND	0.0050	"								
Carbon tetrachloride	ND	0.0050	"								
Chlorobenzene	ND	0.0050	"								
Chloroethane	ND	0.0050	"								
Chloroform	ND	0.0050	"								
Chloromethane	ND	0.0050	"								
cis-1,2-Dichloroethylene	ND	0.0050	"								
cis-1,3-Dichloropropylene	ND	0.0050	"								
Cyclohexane	ND	0.0050	"								
Dibromochloromethane	ND	0.0050	"								
Dibromomethane	ND	0.0050	"								
Dichlorodifluoromethane	ND	0.0050	"								
Ethyl Benzene	ND	0.0050	"								
Hexachlorobutadiene	ND	0.0050	"								
Isopropylbenzene	ND	0.0050	"								
Methyl acetate	ND	0.0050	"								
Methyl tert-butyl ether (MTBE)	ND	0.0050	"								
Methylcyclohexane	ND	0.0050	"								
Methylene chloride	ND	0.010	"								
n-Butylbenzene	ND	0.0050	"								
n-Propylbenzene	ND	0.0050	"								
o-Xylene	ND	0.0050	"								
p- & m- Xylenes	ND	0.010	"								
p-Isopropyltoluene	ND	0.0050	"								
sec-Butylbenzene	ND	0.0050	"								
Styrene	ND	0.0050	"								
tert-Butyl alcohol (TBA)	ND	0.0050	"								
tert-Butylbenzene	ND	0.0050	"								
Tetrachloroethylene	ND	0.0050	"								
Toluene	ND	0.0050	"								
trans-1,2-Dichloroethylene	ND	0.0050	"								
trans-1,3-Dichloropropylene	ND	0.0050	"								
Trichloroethylene	ND	0.0050	"								
Trichlorofluoromethane	ND	0.0050	"								
Vinyl Chloride	ND	0.0050	"								
Xylenes, Total	ND	0.015	"								
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.5*		*ug/L*	*50.0*		*101*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.7*		*"*	*50.0*		*105*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*47.9*		*"*	*50.0*		*95.7*	*76-130*				

Batch BD01271 - EPA 5035A

LCS (BD01271-BS1) LCS Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1,1,2-Tetrachloroethane	66.9		ug/L	50.0		134	75-129	High Bias			
1,1,1-Trichloroethane	59.1		"	50.0		118	71-137				
1,1,2,2-Tetrachloroethane	54.0		"	50.0		108	79-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	47.7		"	50.0		95.4	58-146				
1,1,2-Trichloroethane	53.9		"	50.0		108	83-123				
1,1-Dichloroethane	50.6		"	50.0		101	75-130				
1,1-Dichloroethylene	56.5		"	50.0		113	64-137				
1,2,3-Trichlorobenzene	58.8		"	50.0		118	81-140				
1,2,3-Trichloropropane	53.2		"	50.0		106	81-126				
1,2,4-Trichlorobenzene	60.8		"	50.0		122	80-141				
1,2,4-Trimethylbenzene	57.1		"	50.0		114	84-125				
1,2-Dibromo-3-chloropropane	54.8		"	50.0		110	74-142				
1,2-Dibromoethane	54.8		"	50.0		110	86-123				
1,2-Dichlorobenzene	57.4		"	50.0		115	85-122				
1,2-Dichloroethane	50.6		"	50.0		101	71-133				
1,2-Dichloropropane	52.0		"	50.0		104	81-122				
1,3,5-Trimethylbenzene	56.3		"	50.0		113	82-126				
1,3-Dichlorobenzene	57.1		"	50.0		114	84-124				
1,4-Dichlorobenzene	57.7		"	50.0		115	84-124				
1,4-Dioxane	1010		"	1050		95.9	10-228				
2-Butanone	44.2		"	50.0		88.3	58-147				
2-Hexanone	45.2		"	50.0		90.4	70-139				
4-Methyl-2-pentanone	45.7		"	50.0		91.5	72-132				
Acetone	34.7		"	50.0		69.4	36-155				
Acrolein	55.2		"	50.0		110	10-238				
Acrylonitrile	48.1		"	50.0		96.2	66-141				
Benzene	51.8		"	50.0		104	77-127				
Bromochloromethane	49.4		"	50.0		98.8	74-129				
Bromodichloromethane	60.6		"	50.0		121	81-124				
Bromoform	66.3		"	50.0		133	80-136				
Bromomethane	45.4		"	50.0		90.7	32-177				
Carbon disulfide	48.7		"	50.0		97.3	10-136				
Carbon tetrachloride	67.7		"	50.0		135	66-143				
Chlorobenzene	55.1		"	50.0		110	86-120				
Chloroethane	49.8		"	50.0		99.7	51-142				
Chloroform	54.0		"	50.0		108	76-131				
Chloromethane	35.1		"	50.0		70.2	49-132				
cis-1,2-Dichloroethylene	51.5		"	50.0		103	74-132				
cis-1,3-Dichloropropylene	58.3		"	50.0		117	81-129				
Cyclohexane	45.9		"	50.0		91.9	70-130				
Dibromochloromethane	65.9		"	50.0		132	10-200				
Dibromomethane	53.9		"	50.0		108	83-124				
Dichlorodifluoromethane	28.1		"	50.0		56.1	28-158				
Ethyl Benzene	55.2		"	50.0		110	84-125				
Hexachlorobutadiene	61.4		"	50.0		123	83-133				
Isopropylbenzene	54.1		"	50.0		108	81-127				
Methyl acetate	38.6		"	50.0		77.1	41-143				
Methyl tert-butyl ether (MTBE)	52.5		"	50.0		105	74-131				
Methylcyclohexane	48.1		"	50.0		96.2	70-130				
Methylene chloride	53.4		"	50.0		107	57-141				
n-Butylbenzene	55.6		"	50.0		111	80-130				

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01271 - EPA 5035A											
LCS (BD01271-BS1) LCS							Prepared & Analyzed: 04/29/2020				
n-Propylbenzene	54.8		ug/L	50.0		110	74-136				
o-Xylene	55.0		"	50.0		110	83-123				
p- & m- Xylenes	109		"	100		109	82-128				
p-Isopropyltoluene	57.9		"	50.0		116	85-125				
sec-Butylbenzene	57.6		"	50.0		115	83-125				
Styrene	57.1		"	50.0		114	86-126				
tert-Butyl alcohol (TBA)	283		"	250		113	70-130				
tert-Butylbenzene	55.3		"	50.0		111	80-127				
Tetrachloroethylene	53.2		"	50.0		106	80-129				
Toluene	53.7		"	50.0		107	85-121				
trans-1,2-Dichloroethylene	50.6		"	50.0		101	72-132				
trans-1,3-Dichloropropylene	59.4		"	50.0		119	78-132				
Trichloroethylene	55.4		"	50.0		111	84-123				
Trichlorofluoromethane	47.7		"	50.0		95.4	62-140				
Vinyl Chloride	41.6		"	50.0		83.2	52-130				
Surrogate: SURR: 1,2-Dichloroethane-d4	*49.5*		*"*	*50.0*		*99.0*	*77-125*				
Surrogate: SURR: Toluene-d8	*52.4*		*"*	*50.0*		*105*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.5*		*"*	*50.0*		*97.0*	*76-130*				
LCS Dup (BD01271-BSD1) LCS Dup							Prepared & Analyzed: 04/29/2020				
1,1,1,2-Tetrachloroethane	66.3		ug/L	50.0		133	75-129	High Bias	0.916	30	
1,1,1-Trichloroethane	58.1		"	50.0		116	71-137		1.62	30	
1,1,2,2-Tetrachloroethane	54.7		"	50.0		109	79-129		1.14	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	46.8		"	50.0		93.5	58-146		2.05	30	
1,1,2-Trichloroethane	54.6		"	50.0		109	83-123		1.33	30	
1,1-Dichloroethane	49.8		"	50.0		99.6	75-130		1.53	30	
1,1-Dichloroethylene	54.2		"	50.0		108	64-137		4.28	30	
1,2,3-Trichlorobenzene	59.7		"	50.0		119	81-140		1.60	30	
1,2,3-Trichloropropane	54.8		"	50.0		110	81-126		2.91	30	
1,2,4-Trichlorobenzene	60.4		"	50.0		121	80-141		0.726	30	
1,2,4-Trimethylbenzene	55.8		"	50.0		112	84-125		2.39	30	
1,2-Dibromo-3-chloropropane	56.6		"	50.0		113	74-142		3.30	30	
1,2-Dibromoethane	55.7		"	50.0		111	86-123		1.67	30	
1,2-Dichlorobenzene	56.8		"	50.0		114	85-122		1.02	30	
1,2-Dichloroethane	52.3		"	50.0		105	71-133		3.35	30	
1,2-Dichloropropane	50.9		"	50.0		102	81-122		2.06	30	
1,3,5-Trimethylbenzene	54.6		"	50.0		109	82-126		3.16	30	
1,3-Dichlorobenzene	56.0		"	50.0		112	84-124		1.86	30	
1,4-Dichlorobenzene	57.0		"	50.0		114	84-124		1.24	30	
1,4-Dioxane	1030		"	1050		97.8	10-228		1.95	30	
2-Butanone	49.2		"	50.0		98.3	58-147		10.7	30	
2-Hexanone	46.4		"	50.0		92.8	70-139		2.66	30	
4-Methyl-2-pentanone	47.0		"	50.0		93.9	72-132		2.65	30	
Acetone	35.9		"	50.0		71.8	36-155		3.31	30	
Acrolein	53.8		"	50.0		108	10-238		2.66	30	
Acrylonitrile	50.5		"	50.0		101	66-141		4.83	30	
Benzene	51.4		"	50.0		103	77-127		0.833	30	
Bromochloromethane	49.2		"	50.0		98.3	74-129		0.467	30	
Bromodichloromethane	59.8		"	50.0		120	81-124		1.31	30	
Bromoform	66.8		"	50.0		134	80-136		0.796	30	
Bromomethane	41.6		"	50.0		83.3	32-177		8.55	30	

Volatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01271 - EPA 5035A

LCS Dup (BD01271-BSD1) LCS Dup Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Carbon disulfide	47.8		ug/L	50.0		95.6	10-136		1.80	30	
Carbon tetrachloride	66.1		"	50.0		132	66-143		2.45	30	
Chlorobenzene	54.3		"	50.0		109	86-120		1.44	30	
Chloroethane	46.1		"	50.0		92.3	51-142		7.73	30	
Chloroform	53.5		"	50.0		107	76-131		0.986	30	
Chloromethane	34.1		"	50.0		68.3	49-132		2.77	30	
cis-1,2-Dichloroethylene	50.7		"	50.0		101	74-132		1.47	30	
cis-1,3-Dichloropropylene	57.5		"	50.0		115	81-129		1.40	30	
Cyclohexane	44.6		"	50.0		89.3	70-130		2.87	30	
Dibromochloromethane	65.0		"	50.0		130	10-200		1.25	30	
Dibromomethane	54.6		"	50.0		109	83-124		1.25	30	
Dichlorodifluoromethane	27.2		"	50.0		54.3	28-158		3.33	30	
Ethyl Benzene	53.7		"	50.0		107	84-125		2.85	30	
Hexachlorobutadiene	60.3		"	50.0		121	83-133		1.81	30	
Isopropylbenzene	53.0		"	50.0		106	81-127		2.07	30	
Methyl acetate	40.8		"	50.0		81.5	41-143		5.50	30	
Methyl tert-butyl ether (MTBE)	53.3		"	50.0		107	74-131		1.46	30	
Methylcyclohexane	46.5		"	50.0		93.0	70-130		3.32	30	
Methylene chloride	53.1		"	50.0		106	57-141		0.526	30	
n-Butylbenzene	53.2		"	50.0		106	80-130		4.36	30	
n-Propylbenzene	53.3		"	50.0		107	74-136		2.83	30	
o-Xylene	53.7		"	50.0		107	83-123		2.37	30	
p- & m- Xylenes	107		"	100		107	82-128		2.16	30	
p-Isopropyltoluene	56.1		"	50.0		112	85-125		3.07	30	
sec-Butylbenzene	55.9		"	50.0		112	83-125		3.08	30	
Styrene	56.1		"	50.0		112	86-126		1.73	30	
tert-Butyl alcohol (TBA)	303		"	250		121	70-130		6.90	30	
tert-Butylbenzene	54.1		"	50.0		108	80-127		2.27	30	
Tetrachloroethylene	51.9		"	50.0		104	80-129		2.49	30	
Toluene	52.3		"	50.0		105	85-121		2.62	30	
trans-1,2-Dichloroethylene	48.9		"	50.0		97.8	72-132		3.50	30	
trans-1,3-Dichloropropylene	59.2		"	50.0		118	78-132		0.354	30	
Trichloroethylene	53.8		"	50.0		108	84-123		2.95	30	
Trichlorofluoromethane	46.8		"	50.0		93.5	62-140		2.05	30	
Vinyl Chloride	40.6		"	50.0		81.2	52-130		2.39	30	
Surrogate: SURR: 1,2-Dichloroethane-d4	*50.4*		*"*	*50.0*		*101*	*77-125*				
Surrogate: SURR: Toluene-d8	*51.9*		*"*	*50.0*		*104*	*85-120*				
Surrogate: SURR: p-Bromofluorobenzene	*48.5*		*"*	*50.0*		*96.9*	*76-130*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01130 - EPA 3510C

Blank (BD01130-BLK1) Blank Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1-Biphenyl	ND	5.00	ug/L								
1,2,4,5-Tetrachlorobenzene	ND	5.00	"								
1,2-Diphenylhydrazine (as Azobenzene)	ND	5.00	"								
2,3,4,6-Tetrachlorophenol	ND	5.00	"								
2,4,5-Trichlorophenol	ND	5.00	"								
2,4,6-Trichlorophenol	ND	5.00	"								
2,4-Dichlorophenol	ND	5.00	"								
2,4-Dimethylphenol	ND	5.00	"								
2,4-Dinitrophenol	ND	5.00	"								
2,4-Dinitrotoluene	ND	5.00	"								
2,6-Dinitrotoluene	ND	5.00	"								
2-Chloronaphthalene	ND	5.00	"								
2-Chlorophenol	ND	5.00	"								
2-Methylnaphthalene	ND	5.00	"								
2-Methylphenol	ND	5.00	"								
2-Nitroaniline	ND	5.00	"								
2-Nitrophenol	ND	5.00	"								
3- & 4-Methylphenols	ND	5.00	"								
3,3-Dichlorobenzidine	ND	5.00	"								
3-Nitroaniline	ND	5.00	"								
4,6-Dinitro-2-methylphenol	ND	5.00	"								
4-Bromophenyl phenyl ether	ND	5.00	"								
4-Chloro-3-methylphenol	ND	5.00	"								
4-Chloroaniline	ND	5.00	"								
4-Chlorophenyl phenyl ether	ND	5.00	"								
4-Nitroaniline	ND	5.00	"								
4-Nitrophenol	ND	5.00	"								
Acetophenone	ND	5.00	"								
Aniline	ND	5.00	"								
Benzaldehyde	ND	5.00	"								
Benzidine	ND	5.00	"								
Benzoic acid	ND	5.00	"								
Benzyl alcohol	ND	5.00	"								
Benzyl butyl phthalate	ND	5.00	"								
Bis(2-chloroethoxy)methane	ND	5.00	"								
Bis(2-chloroethyl)ether	ND	5.00	"								
Bis(2-chloroisopropyl)ether	ND	5.00	"								
Caprolactam	ND	5.00	"								
Carbazole	ND	5.00	"								
Dibenzofuran	ND	5.00	"								
Diethyl phthalate	ND	5.00	"								
Dimethyl phthalate	ND	5.00	"								
Di-n-butyl phthalate	ND	5.00	"								
Di-n-octyl phthalate	ND	5.00	"								
Diphenylamine	ND	5.00	"								
Hexachlorocyclopentadiene	ND	10.0	"								
Isophorone	ND	5.00	"								
N-nitroso-di-n-propylamine	ND	5.00	"								
N-Nitrosodiphenylamine	ND	5.00	"								
Phenol	ND	5.00	"								
Pyridine	ND	5.00	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

Batch BD01130 - EPA 3510C

Blank (BD01130-BLK1) Blank — Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Surrogate: SURR: 2-Fluorophenol	*14.3*		*ug/L*	*50.0*		*28.6*	*19.7-63.1*				
Surrogate: SURR: Phenol-d5	*7.64*		*"*	*50.0*		*15.3*	*10.1-41.7*				
Surrogate: SURR: Nitrobenzene-d5	*18.6*		*"*	*25.0*		*74.4*	*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*14.7*		*"*	*25.0*		*58.8*	*39.9-105*				
Surrogate: SURR: 2,4,6-Tribromophenol	*37.2*		*"*	*50.0*		*74.4*	*39.3-151*				
Surrogate: SURR: Terphenyl-d14	*19.2*		*"*	*25.0*		*76.8*	*30.7-106*				

Blank (BD01130-BLK2) Blank — Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	ND	0.0500	ug/L								
Acenaphthylene	ND	0.0500	"								
Anthracene	ND	0.0500	"								
Atrazine	ND	0.500	"								
Benzo(a)anthracene	ND	0.0500	"								
Benzo(a)pyrene	ND	0.0500	"								
Benzo(b)fluoranthene	ND	0.0500	"								
Benzo(g,h,i)perylene	ND	0.0500	"								
Benzo(k)fluoranthene	ND	0.0500	"								
Bis(2-ethylhexyl)phthalate	ND	0.500	"								
Chrysene	ND	0.0500	"								
Dibenzo(a,h)anthracene	ND	0.0500	"								
Fluoranthene	ND	0.0500	"								
Fluorene	ND	0.0500	"								
Hexachlorobenzene	ND	0.0200	"								
Hexachlorobutadiene	ND	0.500	"								
Hexachloroethane	ND	0.500	"								
Indeno(1,2,3-cd)pyrene	ND	0.0500	"								
Naphthalene	ND	0.0500	"								
Nitrobenzene	ND	0.250	"								
N-Nitrosodimethylamine	ND	0.500	"								
Pentachlorophenol	ND	0.250	"								
Phenanthrene	ND	0.0500	"								
Pyrene	ND	0.0500	"								

Batch BD01130 - EPA 3510C

LCS (BD01130-BS1) LCS Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1-Biphenyl	21.2	5.00	ug/L	25.0		84.7	33-95				
1,2,4,5-Tetrachlorobenzene	23.4	5.00	"	25.1		93.3	26-120				
1,2-Diphenylhydrazine (as Azobenzene)	19.4	5.00	"	25.0		77.6	16-141				
2,3,4,6-Tetrachlorophenol	32.6	5.00	"	25.0		130	30-130				
2,4,5-Trichlorophenol	21.2	5.00	"	25.0		84.9	32-114				
2,4,6-Trichlorophenol	22.6	5.00	"	25.0		90.3	35-118				
2,4-Dichlorophenol	22.7	5.00	"	25.0		90.8	25-116				
2,4-Dimethylphenol	20.7	5.00	"	25.0		83.0	15-116				
2,4-Dinitrophenol	31.5	5.00	"	25.0		126	10-170				
2,4-Dinitrotoluene	27.7	5.00	"	25.0		111	41-128				
2,6-Dinitrotoluene	26.7	5.00	"	25.0		107	45-116				
2-Chloronaphthalene	18.8	5.00	"	25.0		75.4	33-112				
2-Chlorophenol	17.6	5.00	"	25.0		70.4	15-120				
2-Methylnaphthalene	22.8	5.00	"	25.0		91.4	24-118				
2-Methylphenol	12.4	5.00	"	25.0		49.4	10-110				
2-Nitroaniline	27.3	5.00	"	25.0		109	34-129				
2-Nitrophenol	28.5	5.00	"	25.0		114	28-118				
3- & 4-Methylphenols	10.3	5.00	"	25.0		41.2	10-107				
3,3-Dichlorobenzidine	20.7	5.00	"	25.0		82.8	15-187				
3-Nitroaniline	22.9	5.00	"	25.0		91.6	24-134				
4,6-Dinitro-2-methylphenol	27.4	5.00	"	25.0		109	10-153				
4-Bromophenyl phenyl ether	21.4	5.00	"	25.0		85.4	34-120				
4-Chloro-3-methylphenol	22.7	5.00	"	25.0		90.7	20-120				
4-Chloroaniline	17.5	5.00	"	25.0		70.1	10-147				
4-Chlorophenyl phenyl ether	22.2	5.00	"	25.0		88.6	27-121				
4-Nitroaniline	24.5	5.00	"	25.0		98.2	13-134				
4-Nitrophenol	17.7	5.00	"	25.0		70.6	10-131				
Acetophenone	19.5	5.00	"	25.0		77.8	25-110				
Aniline	12.4	5.00	"	25.0		49.7	10-117				
Benzaldehyde	19.5	5.00	"	25.0		78.0	29-117				
Benzoic acid	8.99	5.00	"	25.0		36.0	30-130				
Benzyl alcohol	13.8	5.00	"	25.0		55.1	10-117				
Benzyl butyl phthalate	28.4	5.00	"	25.0		114	29-133				
Bis(2-chloroethoxy)methane	19.0	5.00	"	25.0		76.2	10-154				
Bis(2-chloroethyl)ether	17.3	5.00	"	25.0		69.2	17-125				
Bis(2-chloroisopropyl)ether	18.0	5.00	"	25.0		72.0	10-139				
Caprolactam	3.02	5.00	"	25.0		12.1	10-137				
Carbazole	22.6	5.00	"	25.0		90.2	42-126				
Dibenzofuran	21.9	5.00	"	25.0		87.4	36-113				
Diethyl phthalate	23.4	5.00	"	25.0		93.5	38-115				
Dimethyl phthalate	23.3	5.00	"	25.0		93.1	38-129				
Di-n-butyl phthalate	24.1	5.00	"	25.0		96.2	31-120				
Di-n-octyl phthalate	32.3	5.00	"	25.0		129	21-149				
Diphenylamine	23.1	5.00	"	25.0		92.4	40-140				
Hexachlorocyclopentadiene	13.4	10.0	"	25.0		53.8	10-130				
Isophorone	21.7	5.00	"	25.0		86.7	25-127				
N-nitroso-di-n-propylamine	17.6	5.00	"	25.0		70.2	26-122				
N-Nitrosodiphenylamine	21.8	5.00	"	25.0		87.0	23-149				
Phenol	6.94	5.00	"	25.0		27.8	10-110				
Pyridine	7.29	5.00	"	27.5		26.5	10-90				
Surrogate: SURR: 2-Fluorophenol	*19.0*		*"*	*50.0*		*37.9*	*19.7-63.1*				

Batch BD01130 - EPA 3510C

LCS (BD01130-BS1) LCS Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Surrogate: SURR: Phenol-d5	*10.7*		*ug/L*	*50.0*		*21.4*	*10.1-41.7*				
Surrogate: SURR: Nitrobenzene-d5	*22.9*		*"*	*25.0*		*91.6*	*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*19.0*		*"*	*25.0*		*76.1*	*39.9-105*				
Surrogate: SURR: 2,4,6-Tribromophenol	*47.6*		*"*	*50.0*		*95.3*	*39.3-151*				
Surrogate: SURR: Terphenyl-d14	*26.5*		*"*	*25.0*		*106*	*30.7-106*				

LCS (BD01130-BS2) LCS Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Acenaphthene	0.720	0.0500	ug/L	1.00		72.0	25-116				
Acenaphthylene	0.730	0.0500	"	1.00		73.0	26-116				
Anthracene	0.740	0.0500	"	1.00		74.0	25-123				
Benzo(a)anthracene	0.720	0.0500	"	1.00		72.0	33-125				
Benzo(a)pyrene	0.790	0.0500	"	1.00		79.0	32-132				
Benzo(b)fluoranthene	0.860	0.0500	"	1.00		86.0	22-137				
Benzo(g,h,i)perylene	0.930	0.0500	"	1.00		93.0	10-138				
Benzo(k)fluoranthene	0.810	0.0500	"	1.00		81.0	20-137				
Bis(2-ethylhexyl)phthalate	1.15	0.500	"	1.00		115	10-189				
Chrysene	0.780	0.0500	"	1.00		78.0	32-124				
Dibenzo(a,h)anthracene	0.980	0.0500	"	1.00		98.0	16-133				
Fluoranthene	0.830	0.0500	"	1.00		83.0	32-121				
Fluorene	0.800	0.0500	"	1.00		80.0	28-118				
Hexachlorobenzene	0.470	0.0200	"	1.00		47.0	23-124				
Hexachlorobutadiene	0.690	0.500	"	1.00		69.0	15-123				
Hexachloroethane	0.660	0.500	"	1.00		66.0	18-115				
Indeno(1,2,3-cd)pyrene	0.950	0.0500	"	1.00		95.0	15-135				
Naphthalene	0.760	0.0500	"	1.00		76.0	18-120				
Nitrobenzene	1.20	0.250	"	1.00		120	21-121				
N-Nitrosodimethylamine	ND	0.500	"	1.00			10-124	Low Bias			
Pentachlorophenol	0.570	0.250	"	1.00		57.0	10-156				
Phenanthrene	0.780	0.0500	"	1.00		78.0	24-127				
Pyrene	0.680	0.0500	"	1.00		68.0	31-132				

Batch BD01130 - EPA 3510C

LCS Dup (BD01130-BSD1) LCS Dup

Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1-Biphenyl	18.5	5.00	ug/L	25.0		73.9	33-95		13.6	20	
1,2,4,5-Tetrachlorobenzene	20.8	5.00	"	25.1		82.8	26-120		11.9	20	
1,2-Diphenylhydrazine (as Azobenzene)	16.2	5.00	"	25.0		64.8	16-141		17.9	20	
2,3,4,6-Tetrachlorophenol	22.9	5.00	"	25.0		91.5	30-130		35.0	20	Non-dir.
2,4,5-Trichlorophenol	18.0	5.00	"	25.0		71.8	32-114		16.6	20	
2,4,6-Trichlorophenol	19.9	5.00	"	25.0		79.5	35-118		12.7	20	
2,4-Dichlorophenol	18.8	5.00	"	25.0		75.2	25-116		18.8	20	
2,4-Dimethylphenol	17.5	5.00	"	25.0		69.8	15-116		17.2	20	
2,4-Dinitrophenol	26.4	5.00	"	25.0		106	10-170		17.7	20	
2,4-Dinitrotoluene	24.3	5.00	"	25.0		97.2	41-128		13.1	20	
2,6-Dinitrotoluene	23.8	5.00	"	25.0		95.3	45-116		11.4	20	
2-Chloronaphthalene	16.5	5.00	"	25.0		66.0	33-112		13.4	20	
2-Chlorophenol	14.9	5.00	"	25.0		59.7	15-120		16.5	20	
2-Methylnaphthalene	19.6	5.00	"	25.0		78.4	24-118		15.2	20	
2-Methylphenol	11.4	5.00	"	25.0		45.5	10-110		8.26	20	
2-Nitroaniline	24.4	5.00	"	25.0		97.7	34-129		11.2	20	
2-Nitrophenol	24.4	5.00	"	25.0		97.8	28-118		15.3	20	
3- & 4-Methylphenols	9.40	5.00	"	25.0		37.6	10-107		9.14	20	
3,3-Dichlorobenzidine	20.4	5.00	"	25.0		81.8	15-187		1.22	20	
3-Nitroaniline	20.6	5.00	"	25.0		82.3	24-134		10.7	20	
4,6-Dinitro-2-methylphenol	24.4	5.00	"	25.0		97.6	10-153		11.5	20	
4-Bromophenyl phenyl ether	19.0	5.00	"	25.0		76.1	34-120		11.5	20	
4-Chloro-3-methylphenol	19.7	5.00	"	25.0		78.8	20-120		14.1	20	
4-Chloroaniline	14.3	5.00	"	25.0		57.4	10-147		20.0	20	
4-Chlorophenyl phenyl ether	18.8	5.00	"	25.0		75.3	27-121		16.2	20	
4-Nitroaniline	21.1	5.00	"	25.0		84.5	13-134		14.9	20	
4-Nitrophenol	11.3	5.00	"	25.0		45.3	10-131		43.7	20	Non-dir.
Acetophenone	17.1	5.00	"	25.0		68.4	25-110		13.0	20	
Aniline	9.17	5.00	"	25.0		36.7	10-117		30.1	20	Non-dir.
Benzaldehyde	16.6	5.00	"	25.0		66.2	29-117		16.4	20	
Benzoic acid	5.02	5.00	"	25.0		20.1	30-130	Low Bias	56.7	20	Non-dir.
Benzyl alcohol	12.5	5.00	"	25.0		49.8	10-117		9.99	20	
Benzyl butyl phthalate	24.5	5.00	"	25.0		98.0	29-133		14.7	20	
Bis(2-chloroethoxy)methane	16.0	5.00	"	25.0		63.8	10-154		17.7	20	
Bis(2-chloroethyl)ether	14.6	5.00	"	25.0		58.6	17-125		16.6	20	
Bis(2-chloroisopropyl)ether	15.5	5.00	"	25.0		62.0	10-139		15.0	20	
Caprolactam	3.48	5.00	"	25.0		13.9	10-137		14.2	20	
Carbazole	20.4	5.00	"	25.0		81.7	42-126		9.91	20	
Dibenzofuran	18.6	5.00	"	25.0		74.6	36-113		15.9	20	
Diethyl phthalate	20.4	5.00	"	25.0		81.6	38-115		13.6	20	
Dimethyl phthalate	19.7	5.00	"	25.0		78.7	38-129		16.8	20	
Di-n-butyl phthalate	21.2	5.00	"	25.0		84.8	31-120		12.6	20	
Di-n-octyl phthalate	28.4	5.00	"	25.0		114	21-149		12.6	20	
Diphenylamine	20.2	5.00	"	25.0		80.7	40-140		13.5	20	
Hexachlorocyclopentadiene	12.4	10.0	"	25.0		49.7	10-130		7.96	20	
Isophorone	18.2	5.00	"	25.0		72.9	25-127		17.3	20	
N-nitroso-di-n-propylamine	15.4	5.00	"	25.0		61.8	26-122		12.7	20	
N-Nitrosodiphenylamine	19.8	5.00	"	25.0		79.3	23-149		9.33	20	
Phenol	5.98	5.00	"	25.0		23.9	10-110		14.9	20	
Pyridine	7.06	5.00	"	27.5		25.7	10-90		3.21	20	
Surrogate: SURR: 2-Fluorophenol	*17.4*		*"*	*50.0*		*34.8*	*19.7-63.1*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01130 - EPA 3510C

LCS Dup (BD01130-BSD1) LCS Dup Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Surrogate: SURR: Phenol-d5	*10.1*		*ug/L*	*50.0*		*20.2*	*10.1-41.7*				
Surrogate: SURR: Nitrobenzene-d5	*19.7*		*"*	*25.0*		*78.6*	*50.2-113*				
Surrogate: SURR: 2-Fluorobiphenyl	*16.6*		*"*	*25.0*		*66.5*	*39.9-105*				
Surrogate: SURR: 2,4,6-Tribromophenol	*41.1*		*"*	*50.0*		*82.2*	*39.3-151*				
Surrogate: SURR: Terphenyl-d14	*24.1*		*"*	*25.0*		*96.3*	*30.7-106*				

Batch BD01158 - EPA 3550C

Blank (BD01158-BLK1) Blank Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1-Biphenyl	ND	0.0416	mg/kg wet								
1,2,4,5-Tetrachlorobenzene	ND	0.0830	"								
1,2-Diphenylhydrazine (as Azobenzene)	ND	0.0416	"								
2,3,4,6-Tetrachlorophenol	ND	0.0830	"								
2,4,5-Trichlorophenol	ND	0.0416	"								
2,4,6-Trichlorophenol	ND	0.0416	"								
2,4-Dichlorophenol	ND	0.0416	"								
2,4-Dimethylphenol	ND	0.0416	"								
2,4-Dinitrophenol	ND	0.0830	"								
2,4-Dinitrotoluene	ND	0.0416	"								
2,6-Dinitrotoluene	ND	0.0416	"								
2-Chloronaphthalene	ND	0.0416	"								
2-Chlorophenol	ND	0.0416	"								
2-Methylnaphthalene	ND	0.0416	"								
2-Methylphenol	ND	0.0416	"								
2-Nitroaniline	ND	0.0830	"								
2-Nitrophenol	ND	0.0416	"								
3- & 4-Methylphenols	ND	0.0416	"								
3,3-Dichlorobenzidine	ND	0.0416	"								
3-Nitroaniline	ND	0.0830	"								
4,6-Dinitro-2-methylphenol	ND	0.0830	"								
4-Bromophenyl phenyl ether	ND	0.0416	"								
4-Chloro-3-methylphenol	ND	0.0416	"								
4-Chloroaniline	ND	0.0416	"								
4-Chlorophenyl phenyl ether	ND	0.0416	"								
4-Nitroaniline	ND	0.0830	"								
4-Nitrophenol	ND	0.0830	"								
Acenaphthene	ND	0.0416	"								
Acenaphthylene	ND	0.0416	"								
Acetophenone	ND	0.0416	"								
Aniline	ND	0.166	"								
Anthracene	ND	0.0416	"								
Atrazine	ND	0.0416	"								
Benzaldehyde	ND	0.0416	"								
Benzidine	ND	0.166	"								
Benzo(a)anthracene	ND	0.0416	"								
Benzo(a)pyrene	ND	0.0416	"								
Benzo(b)fluoranthene	ND	0.0416	"								
Benzo(g,h,i)perylene	ND	0.0416	"								
Benzo(k)fluoranthene	ND	0.0416	"								
Benzoic acid	ND	0.0416	"								
Benzyl alcohol	ND	0.0416	"								

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01158 - EPA 3550C

Blank (BD01158-BLK1) Blank Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Benzyl butyl phthalate	ND	0.0416	mg/kg wet								
Bis(2-chloroethoxy)methane	ND	0.0416	"								
Bis(2-chloroethyl)ether	ND	0.0416	"								
Bis(2-chloroisopropyl)ether	ND	0.0416	"								
Bis(2-ethylhexyl)phthalate	ND	0.0416	"								
Caprolactam	ND	0.0830	"								
Carbazole	ND	0.0416	"								
Chrysene	ND	0.0416	"								
Dibenzo(a,h)anthracene	ND	0.0416	"								
Dibenzofuran	ND	0.0416	"								
Diethyl phthalate	ND	0.0416	"								
Dimethyl phthalate	ND	0.0416	"								
Di-n-butyl phthalate	ND	0.0416	"								
Di-n-octyl phthalate	ND	0.0416	"								
Diphenylamine	ND	0.0830	"								
Fluoranthene	ND	0.0416	"								
Fluorene	ND	0.0416	"								
Hexachlorobenzene	ND	0.0416	"								
Hexachlorobutadiene	ND	0.0416	"								
Hexachlorocyclopentadiene	ND	0.0416	"								
Hexachloroethane	ND	0.0416	"								
Indeno(1,2,3-cd)pyrene	ND	0.0416	"								
Isophorone	ND	0.0416	"								
Naphthalene	ND	0.0416	"								
Nitrobenzene	ND	0.0416	"								
N-Nitrosodimethylamine	ND	0.0416	"								
N-nitroso-di-n-propylamine	ND	0.0416	"								
N-Nitrosodiphenylamine	ND	0.0416	"								
Pentachlorophenol	ND	0.0416	"								
Phenanthrene	ND	0.0416	"								
Phenol	ND	0.0416	"								
Pyrene	ND	0.0416	"								
Pyridine	ND	0.166	"								
Surrogate: SURR: 2-Fluorophenol	*1.40*		*"*	*1.66*		*84.5*	*20-108*				
Surrogate: SURR: Phenol-d5	*1.32*		*"*	*1.66*		*79.6*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.764*		*"*	*0.831*		*92.0*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.699*		*"*	*0.831*		*84.2*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.64*		*"*	*1.66*		*98.8*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*1.03*		*"*	*0.831*		*123*	*24-116*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01158 - EPA 3550C											
LCS (BD01158-BS1) LCS							Prepared: 04/27/2020 Analyzed: 04/28/2020				
1,1-Biphenyl	0.668	0.0416	mg/kg wet	0.831		80.4	18-111				
1,2,4,5-Tetrachlorobenzene	0.763	0.0830	"	0.831		91.9	21-131				
1,2-Diphenylhydrazine (as Azobenzene)	0.559	0.0416	"	0.831		67.3	17-137				
2,3,4,6-Tetrachlorophenol	0.899	0.0830	"	0.831		108	30-130				
2,4,5-Trichlorophenol	0.638	0.0416	"	0.831		76.8	27-118				
2,4,6-Trichlorophenol	0.748	0.0416	"	0.831		90.0	31-120				
2,4-Dichlorophenol	0.708	0.0416	"	0.831		85.2	20-127				
2,4-Dimethylphenol	0.637	0.0416	"	0.831		76.6	14-132				
2,4-Dinitrophenol	0.800	0.0830	"	0.831		96.3	10-171				
2,4-Dinitrotoluene	0.750	0.0416	"	0.831		90.2	34-131				
2,6-Dinitrotoluene	0.732	0.0416	"	0.831		88.1	31-128				
2-Chloronaphthalene	0.654	0.0416	"	0.831		78.8	31-117				
2-Chlorophenol	0.605	0.0416	"	0.831		72.8	33-113				
2-Methylnaphthalene	0.718	0.0416	"	0.831		86.4	12-138				
2-Methylphenol	0.561	0.0416	"	0.831		67.6	10-136				
2-Nitroaniline	0.710	0.0830	"	0.831		85.4	27-132				
2-Nitrophenol	0.737	0.0416	"	0.831		88.7	17-129				
3- & 4-Methylphenols	0.487	0.0416	"	0.831		58.7	29-103				
3,3-Dichlorobenzidine	0.602	0.0416	"	0.831		72.4	22-149				
3-Nitroaniline	0.548	0.0830	"	0.831		65.9	20-133				
4,6-Dinitro-2-methylphenol	0.736	0.0830	"	0.831		88.6	10-143				
4-Bromophenyl phenyl ether	0.624	0.0416	"	0.831		75.1	29-120				
4-Chloro-3-methylphenol	0.722	0.0416	"	0.831		86.9	24-129				
4-Chloroaniline	0.398	0.0416	"	0.831		47.9	10-132				
4-Chlorophenyl phenyl ether	0.708	0.0416	"	0.831		85.3	27-124				
4-Nitroaniline	0.677	0.0830	"	0.831		81.5	16-128				
4-Nitrophenol	0.738	0.0830	"	0.831		88.9	10-141				
Acenaphthene	0.647	0.0416	"	0.831		77.9	30-121				
Acenaphthylene	0.630	0.0416	"	0.831		75.8	30-115				
Acetophenone	0.586	0.0416	"	0.831		70.6	20-112				
Aniline	0.563	0.166	"	0.831		67.8	10-119				
Anthracene	0.743	0.0416	"	0.831		89.4	34-118				
Atrazine	0.605	0.0416	"	0.831		72.8	26-112				
Benzaldehyde	0.681	0.0416	"	0.831		82.0	21-100				
Benzo(a)anthracene	0.781	0.0416	"	0.831		94.1	32-122				
Benzo(a)pyrene	0.767	0.0416	"	0.831		92.4	29-133				
Benzo(b)fluoranthene	0.759	0.0416	"	0.831		91.4	25-133				
Benzo(g,h,i)perylene	0.747	0.0416	"	0.831		89.9	10-143				
Benzo(k)fluoranthene	0.724	0.0416	"	0.831		87.1	25-128				
Benzoic acid	0.365	0.0416	"	0.831		44.0	10-140				
Benzyl alcohol	0.678	0.0416	"	0.831		81.6	30-115				
Benzyl butyl phthalate	0.815	0.0416	"	0.831		98.2	26-126				
Bis(2-chloroethoxy)methane	0.674	0.0416	"	0.831		81.2	19-132				
Bis(2-chloroethyl)ether	0.583	0.0416	"	0.831		70.2	19-125				
Bis(2-chloroisopropyl)ether	0.629	0.0416	"	0.831		75.8	20-135				
Bis(2-ethylhexyl)phthalate	0.771	0.0416	"	0.831		92.8	10-155				
Caprolactam	0.665	0.0830	"	0.831		80.0	10-127				
Carbazole	0.738	0.0416	"	0.831		88.8	35-123				
Chrysene	0.736	0.0416	"	0.831		88.6	32-123				
Dibenzo(a,h)anthracene	0.828	0.0416	"	0.831		99.7	10-136				
Dibenzofuran	0.701	0.0416	"	0.831		84.4	29-121				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01158 - EPA 3550C

LCS (BD01158-BS1) LCS Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Diethyl phthalate	0.725	0.0416	mg/kg wet	0.831		87.3	34-116				
Dimethyl phthalate	0.703	0.0416	"	0.831		84.6	35-124				
Di-n-butyl phthalate	0.763	0.0416	"	0.831		91.9	31-116				
Di-n-octyl phthalate	0.802	0.0416	"	0.831		96.5	26-136				
Diphenylamine	0.715	0.0830	"	0.831		86.1	40-140				
Fluoranthene	0.794	0.0416	"	0.831		95.6	33-122				
Fluorene	0.667	0.0416	"	0.831		80.4	29-123				
Hexachlorobenzene	0.663	0.0416	"	0.831		79.8	21-124				
Hexachlorobutadiene	0.725	0.0416	"	0.831		87.3	10-149				
Hexachlorocyclopentadiene	0.681	0.0416	"	0.831		82.0	10-129				
Hexachloroethane	0.602	0.0416	"	0.831		72.5	28-108				
Indeno(1,2,3-cd)pyrene	0.826	0.0416	"	0.831		99.5	10-135				
Isophorone	0.721	0.0416	"	0.831		86.8	20-132				
Naphthalene	0.689	0.0416	"	0.831		83.0	23-124				
Nitrobenzene	0.651	0.0416	"	0.831		78.4	13-132				
N-Nitrosodimethylamine	0.619	0.0416	"	0.831		74.5	11-129				
N-nitroso-di-n-propylamine	0.592	0.0416	"	0.831		71.3	24-119				
N-Nitrosodiphenylamine	0.738	0.0416	"	0.831		88.9	22-152				
Pentachlorophenol	0.720	0.0416	"	0.831		86.7	10-139				
Phenanthrene	0.723	0.0416	"	0.831		87.1	33-123				
Phenol	0.593	0.0416	"	0.831		71.4	23-115				
Pyrene	0.755	0.0416	"	0.831		90.9	32-130				
Pyridine	0.526	0.166	"	0.831		63.3	10-91				
Surrogate: SURR: 2-Fluorophenol	*1.24*		*"*	*1.66*		*74.9*	*20-108*				
Surrogate: SURR: Phenol-d5	*1.18*		*"*	*1.66*		*71.2*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.671*		*"*	*0.831*		*80.8*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.638*		*"*	*0.831*		*76.8*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.46*		*"*	*1.66*		*88.0*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.843*		*"*	*0.831*		*101*	*24-116*				

Batch BD01158 - EPA 3550C

Matrix Spike (BD01158-MS1) Matrix Spike *Source sample: 20D0655-03 (SB03_02) Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1-Biphenyl	0.740	0.0980	mg/kg dry	0.979	ND	75.6	10-130				
1,2,4,5-Tetrachlorobenzene	0.780	0.196	"	0.979	ND	79.6	10-133				
1,2-Diphenylhydrazine (as Azobenzene)	0.648	0.0980	"	0.979	ND	66.2	10-144				
2,3,4,6-Tetrachlorophenol	0.659	0.196	"	0.979	ND	67.3	30-130				
2,4,5-Trichlorophenol	0.693	0.0980	"	0.979	ND	70.8	10-127				
2,4,6-Trichlorophenol	0.745	0.0980	"	0.979	ND	76.1	10-132				
2,4-Dichlorophenol	0.757	0.0980	"	0.979	ND	77.3	10-128				
2,4-Dimethylphenol	0.717	0.0980	"	0.979	ND	73.2	10-137				
2,4-Dinitrophenol	ND	0.196	"	0.979	ND		10-171	Low Bias			
2,4-Dinitrotoluene	0.765	0.0980	"	0.979	ND	78.1	16-135				
2,6-Dinitrotoluene	0.749	0.0980	"	0.979	ND	76.5	18-131				
2-Chloronaphthalene	0.682	0.0980	"	0.979	ND	69.7	10-129				
2-Chlorophenol	0.667	0.0980	"	0.979	ND	68.2	15-116				
2-Methylnaphthalene	0.819	0.0980	"	0.979	0.145	68.8	10-147				
2-Methylphenol	0.596	0.0980	"	0.979	ND	60.9	10-136				
2-Nitroaniline	0.823	0.196	"	0.979	ND	84.1	10-137				
2-Nitrophenol	0.676	0.0980	"	0.979	ND	69.0	10-129				
3- & 4-Methylphenols	0.530	0.0980	"	0.979	ND	54.1	10-123				
3,3-Dichlorobenzidine	0.411	0.0980	"	0.979	ND	42.0	10-155				
3-Nitroaniline	0.696	0.196	"	0.979	ND	71.1	12-133				
4,6-Dinitro-2-methylphenol	ND	0.196	"	0.979	ND		10-155	Low Bias			
4-Bromophenyl phenyl ether	0.696	0.0980	"	0.979	ND	71.1	14-128				
4-Chloro-3-methylphenol	0.806	0.0980	"	0.979	ND	82.3	10-134				
4-Chloroaniline	0.449	0.0980	"	0.979	ND	45.8	10-145				
4-Chlorophenyl phenyl ether	0.768	0.0980	"	0.979	ND	78.4	14-130				
4-Nitroaniline	0.730	0.196	"	0.979	ND	74.6	10-147				
4-Nitrophenol	0.595	0.196	"	0.979	ND	60.7	10-137				
Acenaphthene	1.01	0.0980	"	0.979	0.473	55.2	10-146				
Acenaphthylene	0.987	0.0980	"	0.979	0.420	57.9	10-134				
Acetophenone	0.626	0.0980	"	0.979	ND	63.9	10-116				
Aniline	0.467	0.392	"	0.979	ND	47.7	10-123				
Anthracene	1.94	0.0980	"	0.979	1.60	34.7	10-142				
Atrazine	0.667	0.0980	"	0.979	ND	68.1	19-115				
Benzaldehyde	0.782	0.0980	"	0.979	ND	79.8	10-125				
Benzo(a)anthracene	3.80	0.0980	"	0.979	4.36	NR	10-158	Low Bias			
Benzo(a)pyrene	3.76	0.0980	"	0.979	3.96	NR	10-180	Low Bias			
Benzo(b)fluoranthene	2.96	0.0980	"	0.979	3.49	NR	10-200	Low Bias			
Benzo(g,h,i)perylene	2.32	0.0980	"	0.979	2.12	20.8	10-138				
Benzo(k)fluoranthene	2.82	0.0980	"	0.979	3.32	NR	10-197	Low Bias			
Benzoic acid	ND	0.0980	"	0.979	ND		10-166	Low Bias			
Benzyl alcohol	0.703	0.0980	"	0.979	ND	71.8	12-124				
Benzyl butyl phthalate	0.886	0.0980	"	0.979	ND	90.5	10-154				
Bis(2-chloroethoxy)methane	0.668	0.0980	"	0.979	ND	68.2	10-132				
Bis(2-chloroethyl)ether	0.607	0.0980	"	0.979	ND	62.0	10-119				
Bis(2-chloroisopropyl)ether	0.642	0.0980	"	0.979	ND	65.6	10-139				
Bis(2-ethylhexyl)phthalate	0.890	0.0980	"	0.979	0.0572	85.0	10-167				
Caprolactam	0.722	0.196	"	0.979	ND	73.8	10-132				
Carbazole	1.13	0.0980	"	0.979	0.491	64.8	10-167				
Chrysene	3.64	0.0980	"	0.979	4.09	NR	10-156	Low Bias			
Dibenzo(a,h)anthracene	0.284	0.0980	"	0.979	0.524	NR	10-137	Low Bias			
Dibenzofuran	0.909	0.0980	"	0.979	ND	92.8	10-147				

Batch BD01158 - EPA 3550C

Matrix Spike (BD01158-MS1) Matrix Spike *Source sample: 20D0655-03 (SB03_02) Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Diethyl phthalate	0.766	0.0980	mg/kg dry	0.979	ND	78.2	20-120				
Dimethyl phthalate	0.745	0.0980	"	0.979	ND	76.1	18-131				
Di-n-butyl phthalate	0.921	0.0980	"	0.979	ND	94.1	10-137				
Di-n-octyl phthalate	0.908	0.0980	"	0.979	ND	92.7	10-180				
Diphenylamine	0.808	0.196	"	0.979	ND	82.5	40-140				
Fluoranthene	7.19	0.0980	"	0.979	9.42	NR	10-160	Low Bias			
Fluorene	1.10	0.0980	"	0.979	0.541	56.9	10-157				
Hexachlorobenzene	0.761	0.0980	"	0.979	ND	77.8	10-137				
Hexachlorobutadiene	0.716	0.0980	"	0.979	ND	73.1	10-132				
Hexachlorocyclopentadiene	0.0533	0.0980	"	0.979	ND	5.44	10-106	Low Bias			
Hexachloroethane	0.470	0.0980	"	0.979	ND	48.0	10-110				
Indeno(1,2,3-cd)pyrene	2.76	0.0980	"	0.979	2.67	8.35	10-144	Low Bias			
Isophorone	0.745	0.0980	"	0.979	ND	76.1	10-132				
Naphthalene	0.790	0.0980	"	0.979	0.254	54.7	10-141				
Nitrobenzene	0.671	0.0980	"	0.979	ND	68.6	10-131				
N-Nitrosodimethylamine	0.604	0.0980	"	0.979	ND	61.7	10-126				
N-nitroso-di-n-propylamine	0.631	0.0980	"	0.979	ND	64.4	10-125				
N-Nitrosodiphenylamine	0.917	0.0980	"	0.979	ND	93.7	10-177				
Pentachlorophenol	0.334	0.0980	"	0.979	ND	34.1	10-153				
Phenanthrene	5.28	0.0980	"	0.979	6.84	NR	10-148	Low Bias			
Phenol	0.629	0.0980	"	0.979	ND	64.2	10-126				
Pyrene	6.32	0.0980	"	0.979	7.98	NR	10-165	Low Bias			
Pyridine	0.470	0.392	"	0.979	ND	48.0	10-83				
Surrogate: SURR: 2-Fluorophenol	*1.33*		"	*1.96*		*68.0*	*20-108*				
Surrogate: SURR: Phenol-d5	*1.33*		"	*1.96*		*67.9*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.707*		"	*0.979*		*72.2*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.690*		"	*0.979*		*70.5*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.70*		"	*1.96*		*86.6*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.940*		"	*0.979*		*96.0*	*24-116*				

Semivolatile Organic Compounds by GC/MS - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01158 - EPA 3550C

Matrix Spike Dup (BD01158-M Matrix Spike Dup *Source sample: 20D0655-03 (SB03_02) Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
1,1-Biphenyl	0.789	0.0980	mg/kg dry	0.979	ND	80.6	10-130		6.35	30	
1,2,4,5-Tetrachlorobenzene	0.816	0.196	"	0.979	ND	83.4	10-133		4.61	30	
1,2-Diphenylhydrazine (as Azobenzene)	0.693	0.0980	"	0.979	ND	70.7	10-144		6.66	30	
2,3,4,6-Tetrachlorophenol	0.728	0.196	"	0.979	ND	74.3	30-130		9.94	30	
2,4,5-Trichlorophenol	0.756	0.0980	"	0.979	ND	77.2	10-127		8.65	30	
2,4,6-Trichlorophenol	0.741	0.0980	"	0.979	ND	75.7	10-132		0.527	30	
2,4-Dichlorophenol	0.783	0.0980	"	0.979	ND	80.0	10-128		3.46	30	
2,4-Dimethylphenol	0.718	0.0980	"	0.979	ND	73.3	10-137		0.109	30	
2,4-Dinitrophenol	ND	0.196	"	0.979	ND		10-171	Low Bias		30	
2,4-Dinitrotoluene	0.759	0.0980	"	0.979	ND	77.5	16-135		0.720	30	
2,6-Dinitrotoluene	0.790	0.0980	"	0.979	ND	80.7	18-131		5.39	30	
2-Chloronaphthalene	0.729	0.0980	"	0.979	ND	74.5	10-129		6.66	30	
2-Chlorophenol	0.636	0.0980	"	0.979	ND	65.0	15-116		4.81	30	
2-Methylnaphthalene	0.894	0.0980	"	0.979	0.145	76.4	10-147		8.78	30	
2-Methylphenol	0.628	0.0980	"	0.979	ND	64.1	10-136		5.12	30	
2-Nitroaniline	0.895	0.196	"	0.979	ND	91.4	10-137		8.30	30	
2-Nitrophenol	0.622	0.0980	"	0.979	ND	63.5	10-129		8.33	30	
3- & 4-Methylphenols	0.526	0.0980	"	0.979	ND	53.7	10-123		0.742	30	
3,3-Dichlorobenzidine	0.443	0.0980	"	0.979	ND	45.3	10-155		7.52	30	
3-Nitroaniline	0.695	0.196	"	0.979	ND	71.0	12-133		0.225	30	
4,6-Dinitro-2-methylphenol	ND	0.196	"	0.979	ND		10-155	Low Bias		30	
4-Bromophenyl phenyl ether	0.769	0.0980	"	0.979	ND	78.5	14-128		9.84	30	
4-Chloro-3-methylphenol	0.838	0.0980	"	0.979	ND	85.6	10-134		3.91	30	
4-Chloroaniline	0.474	0.0980	"	0.979	ND	48.4	10-145		5.43	30	
4-Chlorophenyl phenyl ether	0.794	0.0980	"	0.979	ND	81.0	14-130		3.31	30	
4-Nitroaniline	0.817	0.196	"	0.979	ND	83.4	10-147		11.2	30	
4-Nitrophenol	0.652	0.196	"	0.979	ND	66.6	10-137		9.18	30	
Acenaphthene	1.16	0.0980	"	0.979	0.473	70.6	10-146		13.9	30	
Acenaphthylene	1.11	0.0980	"	0.979	0.420	70.6	10-134		11.8	30	
Acetophenone	0.608	0.0980	"	0.979	ND	62.1	10-116		2.92	30	
Aniline	0.444	0.392	"	0.979	ND	45.4	10-123		4.99	30	
Anthracene	2.55	0.0980	"	0.979	1.60	96.3	10-142		26.9	30	
Atrazine	0.698	0.0980	"	0.979	ND	71.3	19-115		4.59	30	
Benzaldehyde	0.720	0.0980	"	0.979	ND	73.5	10-125		8.24	30	
Benzo(a)anthracene	4.85	0.0980	"	0.979	4.36	50.6	10-158		24.4	30	
Benzo(a)pyrene	4.78	0.0980	"	0.979	3.96	83.9	10-180		23.9	30	
Benzo(b)fluoranthene	4.15	0.0980	"	0.979	3.49	67.2	10-200		33.3	30	Non-dir.
Benzo(g,h,i)perylene	2.92	0.0980	"	0.979	2.12	82.1	10-138		22.9	30	
Benzo(k)fluoranthene	3.43	0.0980	"	0.979	3.32	10.8	10-197		19.4	30	
Benzoic acid	ND	0.0980	"	0.979	ND		10-166	Low Bias		30	
Benzyl alcohol	0.679	0.0980	"	0.979	ND	69.4	12-124		3.40	30	
Benzyl butyl phthalate	0.966	0.0980	"	0.979	ND	98.6	10-154		8.63	30	
Bis(2-chloroethoxy)methane	0.690	0.0980	"	0.979	ND	70.5	10-132		3.23	30	
Bis(2-chloroethyl)ether	0.610	0.0980	"	0.979	ND	62.2	10-119		0.386	30	
Bis(2-chloroisopropyl)ether	0.659	0.0980	"	0.979	ND	67.3	10-139		2.53	30	
Bis(2-ethylhexyl)phthalate	0.941	0.0980	"	0.979	0.0572	90.2	10-167		5.56	30	
Caprolactam	0.773	0.196	"	0.979	ND	79.0	10-132		6.81	30	
Carbazole	1.48	0.0980	"	0.979	0.491	101	10-167		27.0	30	
Chrysene	4.66	0.0980	"	0.979	4.09	57.9	10-156		24.4	30	
Dibenzo(a,h)anthracene	1.77	0.0980	"	0.979	0.524	128	10-137		145	30	Non-dir.
Dibenzofuran	1.13	0.0980	"	0.979	ND	115	10-147		21.5	30	

Batch BD01158 - EPA 3550C

Matrix Spike Dup (BD01158-M Matrix Spike Dup*Source sample: 20D0655-03 (SB03_02) Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Diethyl phthalate	0.795	0.0980	mg/kg dry	0.979	ND	81.2	20-120		3.71	30	
Dimethyl phthalate	0.781	0.0980	"	0.979	ND	79.8	18-131		4.72	30	
Di-n-butyl phthalate	1.02	0.0980	"	0.979	ND	104	10-137		9.79	30	
Di-n-octyl phthalate	0.965	0.0980	"	0.979	ND	98.6	10-180		6.11	30	
Diphenylamine	0.855	0.196	"	0.979	ND	87.3	40-140		5.66	30	
Fluoranthene	10.0	0.0980	"	0.979	9.42	63.9	10-160		33.1	30	Non-dir.
Fluorene	1.31	0.0980	"	0.979	0.541	78.7	10-157		17.7	30	
Hexachlorobenzene	0.824	0.0980	"	0.979	ND	84.2	10-137		7.91	30	
Hexachlorobutadiene	0.746	0.0980	"	0.979	ND	76.2	10-132		4.07	30	
Hexachlorocyclopentadiene	0.0564	0.0980	"	0.979	ND	5.76	10-106	Low Bias	5.71	30	
Hexachloroethane	0.483	0.0980	"	0.979	ND	49.3	10-110		2.63	30	
Indeno(1,2,3-cd)pyrene	3.83	0.0980	"	0.979	2.67	118	10-144		32.7	30	Non-dir.
Isophorone	0.756	0.0980	"	0.979	ND	77.2	10-132		1.46	30	
Naphthalene	1.03	0.0980	"	0.979	0.254	79.3	10-141		26.5	30	
Nitrobenzene	0.699	0.0980	"	0.979	ND	71.4	10-131		4.00	30	
N-Nitrosodimethylamine	0.594	0.0980	"	0.979	ND	60.6	10-126		1.70	30	
N-nitroso-di-n-propylamine	0.647	0.0980	"	0.979	ND	66.1	10-125		2.58	30	
N-Nitrosodiphenylamine	0.979	0.0980	"	0.979	ND	100	10-177		6.53	30	
Pentachlorophenol	0.316	0.0980	"	0.979	ND	32.2	10-153		5.55	30	
Phenanthrene	7.46	0.0980	"	0.979	6.84	63.6	10-148		34.3	30	Non-dir.
Phenol	0.623	0.0980	"	0.979	ND	63.6	10-126		1.00	30	
Pyrene	8.63	0.0980	"	0.979	7.98	66.6	10-165		30.8	30	Non-dir.
Pyridine	0.439	0.392	"	0.979	ND	44.8	10-83		6.90	30	
Surrogate: SURR: 2-Fluorophenol	*1.33*		*"*	*1.96*		*68.0*	*20-108*				
Surrogate: SURR: Phenol-d5	*1.35*		*"*	*1.96*		*68.8*	*23-114*				
Surrogate: SURR: Nitrobenzene-d5	*0.725*		*"*	*0.979*		*74.1*	*22-108*				
Surrogate: SURR: 2-Fluorobiphenyl	*0.711*		*"*	*0.979*		*72.6*	*21-113*				
Surrogate: SURR: 2,4,6-Tribromophenol	*1.59*		*"*	*1.96*		*81.1*	*19-110*				
Surrogate: SURR: Terphenyl-d14	*0.992*		*"*	*0.979*		*101*	*24-116*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01095 - EPA 3550C											
Blank (BD01095-BLK1) Blank							Prepared: 04/24/2020 Analyzed: 04/27/2020				
4,4'-DDD	ND	1.64	ug/kg wet								
4,4'-DDE	ND	1.64	"								
4,4'-DDT	ND	1.64	"								
Aldrin	ND	1.64	"								
alpha-BHC	ND	1.64	"								
alpha-Chlordane	ND	1.64	"								
beta-BHC	ND	1.64	"								
Chlordane, total	ND	32.9	"								
delta-BHC	ND	1.64	"								
Dieldrin	ND	1.64	"								
Endosulfan I	ND	1.64	"								
Endosulfan II	ND	1.64	"								
Endosulfan sulfate	ND	1.64	"								
Endrin	ND	1.64	"								
Endrin aldehyde	ND	1.64	"								
Endrin ketone	ND	1.64	"								
gamma-BHC (Lindane)	ND	1.64	"								
gamma-Chlordane	ND	1.64	"								
Heptachlor	ND	1.64	"								
Heptachlor epoxide	ND	1.64	"								
Methoxychlor	ND	8.22	"								
Toxaphene	ND	83.2	"								
Surrogate: Decachlorobiphenyl	*50.3*		*"*	*66.4*		*75.7*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*46.5*		*"*	*66.4*		*70.0*	*30-150*				
LCS (BD01095-BS1) LCS							Prepared: 04/24/2020 Analyzed: 04/27/2020				
4,4'-DDD	31.6	1.64	ug/kg wet	33.2		95.2	40-140				
4,4'-DDE	29.2	1.64	"	33.2		87.8	40-140				
4,4'-DDT	32.7	1.64	"	33.2		98.5	40-140				
Aldrin	32.0	1.64	"	33.2		96.4	40-140				
alpha-BHC	28.0	1.64	"	33.2		84.4	40-140				
alpha-Chlordane	31.0	1.64	"	33.2		93.4	40-140				
beta-BHC	28.0	1.64	"	33.2		84.1	40-140				
delta-BHC	29.1	1.64	"	33.2		87.6	40-140				
Dieldrin	31.7	1.64	"	33.2		95.4	40-140				
Endosulfan I	31.8	1.64	"	33.2		95.8	40-140				
Endosulfan II	31.3	1.64	"	33.2		94.3	40-140				
Endosulfan sulfate	35.4	1.64	"	33.2		106	40-140				
Endrin	32.3	1.64	"	33.2		97.1	40-140				
Endrin aldehyde	33.9	1.64	"	33.2		102	40-140				
Endrin ketone	34.2	1.64	"	33.2		103	40-140				
gamma-BHC (Lindane)	29.4	1.64	"	33.2		88.4	40-140				
gamma-Chlordane	30.8	1.64	"	33.2		92.6	40-140				
Heptachlor	32.5	1.64	"	33.2		97.8	40-140				
Heptachlor epoxide	31.7	1.64	"	33.2		95.4	40-140				
Methoxychlor	34.6	8.22	"	33.2		104	40-140				
Surrogate: Decachlorobiphenyl	*52.9*		*"*	*66.4*		*79.6*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*50.1*		*"*	*66.4*		*75.4*	*30-150*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01095 - EPA 3550C

Matrix Spike (BD01095-MS1) Matrix Spike *Source sample: 20D0655-03 (SB03_02) Prepared: 04/24/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	29.0	1.94	ug/kg dry	39.2	ND	74.0	30-150				
4,4'-DDE	27.7	1.94	"	39.2	ND	70.8	30-150				
4,4'-DDT	31.5	1.94	"	39.2	ND	80.5	30-150				
Aldrin	23.7	1.94	"	39.2	ND	60.6	30-150				
alpha-BHC	24.4	1.94	"	39.2	ND	62.2	30-150				
alpha-Chlordane	28.7	1.94	"	39.2	ND	73.2	30-150				
beta-BHC	28.4	1.94	"	39.2	ND	72.5	30-150				
delta-BHC	27.8	1.94	"	39.2	ND	71.1	30-150				
Dieldrin	28.7	1.94	"	39.2	ND	73.4	30-150				
Endosulfan I	28.2	1.94	"	39.2	ND	72.1	30-150				
Endosulfan II	29.4	1.94	"	39.2	ND	75.0	30-150				
Endosulfan sulfate	33.4	1.94	"	39.2	ND	85.4	30-150				
Endrin	30.9	1.94	"	39.2	ND	78.9	30-150				
Endrin aldehyde	29.0	1.94	"	39.2	ND	73.9	30-150				
Endrin ketone	32.7	1.94	"	39.2	ND	83.6	30-150				
gamma-BHC (Lindane)	26.6	1.94	"	39.2	ND	68.0	30-150				
gamma-Chlordane	27.0	1.94	"	39.2	ND	68.9	30-150				
Heptachlor	26.9	1.94	"	39.2	ND	68.7	30-150				
Heptachlor epoxide	28.6	1.94	"	39.2	ND	73.0	30-150				
Methoxychlor	32.1	9.69	"	39.2	ND	81.9	30-150				
Surrogate: Decachlorobiphenyl	*46.4*		*"*	*78.3*		*59.3*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*29.6*		*"*	*78.3*		*37.8*	*30-150*				

Matrix Spike Dup (BD01095- Matrix Spike Dup *Source sample: 20D0655-03 (SB03_02) Prepared: 04/24/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	28.7	1.94	ug/kg dry	39.2	ND	73.3	30-150		0.998	30	
4,4'-DDE	27.0	1.94	"	39.2	ND	68.9	30-150		2.61	30	
4,4'-DDT	30.6	1.94	"	39.2	ND	78.2	30-150		2.91	30	
Aldrin	23.0	1.94	"	39.2	ND	58.8	30-150		3.04	30	
alpha-BHC	24.0	1.94	"	39.2	ND	61.2	30-150		1.60	30	
alpha-Chlordane	27.8	1.94	"	39.2	ND	70.9	30-150		3.14	30	
beta-BHC	30.5	1.94	"	39.2	ND	77.9	30-150		7.17	30	
delta-BHC	25.1	1.94	"	39.2	ND	64.2	30-150		10.2	30	
Dieldrin	28.3	1.94	"	39.2	ND	72.3	30-150		1.45	30	
Endosulfan I	27.8	1.94	"	39.2	ND	71.1	30-150		1.37	30	
Endosulfan II	29.0	1.94	"	39.2	ND	74.1	30-150		1.22	30	
Endosulfan sulfate	33.1	1.94	"	39.2	ND	84.6	30-150		0.924	30	
Endrin	29.9	1.94	"	39.2	ND	76.4	30-150		3.25	30	
Endrin aldehyde	28.8	1.94	"	39.2	ND	73.6	30-150		0.427	30	
Endrin ketone	32.9	1.94	"	39.2	ND	83.9	30-150		0.382	30	
gamma-BHC (Lindane)	26.3	1.94	"	39.2	ND	67.3	30-150		1.14	30	
gamma-Chlordane	26.8	1.94	"	39.2	ND	68.5	30-150		0.524	30	
Heptachlor	26.6	1.94	"	39.2	ND	67.8	30-150		1.19	30	
Heptachlor epoxide	28.3	1.94	"	39.2	ND	72.2	30-150		1.03	30	
Methoxychlor	32.2	9.69	"	39.2	ND	82.2	30-150		0.360	30	
Surrogate: Decachlorobiphenyl	*46.7*		*"*	*78.3*		*59.6*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*29.2*		*"*	*78.3*		*37.3*	*30-150*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01161 - EPA SW846-3510C Low Level

Blank (BD01161-BLK1) Blank — Prepared: 04/27/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	ND	0.0200	ug/L								
4,4'-DDE	ND	0.0200	"								
4,4'-DDT	ND	0.0200	"								
Aldrin	ND	0.0200	"								
alpha-BHC	ND	0.0200	"								
alpha-Chlordane	ND	0.0200	"								
beta-BHC	ND	0.0200	"								
Chlordane, total	ND	0.100	"								
delta-BHC	ND	0.0200	"								
Dieldrin	ND	0.0100	"								
Endosulfan I	ND	0.0200	"								
Endosulfan II	ND	0.0200	"								
Endosulfan sulfate	ND	0.0200	"								
Endrin	ND	0.0200	"								
Endrin aldehyde	ND	0.0500	"								
Endrin ketone	ND	0.0500	"								
gamma-BHC (Lindane)	ND	0.0200	"								
gamma-Chlordane	ND	0.0500	"								
Heptachlor	ND	0.0200	"								
Heptachlor epoxide	ND	0.0200	"								
Methoxychlor	ND	0.0200	"								
Toxaphene	ND	0.500	"								
Surrogate: Decachlorobiphenyl	*0.140*		*"*	*0.200*		*70.1*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.163*		*"*	*0.200*		*81.5*	*30-150*				

LCS (BD01161-BS1) LCS — Prepared: 04/27/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	0.0976	0.00400	ug/L	0.100		97.6	40-140				
4,4'-DDE	0.100	0.00400	"	0.100		100	40-140				
4,4'-DDT	0.101	0.00400	"	0.100		101	40-140				
Aldrin	0.0704	0.00400	"	0.100		70.4	40-140				
alpha-BHC	0.0724	0.00400	"	0.100		72.4	40-140				
alpha-Chlordane	0.0820	0.00400	"	0.100		82.0	40-140				
beta-BHC	0.0771	0.00400	"	0.100		77.1	40-140				
delta-BHC	0.0914	0.00400	"	0.100		91.4	40-140				
Dieldrin	0.0905	0.00200	"	0.100		90.5	40-140				
Endosulfan I	0.0836	0.00400	"	0.100		83.6	40-140				
Endosulfan II	0.0979	0.00400	"	0.100		97.9	40-140				
Endosulfan sulfate	0.107	0.00400	"	0.100		107	40-140				
Endrin	0.0943	0.00400	"	0.100		94.3	40-140				
Endrin aldehyde	0.0993	0.0100	"	0.100		99.3	40-140				
Endrin ketone	0.0957	0.0100	"	0.100		95.7	40-140				
gamma-BHC (Lindane)	0.0759	0.00400	"	0.100		75.9	40-140				
gamma-Chlordane	0.0853	0.0100	"	0.100		85.3	40-140				
Heptachlor	0.0873	0.00400	"	0.100		87.3	40-140				
Heptachlor epoxide	0.0843	0.00400	"	0.100		84.3	40-140				
Methoxychlor	0.0936	0.00400	"	0.100		93.6	40-140				
Surrogate: Decachlorobiphenyl	*0.158*		*"*	*0.200*		*79.0*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.151*		*"*	*0.200*		*75.5*	*30-150*				

Batch BD01161 - EPA SW846-3510C Low Level

LCS Dup (BD01161-BSD1) LCS Dup Prepared: 04/27/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	0.0942	0.00400	ug/L	0.100		94.2	40-140		3.63	20	
4,4'-DDE	0.0973	0.00400	"	0.100		97.3	40-140		3.14	20	
4,4'-DDT	0.0934	0.00400	"	0.100		93.4	40-140		8.20	20	
Aldrin	0.0703	0.00400	"	0.100		70.3	40-140		0.138	20	
alpha-BHC	0.0742	0.00400	"	0.100		74.2	40-140		2.43	20	
alpha-Chlordane	0.0820	0.00400	"	0.100		82.0	40-140		0.0488	20	
beta-BHC	0.0771	0.00400	"	0.100		77.1	40-140		0.0791	20	
delta-BHC	0.0925	0.00400	"	0.100		92.5	40-140		1.14	20	
Dieldrin	0.0908	0.00200	"	0.100		90.8	40-140		0.351	20	
Endosulfan I	0.0857	0.00400	"	0.100		85.7	40-140		2.47	20	
Endosulfan II	0.0951	0.00400	"	0.100		95.1	40-140		2.90	20	
Endosulfan sulfate	0.100	0.00400	"	0.100		100	40-140		6.22	20	
Endrin	0.0928	0.00400	"	0.100		92.8	40-140		1.61	20	
Endrin aldehyde	0.0966	0.0100	"	0.100		96.6	40-140		2.73	20	
Endrin ketone	0.0879	0.0100	"	0.100		87.9	40-140		8.53	20	
gamma-BHC (Lindane)	0.0774	0.00400	"	0.100		77.4	40-140		1.98	20	
gamma-Chlordane	0.0833	0.0100	"	0.100		83.3	40-140		2.46	20	
Heptachlor	0.0883	0.00400	"	0.100		88.3	40-140		1.16	20	
Heptachlor epoxide	0.0853	0.00400	"	0.100		85.3	40-140		1.14	20	
Methoxychlor	0.0873	0.00400	"	0.100		87.3	40-140		6.94	20	
Surrogate: Decachlorobiphenyl	*0.117*		*"*	*0.200*		*58.5*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*0.156*		*"*	*0.200*		*77.9*	*30-150*				

Batch BD01173 - EPA 3550C

Blank (BD01173-BLK1) Blank Prepared: 04/28/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	ND	1.64	ug/kg wet								
4,4'-DDE	ND	1.64	"								
4,4'-DDT	ND	1.64	"								
Aldrin	ND	1.64	"								
alpha-BHC	ND	1.64	"								
alpha-Chlordane	ND	1.64	"								
beta-BHC	ND	1.64	"								
Chlordane, total	ND	32.9	"								
delta-BHC	ND	1.64	"								
Dieldrin	ND	1.64	"								
Endosulfan I	ND	1.64	"								
Endosulfan II	ND	1.64	"								
Endosulfan sulfate	ND	1.64	"								
Endrin	ND	1.64	"								
Endrin aldehyde	ND	1.64	"								
Endrin ketone	ND	1.64	"								
gamma-BHC (Lindane)	ND	1.64	"								
gamma-Chlordane	ND	1.64	"								
Heptachlor	ND	1.64	"								
Heptachlor epoxide	ND	1.64	"								
Methoxychlor	ND	8.22	"								
Toxaphene	ND	83.2	"								
Surrogate: Decachlorobiphenyl	*49.1*		*"*	*66.4*		*73.8*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*47.1*		*"*	*66.4*		*70.8*	*30-150*				

Organochlorine Pesticides by GC/ECD - Quality Control Data

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01173 - EPA 3550C											
LCS (BD01173-BS1) LCS							Prepared: 04/28/2020 Analyzed: 04/29/2020				
4,4'-DDD	28.3	1.64	ug/kg wet	33.2		85.1	40-140				
4,4'-DDE	27.7	1.64	"	33.2		83.4	40-140				
4,4'-DDT	28.1	1.64	"	33.2		84.6	40-140				
Aldrin	28.9	1.64	"	33.2		87.1	40-140				
alpha-BHC	25.8	1.64	"	33.2		77.7	40-140				
alpha-Chlordane	29.0	1.64	"	33.2		87.4	40-140				
beta-BHC	24.8	1.64	"	33.2		74.7	40-140				
delta-BHC	23.9	1.64	"	33.2		72.0	40-140				
Dieldrin	29.2	1.64	"	33.2		87.9	40-140				
Endosulfan I	30.0	1.64	"	33.2		90.4	40-140				
Endosulfan II	28.5	1.64	"	33.2		85.8	40-140				
Endosulfan sulfate	29.3	1.64	"	33.2		88.2	40-140				
Endrin	29.0	1.64	"	33.2		87.4	40-140				
Endrin aldehyde	28.8	1.64	"	33.2		86.6	40-140				
Endrin ketone	29.7	1.64	"	33.2		89.5	40-140				
gamma-BHC (Lindane)	26.6	1.64	"	33.2		80.1	40-140				
gamma-Chlordane	28.6	1.64	"	33.2		86.2	40-140				
Heptachlor	30.1	1.64	"	33.2		90.6	40-140				
Heptachlor epoxide	29.7	1.64	"	33.2		89.4	40-140				
Methoxychlor	30.9	8.22	"	33.2		92.9	40-140				
Surrogate: Decachlorobiphenyl	*52.1*		*"*	*66.4*		*78.4*	*30-150*				
Surrogate: Tetrachloro-m-xylene	*50.4*		*"*	*66.4*		*75.9*	*30-150*				
Batch Y0C0906 - BA00785											
Performance Mix (Y0C0906- Performance Mix							Prepared & Analyzed: 03/08/2020				
4,4'-DDD	4.80		ng/mL	0.00			0-200				
4,4'-DDE	0.964		"	0.00			0-200				
4,4'-DDT	206		"	200		103	0-200				
Endrin	98.0		"	100		98.0	0-200				
Endrin aldehyde	0.511		"	0.00			0-200				
Endrin ketone	3.00		"	0.00			0-200				

Batch Y0D2801 - BD01097

Performance Mix (Y0D2801-P Performance Mix — Prepared & Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	9.02		ng/mL	0.00			0-200				
4,4'-DDE	2.15		"	0.00			0-200				
4,4'-DDT	238		"	200		119	0-200				
Endrin	128		"	100		128	0-200				
Endrin aldehyde	3.17		"	0.00			0-200				
Endrin ketone	4.95		"	0.00			0-200				

Batch Y0D2901 - BD01095

Performance Mix (Y0D2901-P Performance Mix — Prepared & Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	8.65		ng/mL	0.00			0-200				
4,4'-DDE	0.924		"	0.00			0-200				
4,4'-DDT	199		"	200		99.5	0-200				
Endrin	90.7		"	100		90.7	0-200				
Endrin aldehyde	1.17		"	0.00			0-200				
Endrin ketone	3.88		"	0.00			0-200				

Batch Y0D3011 - BD01095

Performance Mix (Y0D3011-P Performance Mix — Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	6.97		ng/mL	0.00			0-200				
4,4'-DDE	0.921		"	0.00			0-200				
4,4'-DDT	183		"	200		91.7	0-200				
Endrin	88.4		"	100		88.4	0-200				
Endrin aldehyde	0.641		"	0.00			0-200				
Endrin ketone	4.55		"	0.00			0-200				

Organochlorine Pesticides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch Y0E0106 - BD01095

Performance Mix (Y0E0106-P Performance Mix

Prepared & Analyzed: 04/30/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
4,4'-DDD	7.72		ng/mL	0.00			0-200				
4,4'-DDE	1.32		"	0.00			0-200				
4,4'-DDT	175		"	200		87.7	0-200				
Endrin	92.7		"	100		92.7	0-200				
Endrin aldehyde	0.491		"	0.00			0-200				
Endrin ketone	2.52		"	0.00			0-200				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01095 - EPA 3550C

Blank (BD01095-BLK2) Blank — Prepared: 04/24/2020 Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	ND	0.0166	mg/kg wet								
Aroclor 1221	ND	0.0166	"								
Aroclor 1232	ND	0.0166	"								
Aroclor 1242	ND	0.0166	"								
Aroclor 1248	ND	0.0166	"								
Aroclor 1254	ND	0.0166	"								
Aroclor 1260	ND	0.0166	"								
Total PCBs	ND	0.0166	"								
Surrogate: Tetrachloro-m-xylene	*0.0425*		*"*	*0.0664*		*64.0*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0512*		*"*	*0.0664*		*77.0*	*30-140*				

LCS (BD01095-BS2) LCS — Prepared: 04/24/2020 Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	0.287	0.0166	mg/kg wet	0.332		86.5	40-130				
Aroclor 1260	0.378	0.0166	"	0.332		114	40-130				
Surrogate: Tetrachloro-m-xylene	*0.0462*		*"*	*0.0664*		*69.5*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0528*		*"*	*0.0664*		*79.5*	*30-140*				

Matrix Spike (BD01095-MS2) Matrix Spike *Source sample: 20D0655-03 (SB03_02) — Prepared: 04/24/2020 Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	0.174	0.0196	mg/kg dry	0.392	ND	44.3	40-140				
Aroclor 1260	0.243	0.0196	"	0.392	ND	62.0	40-140				
Surrogate: Tetrachloro-m-xylene	*0.0439*		*"*	*0.0783*		*56.0*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0403*		*"*	*0.0783*		*51.5*	*30-140*				

Matrix Spike Dup (BD01095- Matrix Spike Dup *Source sample: 20D0655-03 (SB03_02) — Prepared: 04/24/2020 Analyzed: 04/27/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	0.224	0.0196	mg/kg dry	0.392	ND	57.2	40-140		25.4	50	
Aroclor 1260	0.281	0.0196	"	0.392	ND	71.8	40-140		14.6	50	
Surrogate: Tetrachloro-m-xylene	*0.0474*		*"*	*0.0783*		*60.5*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0403*		*"*	*0.0783*		*51.5*	*30-140*				

Polychlorinated Biphenyls by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01161 - EPA SW846-3510C Low Level

Blank (BD01161-BLK2) Blank — Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	ND	0.0500	ug/L								
Aroclor 1221	ND	0.0500	"								
Aroclor 1232	ND	0.0500	"								
Aroclor 1242	ND	0.0500	"								
Aroclor 1248	ND	0.0500	"								
Aroclor 1254	ND	0.0500	"								
Aroclor 1260	ND	0.0500	"								
Total PCBs	ND	0.0500	"								
Surrogate: Tetrachloro-m-xylene	*0.140*		*"*	*0.200*		*70.0*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.144*		*"*	*0.200*		*72.0*	*30-120*				

LCS (BD01161-BS2) LCS — Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	0.873	0.0500	ug/L	1.00		87.3	40-120				
Aroclor 1260	1.03	0.0500	"	1.00		103	40-120				
Surrogate: Tetrachloro-m-xylene	*0.138*		*"*	*0.200*		*69.0*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.122*		*"*	*0.200*		*61.0*	*30-120*				

LCS Dup (BD01161-BSD2) LCS Dup — Prepared: 04/27/2020 Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	1.11	0.0500	ug/L	1.00		111	40-120		23.8	30	
Aroclor 1260	1.11	0.0500	"	1.00		111	40-120		7.72	30	
Surrogate: Tetrachloro-m-xylene	*0.167*		*"*	*0.200*		*83.5*	*30-120*				
Surrogate: Decachlorobiphenyl	*0.157*		*"*	*0.200*		*78.5*	*30-120*				

Batch BD01173 - EPA 3550C

Blank (BD01173-BLK2) Blank — Prepared & Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	ND	0.0166	mg/kg wet								
Aroclor 1221	ND	0.0166	"								
Aroclor 1232	ND	0.0166	"								
Aroclor 1242	ND	0.0166	"								
Aroclor 1248	ND	0.0166	"								
Aroclor 1254	ND	0.0166	"								
Aroclor 1260	ND	0.0166	"								
Total PCBs	ND	0.0166	"								
Surrogate: Tetrachloro-m-xylene	*0.0425*		*"*	*0.0664*		*64.0*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0362*		*"*	*0.0664*		*54.5*	*30-140*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag

Batch BD01173 - EPA 3550C

LCS (BD01173-BS2) LCS Prepared & Analyzed: 04/28/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aroclor 1016	0.248	0.0166	mg/kg wet	0.332		74.8	40-130				
Aroclor 1260	0.275	0.0166	"	0.332		82.6	40-130				
Surrogate: Tetrachloro-m-xylene	*0.0442*		"	*0.0664*		*66.5*	*30-140*				
Surrogate: Decachlorobiphenyl	*0.0422*		"	*0.0664*		*63.5*	*30-140*				

Chlorinated Herbicides by GC/ECD - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01120 - EPA 3550C/8151A

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Blank (BD01120-BLK1) Blank							Prepared & Analyzed: 04/27/2020				
2,4,5-T	ND	19.9	ug/kg wet								
2,4,5-TP (Silvex)	ND	19.9	"								
2,4-D	ND	19.9	"								
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*539*		*"*	*498*		*108*	*21-150*				
LCS (BD01120-BS1) LCS							Prepared & Analyzed: 04/27/2020				
2,4,5-T	122	19.9	ug/kg wet	159		76.2	10-120				
2,4,5-TP (Silvex)	133	19.9	"	159		83.8	10-120				
2,4-D	133	19.9	"	159		83.8	10-118				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*540*		*"*	*498*		*108*	*21-150*				
Matrix Spike (BD01120-MS1) Matrix Spike	*Source sample: 20D0655-03 (SB03_02)						Prepared & Analyzed: 04/27/2020				
2,4,5-T	102	23.5	ug/kg dry	188	ND	54.4	10-120				
2,4,5-TP (Silvex)	102	23.5	"	188	ND	54.4	10-120				
2,4-D	112	23.5	"	188	ND	59.4	10-118				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*463*		*"*	*587*		*78.8*	*21-150*				
Matrix Spike Dup (BD01120- Matrix Spike Dup	*Source sample: 20D0655-03 (SB03_02)						Prepared & Analyzed: 04/27/2020				
2,4,5-T	102	23.5	ug/kg dry	188	ND	54.4	10-120		0.00	35	
2,4,5-TP (Silvex)	101	23.5	"	188	ND	53.8	10-120		1.16	35	
2,4-D	110	23.5	"	188	ND	58.8	10-118		1.06	35	
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*459*		*"*	*587*		*78.2*	*21-150*				

Batch BD01179 - EPA 8151A

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Blank (BD01179-BLK1) Blank							Prepared & Analyzed: 04/28/2020				
2,4,5-T	ND	5.00	ug/L								
2,4,5-TP (Silvex)	ND	5.00	"								
2,4-D	ND	5.00	"								
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*141*		*"*	*125*		*113*	*30-150*				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01179 - EPA 8151A											
LCS (BD01179-BS1) LCS									Prepared & Analyzed: 04/28/2020		
2,4,5-T	33.8	5.00	ug/L	40.0		84.4	10-140				
2,4,5-TP (Silvex)	36.8	5.00	"	40.0		91.9	10-139				
2,4-D	37.0	5.00	"	40.0		92.5	10-140				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*138*		*"*	*125*		*111*	*30-150*				
LCS Dup (BD01179-BSD1) LCS Dup									Prepared & Analyzed: 04/28/2020		
2,4,5-T	33.8	5.00	ug/L	40.0		84.4	10-140		0.00	30	
2,4,5-TP (Silvex)	36.8	5.00	"	40.0		91.9	10-139		0.00	30	
2,4-D	37.0	5.00	"	40.0		92.5	10-140		0.00	30	
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*138*		*"*	*125*		*111*	*30-150*				

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01084 - EPA 3050B											
Blank (BD01084-BLK1) Blank											Prepared: 04/24/2020 Analyzed: 04/29/2020
Aluminum	ND	5.00	mg/kg wet								
Antimony	ND	2.50	"								
Arsenic	ND	1.50	"								
Barium	ND	2.50	"								
Beryllium	ND	0.050	"								
Cadmium	ND	0.300	"								
Calcium	ND	5.00	"								
Chromium	ND	0.500	"								
Cobalt	ND	0.400	"								
Copper	ND	2.00	"								
Iron	ND	25.0	"								
Lead	ND	0.500	"								
Magnesium	ND	5.00	"								
Manganese	ND	0.500	"								
Nickel	ND	1.00	"								
Potassium	ND	5.00	"								
Selenium	ND	2.50	"								
Silver	ND	0.500	"								
Sodium	ND	50.0	"								
Thallium	ND	2.50	"								
Vanadium	ND	1.00	"								
Zinc	ND	2.50	"								
Duplicate (BD01084-DUP1) Duplicate	*Source sample: 20D0655-03 (SB03_02)										Prepared: 04/24/2020 Analyzed: 04/29/2020
Aluminum	11500	5.90	mg/kg dry		6920				49.8	35	Non-dir.
Antimony	ND	2.95	"		ND					35	
Arsenic	9.26	1.77	"		9.93				7.06	35	
Barium	95.8	2.95	"		80.5				17.4	35	
Beryllium	ND	0.059	"		ND					35	
Cadmium	1.54	0.354	"		0.938				48.3	35	Non-dir.
Calcium	23400	5.90	"		15900				37.9	35	Non-dir.
Chromium	35.4	0.590	"		22.0				46.7	35	Non-dir.
Cobalt	9.70	0.472	"		8.57				12.4	35	
Copper	1980	2.36	"		1040				62.8	35	Non-dir.
Iron	26000	29.5	"		19700				27.5	35	
Lead	368	0.590	"		347				5.90	35	
Magnesium	5560	5.90	"		4140				29.2	35	
Manganese	335	0.590	"		321				4.17	35	
Nickel	43.1	1.18	"		35.9				18.3	35	
Potassium	1570	5.90	"		1210				26.1	35	
Selenium	ND	2.95	"		ND					35	
Silver	ND	0.590	"		ND					35	
Sodium	1050	59.0	"		900				15.3	35	
Thallium	ND	2.95	"		ND					35	
Vanadium	25.6	1.18	"		20.7				21.3	35	
Zinc	865	2.95	"		713				19.2	35	

Batch BD01084 - EPA 3050B

Matrix Spike (BD01084-MS1) Matrix Spike *Source sample: 20D0655-03 (SB03_02) Prepared: 04/24/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	7230	5.90	mg/kg dry	236	6920	131	75-125	High Bias			
Antimony	9.86	2.95	"	29.5	ND	33.5	75-125	Low Bias			
Arsenic	243	1.77	"	236	9.93	99.0	75-125				
Barium	311	2.95	"	236	80.5	97.9	75-125				
Beryllium	4.20	0.059	"	5.90	ND	71.2	75-125	Low Bias			
Cadmium	6.81	0.354	"	5.90	0.938	99.6	75-125				
Calcium	18100	5.90	"	118	15900	NR	75-125	High Bias			
Chromium	43.5	0.590	"	23.6	22.0	91.0	75-125				
Cobalt	66.6	0.472	"	59.0	8.57	98.4	75-125				
Copper	1100	2.36	"	29.5	1040	231	75-125	High Bias			
Iron	18900	29.5	"	118	19700	NR	75-125	Low Bias			
Lead	416	0.590	"	59.0	347	116	75-125				
Magnesium	4100	5.90	"	118	4140	NR	75-125	Low Bias			
Manganese	348	0.590	"	59.0	321	44.5	75-125	Low Bias			
Nickel	93.4	1.18	"	59.0	35.9	97.6	75-125				
Potassium	1240	5.90	"	118	1210	28.7	75-125	Low Bias			
Selenium	197	2.95	"	236	ND	83.7	75-125				
Silver	3.66	0.590	"	5.90	ND	62.0	75-125	Low Bias			
Sodium	1060	59.0	"	118	900	137	75-125	High Bias			
Thallium	230	2.95	"	236	ND	97.5	75-125				
Vanadium	73.8	1.18	"	59.0	20.7	90.0	75-125				
Zinc	785	2.95	"	59.0	713	122	75-125				

Post Spike (BD01084-PS1) Post Spike *Source sample: 20D0655-03 (SB03_02) Prepared: 04/24/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	67.5		ug/mL	2.00	58.7	440	75-125	High Bias			
Antimony	0.251		"	0.250	0.014	95.0	75-125				
Arsenic	2.02		"	2.00	0.084	96.8	75-125				
Barium	2.64		"	2.00	0.683	98.0	75-125				
Beryllium	0.032		"	0.0500	-0.013	64.1	75-125	Low Bias			
Cadmium	0.057		"	0.0500	0.008	98.2	75-125				
Calcium	144		"	1.00	135	872	75-125	High Bias			
Chromium	0.388		"	0.200	0.187	101	75-125				
Cobalt	0.576		"	0.500	0.073	101	75-125				
Copper	9.78		"	0.250	8.79	396	75-125	High Bias			
Iron	181		"	1.00	167	NR	75-125	High Bias			
Lead	3.48		"	0.500	2.94	107	75-125				
Magnesium	38.2		"	1.00	35.2	306	75-125	High Bias			
Manganese	3.39		"	0.500	2.73	133	75-125	High Bias			
Nickel	0.812		"	0.500	0.304	102	75-125				
Potassium	11.8		"	1.00	10.2	155	75-125	High Bias			
Selenium	1.63		"	2.00	-0.116	81.5	75-125				
Silver	0.042		"	0.0500	0.0001	84.4	75-125				
Sodium	9.12		"	1.00	7.63	149	75-125	High Bias			
Thallium	1.98		"	2.00	-0.014	99.0	75-125				
Vanadium	0.653		"	0.500	0.176	95.4	75-125				
Zinc	6.61		"	0.500	6.05	112	75-125				

Batch BD01084 - EPA 3050B

Reference (BD01084-SRM1) Reference

Prepared: 04/24/2020 Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	8470	5.00	mg/kg wet	7700		110	49.4-150.6				
Antimony	25.8	2.50	"	40.0		64.5	21.58-292.5				
Arsenic	128	1.50	"	125		102	69.8-129.6				
Barium	711	2.50	"	529		134	75-125.1	High Bias			
Beryllium	181	0.050	"	155		117	74.8-125.2				
Cadmium	50.1	0.300	"	37.7		133	74.8-124.9	High Bias			
Calcium	5090	5.00	"	4720		108	72.5-127.3				
Chromium	59.3	0.500	"	58.3		102	70-130				
Cobalt	228	0.400	"	196		116	75-125				
Copper	86.7	2.00	"	78.0		111	75-125				
Iron	13300	25.0	"	13800		96.4	34.4-165.9				
Lead	109	0.500	"	111		97.9	70.9-128.8				
Magnesium	2300	5.00	"	2240		102	61.6-138.4				
Manganese	336	0.500	"	310		108	74.5-125.2				
Nickel	394	1.00	"	333		118	70-130				
Potassium	2060	5.00	"	1970		104	58.4-141.1				
Selenium	236	2.50	"	251		94.2	69.3-131.1				
Silver	26.3	0.500	"	27.2		96.8	67.6-132				
Sodium	250	50.0	"	220		114	48.2-151.8				
Thallium	280	2.50	"	241		116	72.6-127.4				
Vanadium	127	1.00	"	125		102	70.2-129.6				
Zinc	360	2.50	"	351		103	69.8-129.9				

Batch BD01249 - EPA 3015A

Blank (BD01249-BLK1) Blank

Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	ND	0.0556	mg/L								
Barium	ND	0.0278	"								
Calcium	ND	0.0556	"								
Chromium	ND	0.00556	"								
Cobalt	ND	0.00444	"								
Copper	ND	0.0222	"								
Iron	ND	0.278	"								
Lead	ND	0.00556	"								
Magnesium	ND	0.0556	"								
Manganese	ND	0.00556	"								
Nickel	ND	0.0111	"								
Potassium	ND	0.0556	"								
Silver	ND	0.00556	"								
Sodium	ND	0.556	"								
Vanadium	ND	0.0111	"								
Zinc	ND	0.0278	"								

Metals by ICP - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01249 - EPA 3015A

LCS (BD01249-BS1) LCS Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	1.96		ug/mL	2.00		98.0	80-120				
Barium	1.99		"	2.00		99.6	80-120				
Calcium	1.04		"	1.00		104	80-120				
Chromium	0.208		"	0.200		104	80-120				
Cobalt	0.511		"	0.500		102	80-120				
Copper	0.251		"	0.250		100	80-120				
Iron	1.03		"	1.00		103	80-120				
Lead	0.500		"	0.500		99.9	80-120				
Magnesium	0.973		"	1.00		97.3	80-120				
Manganese	0.500		"	0.500		100	80-120				
Nickel	0.504		"	0.500		101	80-120				
Potassium	0.972		"	1.00		97.2	80-120				
Silver	0.0300		"	0.0500		59.9	80-120	Low Bias			
Sodium	1.14		"	1.00		114	80-120				
Vanadium	0.482		"	0.500		96.4	80-120				
Zinc	0.500		"	0.500		100	80-120				

Duplicate (BD01249-DUP1) Duplicate *Source sample: 20D0655-06 (FB01_04232020) Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	ND	0.0556	mg/L		ND					20	
Barium	ND	0.0278	"		ND					20	
Calcium	0.0778	0.0556	"		0.0623				22.2	20	Non-dir.
Chromium	ND	0.00556	"		ND					20	
Cobalt	ND	0.00444	"		ND					20	
Copper	ND	0.0222	"		ND					20	
Iron	ND	0.278	"		ND					20	
Lead	ND	0.00556	"		ND					20	
Magnesium	ND	0.0556	"		ND					20	
Manganese	ND	0.00556	"		ND					20	
Nickel	ND	0.0111	"		ND					20	
Potassium	ND	0.0556	"		0.0676					20	
Silver	ND	0.00556	"		ND					20	
Sodium	ND	0.556	"		ND					20	
Vanadium	ND	0.0111	"		ND					20	
Zinc	ND	0.0278	"		ND					20	

Batch BD01249 - EPA 3015A

Matrix Spike (BD01249-MS1) Matrix Spike *Source sample: 20D0655-06 (FB01_04232020) Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	2.17	0.0556	mg/L	2.22	ND	97.9	75-125				
Barium	2.26	0.0278	"	2.22	ND	102	75-125				
Calcium	1.16	0.0556	"	1.11	0.0623	98.7	75-125				
Chromium	0.233	0.00556	"	0.222	ND	105	75-125				
Cobalt	0.573	0.00444	"	0.556	ND	103	75-125				
Copper	0.285	0.0222	"	0.278	ND	103	75-125				
Iron	1.12	0.278	"	1.11	ND	101	75-125				
Lead	0.555	0.00556	"	0.556	ND	99.8	75-125				
Magnesium	1.09	0.0556	"	1.11	ND	97.9	75-125				
Manganese	0.566	0.00556	"	0.556	ND	102	75-125				
Nickel	0.560	0.0111	"	0.556	ND	101	75-125				
Potassium	1.04	0.0556	"	1.11	0.0676	87.3	75-125				
Silver	0.0343	0.00556	"	0.0556	ND	61.8	75-125	Low Bias			
Sodium	1.30	0.556	"	1.11	ND	117	75-125				
Vanadium	0.546	0.0111	"	0.556	ND	98.4	75-125				
Zinc	0.563	0.0278	"	0.556	ND	101	75-125				

Post Spike (BD01249-PS1) Post Spike *Source sample: 20D0655-06 (FB01_04232020) Prepared & Analyzed: 04/29/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Aluminum	1.96		ug/mL	2.00	0.0275	96.5	75-125				
Barium	1.95		"	2.00	0.000585	97.6	75-125				
Calcium	1.05		"	1.00	0.0561	99.7	75-125				
Chromium	0.205		"	0.200	0.000468	102	75-125				
Cobalt	0.502		"	0.500	0.0000914	100	75-125				
Copper	0.245		"	0.250	0.00162	97.2	75-125				
Iron	0.994		"	1.00	0.00379	99.0	75-125				
Lead	0.474		"	0.500	-0.00514	94.8	75-125				
Magnesium	0.939		"	1.00	-0.0240	93.9	75-125				
Manganese	0.487		"	0.500	0.000331	97.3	75-125				
Nickel	0.492		"	0.500	-0.00544	98.4	75-125				
Potassium	0.913		"	1.00	0.0608	85.2	75-125				
Silver	0.0452		"	0.0500	-0.000646	90.4	75-125				
Sodium	1.14		"	1.00	0.250	89.5	75-125				
Vanadium	0.471		"	0.500	-0.000156	94.2	75-125				
Zinc	0.489		"	0.500	0.0135	95.1	75-125				

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01250 - EPA 3015A											
Blank (BD01250-BLK1) Blank								Prepared & Analyzed: 04/29/2020			
Antimony	ND	1.11	ug/L								
Arsenic	ND	1.11	"								
Beryllium	ND	0.333	"								
Cadmium	ND	0.556	"								
Selenium	ND	1.11	"								
Thallium	ND	1.11	"								
LCS (BD01250-BS1) LCS								Prepared & Analyzed: 04/29/2020			
Antimony	41.2		ug/L	50.0		82.3	80-120				
Arsenic	44.5		"	50.0		89.1	80-120				
Beryllium	52.2		"	50.0		104	80-120				
Cadmium	43.9		"	50.0		87.7	80-120				
Selenium	43.9		"	50.0		87.7	80-120				
Thallium	43.8		"	50.0		87.6	80-120				
Duplicate (BD01250-DUP1) Duplicate	*Source sample: 20D0655-06 (FB01_04232020)							Prepared & Analyzed: 04/29/2020			
Antimony	ND	1.11	ug/L		ND					20	
Arsenic	ND	1.11	"		ND					20	
Beryllium	ND	0.333	"		ND					20	
Cadmium	ND	0.556	"		ND					20	
Selenium	ND	1.11	"		ND					20	
Thallium	ND	1.11	"		ND					20	
Matrix Spike (BD01250-MS1) Matrix Spike	*Source sample: 20D0655-06 (FB01_04232020)							Prepared & Analyzed: 04/29/2020			
Antimony	38.6		ug/L	50.0	-0.163	77.3	75-125				
Arsenic	43.2		"	50.0	0.025	86.4	75-125				
Beryllium	49.0		"	50.0	0.006	98.0	75-125				
Cadmium	40.8		"	50.0	0.004	81.6	75-125				
Selenium	44.4		"	50.0	0.501	87.7	75-125				
Thallium	42.4		"	50.0	0.103	84.6	75-125				

Mercury by EPA 7000/200 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01102 - EPA 7473 soil

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Blank (BD01102-BLK1) Blank							Prepared & Analyzed: 04/24/2020				
Mercury	ND	0.0300	mg/kg wet								
Duplicate (BD01102-DUP1) Duplicate	*Source sample: 20D0655-03 (SB03_02)						Prepared & Analyzed: 04/24/2020				
Mercury	0.841	0.0354	mg/kg dry		0.755				10.8	35	
Matrix Spike (BD01102-MS1) Matrix Spike	*Source sample: 20D0655-03 (SB03_02)						Prepared & Analyzed: 04/24/2020				
Mercury	1.18		mg/kg	0.500	0.640	109	75-125				
Reference (BD01102-SRM1) Reference							Prepared & Analyzed: 04/24/2020				
Mercury	3.1452		mg/kg	3.71		84.8	65-135				

Batch BD01150 - EPA 7473 water

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Blank (BD01150-BLK1) Blank							Prepared & Analyzed: 04/27/2020				
Mercury	ND	0.00020	mg/L								
Reference (BD01150-SRM1) Reference							Prepared & Analyzed: 04/27/2020				
Mercury	0.00821		mg/L	0.0100		82.1	70-130				

Wet Chemistry Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01045 - Analysis Preparation Soil

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Blank (BD01045-BLK1) Blank							Prepared & Analyzed: 04/23/2020				
Cyanide, total	ND	0.500	mg/kg wet								
Duplicate (BD01045-DUP1) Duplicate *Source sample: 20D0655-03 (SB03_02)							Prepared & Analyzed: 04/23/2020				
Cyanide, total	ND	0.590	mg/kg dry		ND					15	
Matrix Spike (BD01045-MS1) Matrix Spike *Source sample: 20D0655-03 (SB03_02)							Prepared & Analyzed: 04/23/2020				
Cyanide, total	10.2	0.590	mg/kg dry	11.8	ND	86.3	79.6-107				
Reference (BD01045-SRM1) Reference							Prepared & Analyzed: 04/23/2020				
Cyanide, total	109		ug/mL	96.2		113	42.41-156.96				

Batch BD01051 - Analysis Preparation

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Blank (BD01051-BLK1) Blank							Prepared & Analyzed: 04/23/2020				
Chromium, Hexavalent	ND	0.0100	mg/L								
LCS (BD01051-BS1) LCS							Prepared & Analyzed: 04/23/2020				
Chromium, Hexavalent	0.574	0.0100	mg/L	0.500		115	80-120				
Duplicate (BD01051-DUP1) Duplicate *Source sample: 20D0655-06 (FB01_04232020)							Prepared & Analyzed: 04/23/2020				
Chromium, Hexavalent	ND	0.0100	mg/L		ND					20	
Matrix Spike (BD01051-MS1) Matrix Spike *Source sample: 20D0655-06 (FB01_04232020)							Prepared & Analyzed: 04/23/2020				
Chromium, Hexavalent	0.582	0.0100	mg/L	0.500	ND	116	75-125				

Batch BD01065 - EPA SW846-3060

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Blank (BD01065-BLK1) Blank							Prepared & Analyzed: 04/24/2020				
Chromium, Hexavalent	ND	0.500	mg/kg wet								

Wet Chemistry Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BD01065 - EPA SW846-3060											
Duplicate (BD01065-DUP1) Duplicate	*Source sample: 20D0655-03 (SB03_02)						Prepared & Analyzed: 04/24/2020				
Chromium, Hexavalent	ND	0.590	mg/kg dry		ND					35	
Matrix Spike (BD01065-MS1) Matrix Spike	*Source sample: 20D0655-03 (SB03_02)						Prepared & Analyzed: 04/24/2020				
Chromium, Hexavalent	1.13	0.590	mg/kg dry	23.6	ND	4.80	75-125	Low Bias			
Reference (BD01065-SRM1) Reference							Prepared & Analyzed: 04/24/2020				
Chromium, Hexavalent	75.1		mg/L	124		60.6	33.06-167.74				
Batch BD01181 - Analysis Preparation											
Blank (BD01181-BLK1) Blank							Prepared & Analyzed: 04/28/2020				
Cyanide, total	ND	0.0100	mg/L								
Duplicate (BD01181-DUP1) Duplicate	*Source sample: 20D0655-06 (FB01_04232020)						Prepared & Analyzed: 04/28/2020				
Cyanide, total	ND	0.0100	mg/L		ND					15	
Matrix Spike (BD01181-MS1) Matrix Spike	*Source sample: 20D0655-06 (FB01_04232020)						Prepared & Analyzed: 04/28/2020				
Cyanide, total	0.142	0.0100	mg/L	0.200	ND	70.8	79-105	Low Bias			
Reference (BD01181-SRM1) Reference							Prepared & Analyzed: 04/28/2020				
Cyanide, total	0.140	0.0100	mg/L	0.200		70.2	0-200				

Miscellaneous Physical Parameters - Quality Control Data

York Analytical Laboratories, Inc.

Batch BD01068 - % Solids Prep

Duplicate (BD01068-DUP1) Duplicate *Source sample: 20D0655-03 (SB03_02) Prepared & Analyzed: 04/24/2020

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
% Solids	84.1	0.100	%		84.8				0.814	20	

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
20D0655-01	SB01_02	40mL Vial with Stir Bar-Cool 4° C
20D0655-02	SB02_02	40mL Vial with Stir Bar-Cool 4° C
20D0655-03	SB03_02	40mL Vial with Stir Bar-Cool 4° C
20D0655-04	SB04_02	40mL Vial with Stir Bar-Cool 4° C
20D0655-05	DUP01_04232020	40mL 01_Clear Vial Cool to 4° C
20D0655-06	FB01_04232020	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C
20D0655-07	TB01_04232020	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C

Sample and Data Qualifiers Relating to This Work Order

M-SRD1	The serial dilution for this element was outside control limits.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
CCV-H	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased high.
CCV-L	The value reported is estimated due to its behavior during continuing calibration verification (>20% difference for average RF or >20% drift for linear or quadratic fit.) This value may be biased low.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
M-BS	The recovery for this element in the batch blank spike recovered slightly outside of control limits
M-CRL	The RL check for this element recovered outside of control limits.
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.
M-SPKM	The spike recovery is not within acceptance windows due to sample non-homogeneity, or matrix interference.
VOA-Re	VOA sample for re-run was taken from a bulk sample container noncompliant with SW-846 5035A due to a depletion of a proper vial during analysis. Results below 200 ug/Kg may be biased low.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data are acceptable.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QR-04	The RPD exceeded control limits for the LCS/LCSD QC.
S-08	The recovery of this surrogate was outside of QC limits.
M-DUPS	The RPD between the native sample and the duplicate is outside of limits due to sample non-homogeneity

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.

Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

Revision Description: This report has been revised to modify the client sample IDs, per client request.

YORK ANALYTICAL LABORATORIES INC

York Analytical Laboratories, Inc.
120 Research Drive, Stratford, CT 06615
132-02 89th Ave, Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record

NOTE: YORK's Standard Terms & Conditions are listed on the back side of this document. This document serves as your written authorization for YORK to proceed with the analyses requested below. Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No. 20D0655

Page 1 of 1

YOUR Information	Report To:	Invoice To:
Company: Langan	Company: Langan	Company: Langan
Address:	Address:	Address:
Phone.:	Phone.:	Phone.:
Contact:	Contact:	Contact:
E-mail: tschiefer@langan.com; atashji@langan.com	E-mail:	E-mail: tschiefer@langan.com

YOUR Project Number: 170301202

YOUR Project Name: 450 Union Street

YOUR PO#:

Turn-Around Time
- RUSH - Next Day ☐
- RUSH - Two Day ☐
- RUSH - Three Day ☐
- RUSH - Four Day ☐
- **Standard (5-7 Day)** ☒

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

Tyler Zorn

Samples Collected by: (print your name above and sign below)

Matrix Codes
- S - soil / solid
- GW - groundwater
- DW - drinking water
- WW - wastewater
- O - Oil
- Other

Samples From
- New York ☒
- New Jersey ☐
- Connecticut ☐
- Pennsylvania ☐
- Other ☐

Report / EDD Type (circle selections)
- Summary Report
- QA Report
- NY ASP A Package
- [✓ NY ASP B Package]
- CT RCP
- CT RCP DQA/DUE
- NJDEP Reduced Deliverables
- NJDKQP
- Standard Excel EDD
- EQuIS (Standard)
- NYSDEC EQuIS
- NJDEP SRP HazSite
- Other:

YORK Reg. Comp.
Compared to the following Regulation(s): (please fill in)

Sample Identification	Sample Matrix	Date/Time Sampled	Analysis Requested	Container Description
SB01-02	S	04232020 0845	Parts 375/TCL/TAL VOCs, SVOCs, Pesticides, Herbicides including PCBs, TAL metals, total cyanide, hex/tri chrom.	
SB02-02		04232020 0825		
SB03-02		04232020 0815		
SB04-02		04232020 0805		
DUP01_04232020		04232020		
~~MS-02~~ SB03-MS-02		04232020 1250 ~~1400~~		
~~MSD-02~~ SB03_MSD-02		04232020 1245 ~~1405~~		
FB01-04232020	W	04232020 1000		
TB01_04232020	W	04232020		

Comments:

Preservation: (check all that apply)
HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___
Ascorbic Acid ___ Other: ___

Special Instruction
Field Filtered ___
Lab to Filter ___

Samples Relinquished by / Company	Date/Time	Samples Received by / Company	Date/Time	Samples Relinquished by / Company	Date/Time
	04232020 1300	Tom A / York	4/23/20 1303	Tom A / York	4/23/20
Samples Received by / Company	**Date/Time**	**Samples Relinquished by / Company**	**Date/Time**	**Samples Received by / Company**	**Date/Time**
	4/23/20		4/23/20 1518		
Samples Relinquished by / Company	**Date/Time**	**Samples Received by / Company**	**Date/Time**	**Samples Received in LAB by / Date/Time**	**Temp. Received at Lab**
				K Bloch 4/23/20 1518	1.1 Degrees C

Appendix D

Excavation Work Plan

EXCAVATION WORK PLAN

1.0 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the site owner or their representative will notify the New York State Department of Environmental Conservation (NYSDEC) Project Manager:

Nigel Crawford, P.E.
NYSDEC Project Manager
(718) 482-7778
nigel.crawford@dec.ny.gov

This notification will include:

- A detailed description of the proposed work, including the location, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated, and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and anticipated contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this EWP;
- A statement that the work will be performed in compliance with this EWP and 29 CFR 1910.120;
- The contractor's health and safety plan (HASP) and Community Air Monitoring Program (CAMP) will be updated and re-submitted, in electronic format, if it differs from the HASP provided in Appendix D of the Site Management Plan (SMP);
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.
- A plan to protect or replace engineering controls required by the SMP (e.g. site cover)

2.0 SOIL SCREENING METHODS

Visual, olfactory and instrument-based (e.g. photoionization detector) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site as soil beneath a cover or if the material can be used as cover soil.

3.0 SOIL STAGING METHODS

Separate stockpile areas will be constructed, pending loading or characterization testing, to avoid co-mingling materials of differing types. The excavated soil will be appropriately lined and securely covered. Stockpiles will be routinely inspected. Damaged covers will be promptly replaced.

Stockpiles will be covered immediately upon reaching a capacity of approximately 1,000 cubic yards until ready for loading. Stockpiles that have not reached their capacity will be covered at the end of each workday. Active stockpiles will be covered at the end of each workday. Individual stockpiles will not exceed 1,000 cubic yards.

Each stockpile area will be encircled with silt fences and hay bales as needed to filter particulates from any rainwater that has drained off the soils, and to mitigate the potential for surface water run-off. Hay bales will be used as needed near catch basins, surface waters and other discharge points. Stockpile areas will be inspected daily and after severe storm events, and noted deficiencies will be promptly addressed.

4.0 MATERIALS EXCAVATION AND LOAD-OUT

A field engineer, scientist, or geologist under the direct supervision of a QEP will oversee all invasive work and the excavation and load-out of all excavated material. The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this EWP. The presence of utilities and easements on the site will be investigated by the field engineer, scientist, or geologist under the direct supervision of a QEP . It will be determined whether a risk or impediment to the planned work under this SMP is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and NYSDOT requirements (and all other applicable transportation requirements). A truck wash will be operated on-site, as appropriate. The field engineer, scientist, or geologist under the direct supervision of a QEP will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete Truck wash waters will be collected and disposed of off-site in an appropriate manner. Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking and that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

5.0 MATERIALS TRANSPORT OFF-SITE

Transport of regulated materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed and trucks properly placarded. Trucks exiting the site will be appropriately lined and secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used. All trucks will be washed prior to leaving the site. Truck wash will be directed back into the site and collected and treated, as needed, before discharging or disposed of off-site in accordance with appropriate local, State, and Federal regulations.

Truck traffic will be routed on the most direct course using major thoroughfares where possible and flaggers will be used to protect pedestrians at site entrances and exits. Truck routes will take into account:

(a) limiting transport through residential areas and past sensitive sites;

(b) use of city-mapped truck routes;

(c) limiting off-site queuing of trucks entering the facility, to the extent possible;

(d) limiting total distance to major highways;

(e) promoting safety in access to highways;

(f) overall safety in transport; and

(g) community input, where necessary

Trucks idling in the neighborhood outside the project site will be limited and will be instructed to adhere to New York City local ordinances. Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development. Queuing of trucks will be performed on-site in order to minimize off-site disturbance, off-site queuing will be prohibited to the extent possible. Scheduling and sequencing of trucks will be the responsibility of the contractor performing the work.

6.0 MATERIALS DISPOSAL OFF-SITE

Soil/fill excavated and removed from the site will be characterized, managed, transported, and disposed of off-site in accordance with all local, State and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request and work plan will be submitted to the NYSDEC for approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C&D debris recovery facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report (PRR), which will include: waste generator profiles, waste characterization results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off site will be handled consistent with 6NYCRR Parts 360, 361, 362, 363, 364 and 365. Material that does not meet Unrestricted Use Soil Cleanup Objectives (SCOs) is prohibited from being taken to a New York State C&D debris recovery facility (6NYCRR Subpart 361-5 registered or permitted facility) without prior written approval from NYSDEC.

7.0 MATERIALS REUSE ON-SITE

Materials reuse on-site will not be permitted without NYSDEC approval. Pending NYSDEC approval, reused soil must be non-hazardous and meet the lower of 6 NYCRR 375-6.8(b) Restricted-Residential and Protection of Groundwater SCOs). The Protection of Groundwater SCOs apply only to compounds or analytes detected in groundwater at concentrations that exceeded the NYSDEC Ambient Water Quality Standards (6 NYCRR Part 703).

Material originating from the site will not be reused within a soil cover layer, within landscaping berms, or as backfill for subsurface utility lines. Reuse of soil will be coordinated in advance with the NYSDEC project manager. Material deemed unacceptable for reuse will be transported for proper off-site disposal.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

8.0 FLUIDS MANAGEMENT

Liquids to be removed from the site, including but not limited to, excavation dewatering, decontamination waters and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, and will be managed off-site, unless prior approval is obtained from NYSDEC.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a State Pollutant Discharge Elimination System (SPDES) permit.

9.0 COVER SYSTEM RESTORATION

After completing soil removal and any other invasive activities, the site cover system will be restored in a manner that complies with the Decision Document and SMP. The existing cover system is comprised of three cover types: 1) concrete building slabs; 2) asphalt-paved areas; and 3) landscaped areas (i.e., virgin stone or soil cover meeting the lower of the RRSCOs or PGWSCOs). Landscaped areas contain a demarcation layer to provide a visual reference to the top of the remaining contamination zone, the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in the SMP. If the type of cover system changes as a result of site management or construction activities (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the remaining contamination. A figure showing the modified surface will be included in the subsequent PRR and in an updated SMP.

10.0 BACKFILL FROM OFF-SITE SOURCES

All materials proposed for import onto the site will be reviewed by the QEP and will be in compliance with provisions in the SMP prior to receipt at the site. A Request to Import/Reuse Fill or Soil form, which can be found at http://www.dec.ny.gov/regulations/67386.html, will be prepared and submitted to the NYSDEC project manager allowing a minimum of 5 business days for review. For imported soil sources, a field engineer, scientist, or geologist under the direct supervision of a QEP will collect representative samples at a frequency consistent with DER-10 Table 5.4(e)10. The samples will be analyzed for Part 375 volatile organic compounds (VOCs) (EPA Method 8260), semivolatile organic compounds (SVOCs) (EPA Method 8270), pesticides/polychlorinated biphenyls (PCBs) (EPA Method 8082/8081), metals, and the emerging contaminants per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane by a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Based on an evaluation of the land use, protection of groundwater and protection of ecological resources criteria, imported soils will meet the SCOs listed in Table 1 of the SMP. Soils that meet 'general fill' requirements under 6 NYCRR Part 360, but do not meet backfill or cover SCOs for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site. Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

11.0 STORM-WATER POLLUTION PREVENTION

Erosion and sediment controls will be in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Based on the proximity of the site to the Gowanus Canal, controls may be used if needed. Best Management Practices (BMP) for soil erosion will be selected to minimize erosion and sedimentation off site throughout recovery well installation.

12.0 EXCAVATION CONTINGENCY PLAN

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development-related construction, excavation activities or the work area will be modified until sufficient equipment is mobilized to address the condition.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for the full Part 375 list of analytes (TAL metals; TCL VOCs and SVOCs, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be included in the PRR prepared pursuant to Section 7.0 of the SMP.

13.0 COMMUNITY AIR MONITORING PLAN (CAMP)

A site-specific CAMP has been prepared for the site and is provided in Appendix F of the SMP. The CAMP describes air monitoring stations that will be set up at the site perimeters (one upwind and one downwind) during intrusive site work for continuous monitoring. Each station will include a photoionization detector (PID) for recording total VOCs and an aerosol monitor (i.e., DusTrak), or equivalent, capable of recording particulate concentrations up to 10 micrometers in diameter. A personal PID will be used to monitor the work zone and for periodic monitoring for VOCs during activities such as soil sampling. Action levels for the protection of the community are set forth in the CAMP. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

14.0 ODOR CONTROL PLAN

Work practices to minimize odors and vapors will be used during all intrusive activities. Odor and organic vapor controls may include the application of foam suppressants or tarps over the odorous material or VOC source areas. Foam suppressants may include foam suppressants, including Rusmar odor-control foam (RusFoam® OC AC645 or approved equivalent) or placing polyethylene sheeting or non-odorous soil over the odor or VOC source areas for short-term control of the odor and VOCs.

If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the contractor and will be guided by the Remediation Engineer, who is responsible for certifying the PRR. Application of odor controls is the responsibility of the contractor. Odor controls and other suppression measures that are implemented will be summarized in the PRR.

All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils where other methods prove ineffective. If odors develop and cannot be otherwise controlled, additional means to mitigate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of off-site staff to monitor odors in surrounding neighborhoods.

Although not anticipated, where odor nuisances develop during site management work that cannot be corrected, or where nuisance odors cannot otherwise be avoided because of on-site conditions or proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems. The use of sheltered work areas will be discussed with the NYSDEC to determine applicability.

15.0 DUST CONTROL PLAN

Dust suppression plan will include, at a minimum, the controls listed below:

- Dust suppression will be achieved through the use of a dedicated water distribution system, on-site water trucks, or an alternate source with suitable supply and pressure for use in dust control.
- Virgin crushed stone or recycled concrete aggregate (RCA) will be used on roadways to provide a clean and dust-free road surface.
- The area of on-site roads will be limited in total area to minimize the area requiring dust suppression.

16.0 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor prior to and during site clearing and site grubbing, and during all remedial work. A plan will be developed and utilized by the contractor for all remedial work to ensure compliance with local noise control ordinances.

Appendix E

Health and Safety Plan

CONSTRUCTION HEALTH AND SAFETY PLAN

for

450 UNION STREET
BROOKLYN, NEW YORK
NYSDEC BCP NO: C224219
Brooklyn Borough Tax Map
Block 438, Lot 7

Prepared For:

450 Union Street LLC
c/o Pilot Real Estate Group LLC
10 Glenville Street, 1st Floor
Greenwich, Connecticut 06831

Prepared By:

Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001

May 2020
Langan Project Number: 170301202

LANGAN

TABLE OF CONTENTS

Page No.

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

* Items to be posted prominently on site, or made readily available to personnel.

1.0 INTRODUCTION

1.1 General

This CONSTRUCTION HEALTH AND SAFETY PLAN (CHASP) was developed to address disturbance of known and reasonably anticipated subsurface contaminants and comply with Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.120(b)(4), *Hazardous Waste Operations and Emergency Response* during anticipated site work at 450 Union Street, Brooklyn, New York (Brooklyn Borough Tax Map Block 438, Lot 7) (the "site"). This CHASP provides the minimum requirements for implementing site operations during future remedial measure activities. All contractors performing work on this site shall implement their own CHASP that, at a minimum, adheres to this CHASP. The contractor is responsible for their own health and safety and that of their subcontractors. Langan personnel will implement this CHASP while onsite.

The management of the day-to-day site activities and implementation of this CHASP in the field is the responsibility of the site Langan Field Team Leader (FTL). Assistance in the implementation of this CHASP can also be obtained from the site Langan Health and Safety Officer (HSO) and the Langan Health and Safety Manager (HSM). Contractors operating on the site shall designate their own FTL, HSO and HSM. The content of this CHASP may change or undergo revision based upon additional information made available to health and safety personnel, monitoring results, or changes in the work plan.

1.2 Site Location and Background

The site is located at 450 Union Street in the Gowanus neighborhood of Brooklyn, New York, and is identified as Brooklyn Tax Block 438, Lot 7. The site encompasses an area of about 28,500 square feet (0.65 acres), and is bound by Union Street to the north; the Gowanus Canal to the east; Lot 3 to the south (automobile and bus parking); and Bond Street to the west.

The site is used as a private event space, art gallery, and restaurant with seasonal outdoor seating and is improved with a one-story building (the "Green Building", encompassing an area of about 9,880 square feet) and includes two ancillary storage buildings. The exterior portion of the site contains an enclosed area with a bar for social events and storage areas. A bulkhead consisting of a 12-foot-high concrete wall supported by timber cribbing separates the property from the Gowanus Canal.

The site and surrounding area are located in an urban setting historically characterized by industrial and commercial development. Historic uses of the property have included the following:

- Coal and wood storage (1886 to 1928)
- Granite works (1915)
- Die casting and electroplating (1922)
- Vehicle repair (1918 to 1930)
- Fuel storage, vehicle repair and office (1931)
- Foundry (1930 to 2007)

The proposed project is in the early stages of master planning and may go through several iterations as the project is refined. At this time, it is contemplated that the end use of the property will likely be a mix of commercial, retail, residential, light manufacturing and/or community use. Remediation of the site will occur prior to or concurrently with proposed redevelopment.

1.3 Summary of Work Tasks

1.3.1 Recovery Well Installation

Langan will retain a drilling contractor to advance recovery wells as part of the site activities. The drilling contractor will contact the appropriate utility mark-out authority and make available to their drilling staff the verification number and effective dates. Langan will observe the installation of the recovery wells and confirm they are installed as specified in the work plan. The wells may be developed in accordance with the Langan Well Development Standard Operating Procedure (SOP #07) by surging and pumping the well until the purged water is visibly clear.

1.3.2 Product Recovery Well Bailing

Langan will remove free product from on-site recovery wells as part of Site Management Plan (SMP) activities. Langan will may use a bailer, peristaltic pump or submersible as determined by the work plan. Langan will record the volume of product and groundwater recovered. Recovered product and groundwater will be drummed in accordance with procedures outlined in the work plan and specified in the Management of Derived Waste section of this CHASP.

1.3.3 Groundwater Sampling

Groundwater samples may be collected from one or more of the existing on-site monitoring wells in accordance with the Langan Low Flow Groundwater Sampling SOP (SOP #12). Groundwater samples will be submitted to a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP)-certified laboratory and analyzed in accordance with work plan specifications.

1.3.4 Recovery/Monitoring Well Plugging and Abandonment

At an unspecified future date, the recovery and monitoring wells will be abandoned. Plugging and abandonment will be in accordance with federal and state requirements. Langan may retain a drilling contractor to complete the plugging and abandonment activities. The contractor will contact the appropriate utility mark-out authority and make available to their field staff the verification number and effective dates. Langan may observe the plugging and abandonment of one or more recovery/monitoring wells to document that the plugging and abandonment activities were completed in accordance with the work plan and regulations.

1.3.5 Equipment Decontamination

Before the start of the day's sampling and after sampling each run, sampling equipment will be decontaminated by the decontamination process outlined Attachment B - Decontamination Procedures. Decontamination wastes and purge water will be temporarily stored on site pending analytical results.

1.3.6 Management of Investigative-Derived Waste

The investigative-derived waste (IDW) generated during this investigation will be containerized in Department of Transportation (DOT)-approved 55-gallon drums. The drums will be temporarily stored on the site or as directed by the client representative. All drums will be filled to two-thirds full to allow easy maneuvering during drum pickup and disposal. Drum labels are to be provided by Langan (Environmental Closet). All drums will be labeled as "IDW Pending Analysis" until sample data are reported from the laboratory. Drum labels will include date filled and locations where waste was generated along with the standard information required by the labels in accordance with the Langan SOP09, Drum Labeling.

Closed-top drums are to be used to store liquids. Debris, including plastic sheeting, polyethylene tubing, personal protection equipment (PPE), decontamination debris, etc. will be segregated from and disposed in large heavy duty garbage bags and disposed of at the site. Excess unused glassware should be returned to the lab along with the last day of collection samples.

1.3.7 Drum Sampling

Langan personnel may collect drum samples, as required, prior to off-site drum disposal. Samples will be placed into laboratory-supplied batch-certified clean glassware and submitted to an approved laboratory and analyzed in accordance with work plan specifications, if required.

1.3.8 Surveying

Surveying activities defined in the work plan may be completed by Langan. Surveying will be conducted by licensed surveyors.

2.0 IDENTIFICATION OF KEY PERSONNEL/HEALTH AND SAFETY PERSONNEL

The following briefly describes the health and safety (H&S) designations and general responsibilities that may be employed for this site. The titles have been established to accommodate the project needs and requirements and ensure the safe conduct of site activities. The H&S personnel requirements for a given work location are based upon the proposed site activities.

2.1 Langan Project Manager

The Langan Environmental Project Manager (PM) is Albert Tashji, his responsibilities include:

- Ensuring that this CHASP is developed, current, and approved prior to on-site activities.
- Ensuring that all the tasks in the project are performed in a manner consistent with Langan's comprehensive *Health and Safety Program for Hazardous Waste Operations* and this CHASP.

2.2 Langan Corporate Health and Safety Manager

The Langan Corporate Health and Safety Manager (HSM) is Tony Moffa. His responsibilities include:

- Updating the *Construction Health and Safety Program for Hazardous Waste Operations*.
- Assisting the site Health and Safety Officer (HSO) with development of the CHASP, updating CHASP as dictated by changing conditions, jobsite inspection results, etc. and approving changes to this CHASP.
- Assisting the HSO in the implementation of this CHASP and conducting Jobsite Safety Inspections and assisting with communication of results and correction of shortcomings found.
- Maintaining records on personnel (medical evaluation results, training and certifications, accident investigation results, etc.).

2.3 Langan Site Health & Safety Officer

The Langan site HSO is William Bohrer. His responsibilities include:

- Participating in the development and implementation of this CHASP.
- When on-site, assisting the Langan Field Team Leader in conducting Tailgate Safety Meetings and Jobsite Safety Inspections and correcting any shortcomings in a timely manner.
- Ensuring that proper PPE is available, worn by employees, and properly stored and maintained.
- Controlling entry into and exit from the site contaminated areas or zones.
- Monitoring employees for signs of stress, such as heat stress, fatigue, and cold exposure.
- Monitoring site hazards and conditions.
- Knowing (and ensuring that all site personnel also know) emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire department, and police department.
- Resolving conflicts that may arise concerning safety requirements and working conditions.
- Reporting all incidents, injuries and near misses to the Langan Incident/Injury Hotline immediately and the client representative.

2.4 Langan Field Team Leader Responsibilities

The Langan Field Team Leader (FTL) will be determined prior to the start of the start of field activities. The Field Team Leader’s responsibilities include:

- The management of the day-to-day site activities and implementation of this CHASP in the field.
- Participating in and/or conducting Tailgate Safety Meetings and Jobsite Safety Inspections and correcting any shortcomings in a timely manner.
- When a Community Air Monitoring Operating Program (CAMP) is part of the scope, the FTL will set up and maintaining community air monitoring activities and instructing the responsible contractor to implement organic vapor or dust mitigation when necessary.
- Overseeing the implementation of activities specified in the work plan.

2.5 Contractor Responsibilities

The contractor shall develop and implement their own CHASP for their employees, lower-tier subcontractors, and consultants. The contractor is responsible for their own health and safety and that of their subcontractors. Contractors operating on the site shall designate their own FTL, HSO and HSM. The contractor's CHASP will be at least as stringent as this Langan CHASP. The contractor must be familiar with and abide by the requirements outlined in their own CHASP. A contractor may elect to adopt Langan's CHASP as its own provided that it has given written notification to Langan, but where Langan's CHASP excludes provisions pertinent to the contractor's work (i.e., confined space entry); the contractor must provide written addendums to this CHASP. Additionally, the contractor must:

- Ensure their employees are trained in the use of all appropriate PPE for the tasks involved;
- Notify Langan of any hazardous material brought onto the job site or site related area, the hazards associated with the material, and must provide a material safety data sheet (MSDS) or safety data sheet (SDS) for the material;
- Have knowledge of, understand, and abide by all current federal, state, and local health and safety regulations pertinent to the work;
- Ensure their employees handling hazardous materials, if identified at the site, have received current training in the appropriate levels of 29 CFR 1910.120, *Hazardous Waste Operations and Emergency Response* (HAZWOPER) if hazardous waste is identified at the Site;
- Ensure their employees handling hazardous materials, if identified at the Site, have been fit-tested within the year on the type respirator they will wear; and
- Ensure all air monitoring is in place pertaining to the health and safety of their employees as required by OSHA 1910.120; and
- All contractors must adherer to all federal, state, and local regulatory requirements.

3.0 TASK/OPERATION SAFETY AND HEALTH RISK ANALYSES

A Task-Hazard Analysis (Table 1) was completed for general construction hazards that may be encountered at the Site. The potential contaminants that might be encountered during the field activities and the exposure limits are listed in Table 2 complete inventory of MSDS/SDS for chemical products used on site is included as Attachment E.

3.1 Specific Task Safety Analysis

3.1.1 Working near Open Water

Working near the open water poses potential drowning hazards due to slipping or falling into the Gowanus Canal. Potential adverse health effects are similar to slips, trips, and falls, and may also result in drowning. Good housekeeping at the site must be maintained at all times. Employees must be aware of the location of the water's edge and must either stay at least 25 feet away from the water, or wear a personal floatation device approved by the US Coast Guard.

3.1.2 Recovery Well Installation

Langan personnel are not to operate drilling equipment nor assemble or install recovery well equipment. These tasks are to be completed by the driller contractor.

3.1.3 Groundwater Sampling

Sampling groundwater requires the donning of chemical resistant gloves in addition to the standard PPE and cut resistant gloves when cutting sampling-tubing to length.

3.1.4 Product Recovery Well Bailing

Free product recovery requires the donning of Tyvek™ suits, Tyvek™ boots and chemical resistant gloves in addition to the standard PPE and cut resistant gloves when cutting sampling-tubing to length. In addition, Langan will place plastic sheeting around the recovery well head to control spillage during product recovery.

3.1.5 Electrical Pumps

Langan may used an electric pump to collect product from the recovery wells or to sample groundwater. Langan will inspect the electric pump and control box prior to use and specifically note the condition of the electrical connectors, pump, control box and the electrical cord. The electrical connection must be a grounded and connect to the power source using a functional three prong grounded plug. The power source must be a Ground Fault Circuit Interrupter (GFI or GFCI) receptacle.

3.1.6 Plugging and Abandonment of Recovery and Monitoring Wells

Langan personnel are not to operate equipment nor assist in the plugging and abandonment of the recovery or monitoring wells. These tasks are to be completed by the contractor.

3.1.7 Drum Sampling

Drilling fluid, rinse water, grossly-contaminated soil samples and cuttings will be containerized in 55-gallon drums for disposed off-site. Each drum must be labeled in accordance with the Langan Drum Labeling Standard Operating Procedure (SOP- #9). Sampling drums requires the donning of work gloves when opening the drums and chemical resistant gloves when sampling in addition to standard PPE.

Langan personnel and contractors are not to move or open any orphaned (unlabeled) drum found on the site without approval of the project manager.

3.2 Radiation Hazards

No radiation hazards are known or expected at the site.

3.3 Physical Hazards

Physical hazards, which may be encountered during site operations for this project, are detailed in Table 1.

3.3.1 Explosion

No explosion hazards are expected for the scope of work at this site.

3.3.2 Heat Stress

The use of Level C protective equipment, or greater, may create heat stress. Monitoring of personnel wearing personal protective clothing should commence when the ambient temperature is 72°F or above. Table 6 presents the suggested frequency for such monitoring. Monitoring frequency should increase as ambient temperature increases or as slow recovery rates are observed. Refer to the Table 7 to assist in assessing when the risk for heat related illness is likely. To use this table, the ambient temperature and relative humidity must be obtained (a regional weather report should suffice). Heat stress monitoring should be performed by the HSO or the FTL, who shall be able to recognize symptoms related to heat stress.

To monitor the workers, be familiar with the following heat-related disorders and their symptoms:

- **Heat Cramps:** Painful spasm of arm, leg or abdominal muscles, during or after work
- **Heat Exhaustion:** Headache, nausea, dizziness; cool, clammy, moist skin; heavy sweating; weak, fast pulse; shallow respiration, normal temperature
- **Heat Stroke**: Headache, nausea, weakness, hot dry skin, fever, rapid strong pulse, rapid deep respirations, loss of consciousness, convulsions, coma. *This is a life threatening condition***.**

Do not permit a worker to wear a semi-permeable or impermeable garment when they are showing signs or symptoms of heat-related illness.

To monitor the worker, measure:

- **Heart rate:** Count the radial pulse during a 30-second period as early as possible in the rest period. If the heart rate exceeds 100 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same. If the heart rate still exceeds 100 beats per minute at the next rest period, shorten the following work cycle by one-third. A worker cannot return to work after a rest period until their heart rate is below 100 beats per minute.

- **Oral temperature:** Use a clinical thermometer (3 minutes under the tongue) or similar device to measure the oral temperature at the end of the work period (before drinking). If oral temperature exceeds 99.6°F (37.6°C), shorten the next work cycle by one-third without changing the rest period. A worker cannot return to work after a rest period until their oral temperature is below 99.6°F. If oral temperature still exceeds 99.6°F (37.6°C) at the beginning of the next rest period, shorten the following cycle by one-third. Do not permit a worker to wear a semi-permeable or impermeable garment when oral temperature exceeds 100.6°F (38.1°C).

Prevention of Heat Stress - Proper training and preventative measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat related illness. To avoid heat stress the following steps should be taken:

- Adjust work schedules.
- Mandate work slowdowns as needed.
- Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.
- Provide shelter (air-conditioned, if possible) or shaded areas to protect personnel during rest periods.
- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, id., eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be useful:
    - Maintain water temperature 50° to 60°F (10° to 16.6°C).
    - Provide small disposal cups that hold about four ounces (0.1 liter).
    - Have workers drink 16 ounces (0.5 liters) of fluid (preferably water or dilute drinks) before beginning work.
    - Urge workers to drink a cup or two every 15 to 20 minutes, or at each monitoring break. A total of 1 to 1.6 gallons (4 to 6 liters) of fluid per day are recommended, but more may be necessary to maintain body weight.
    - Train workers to recognize the symptoms of heat related illness.

3.3.3 Cold-Related Illness

If work on this project begins in the winter months, thermal injury due to cold exposure can become a problem for field personnel. Systemic cold exposure is referred to as hypothermia.

Local cold exposure is generally called frostbite.

- **Hypothermia -** Hypothermia is defined as a decrease in the patient core temperature below 96°F. The body temperature is normally maintained by a combination of central (brain and spinal cord) and peripheral (skin and muscle) activity. Interference with any of these mechanisms can result in hypothermia, even in the absence of what normally is considered a "cold" ambient temperature. Symptoms of hypothermia include: shivering, apathy, listlessness, sleepiness, and unconsciousness.
- **Frostbite -** Frostbite is both a general and medical term given to areas of local cold injury. Unlike systemic hypothermia, frostbite rarely occurs unless the ambient temperatures are less than freezing and usually less than 20°F. Symptoms of frostbite are: a sudden blanching or whitening of the skin; the skin has a waxy or white appearance and is firm to the touch; tissues are cold, pale, and solid.

Prevention of Cold-Related Illness - To prevent cold-related illness:

- Educate workers to recognize the symptoms of frostbite and hypothermia
- Identify and limit known risk factors:
- Assure the availability of enclosed, heated environment on or adjacent to the site.
- Assure the availability of dry changes of clothing.
- Assure the availability of warm drinks.
- Start (oral) temperature recording at the job site:
- At the FSO or Field Team Leader's discretion when suspicion is based on changes in a worker's performance or mental status.
- At a worker's request.
- As a screening measure, two times per shift, under unusually hazardous conditions (e.g., wind-chill less than 20°F, or wind-chill less than 30°F with precipitation).
- As a screening measure whenever anyone worker on the site develops hypothermia.

Any person developing moderate hypothermia (a core temperature of 92°F) cannot return to work for 48 hours.

3.3.4 Noise

Work activities during the proposed activities may be conducted at locations with high noise levels from the operation of equipment. Hearing protection will be used as necessary.

3.3.5 Hand and Power Tools

The use of hand and power tools can present a variety of hazards, including physical harm from being struck by flying objects, being cut or struck by the tool, fire, and electrocution. All hand and power tools should be inspected for health and safety hazards prior to use. If deemed unserviceable/un-operable, notify supervisor and tag equipment out of service. Ground Fault Circuit Interrupters (GFCI) are required for all power tools requiring direct electrical service.

3.3.6 Slips, Trips and Fall Hazards

Care should be exercised when walking at the site, especially when carrying equipment. The presence of surface debris, uneven surfaces, pits, facility equipment, and soil piles contribute to tripping hazards and fall hazards. To the extent possible, all hazards should be identified and marked on the site, with hazards communicated to all workers in the area.

3.3.7 Utilities (Electrocution and Fire Hazards)

3.3.7.1 Utility Clearance

The possibility of encountering underground utilities poses fire, explosion, and electrocution hazards. All excavation work will be preceded by review of available utility drawings and by notification of the subsurface work to the N.Y. One –Call–Center.

3.3.7.2 Lockout-Tagout

The potential adverse effects of electrical hazards include burns and electrocution, which could result in death. Therefore, there is a procedure that establishes the requirements for the lockout/tagout (LOTO) of energy isolating devices in accordance with the OSHA electrical lockout and tagging requirements as specified in 29 CFR 1926.417. This procedure will be used to ensure that all machines and equipment are isolated from potentially hazardous energy. If possible, equipment that could cause injury due to unexpected energizing, start-up, or release of stored energy will be locked/tagged, before field personnel perform work activities.

Depending upon the specific work task involved, Langan's SSC or FTL will serve as the authorized lockout/tagout coordinator, implement the lockout/tagout procedure and will be responsible to locate, lock and tag valves, switches, etc.

SPECIAL NOTE: Project personnel will assume that all electrical equipment at surface, subsurface and overhead locations is energized, until equipment has been designated and confirmed as de-energized by a utility company representative. Langan will notify the designated utility representative prior to working adjacent to this equipment and will verify that the equipment is energized or de-energized in the vicinity of the work location.

No project work shall be performed by Langan personnel or subcontractors on or near energized electrical lines or equipment unless hazard assessments are completed in writing, reviewed by Langan's SSHO, and clearly communicated to the field personnel.

The FTL shall conduct a survey to locate and identify all energy isolating devices. They shall be certain which switches, valves or other isolating devices apply to the equipment. The lockout/tagout procedure involves, but is not limited to, electricity, motors, steam, natural gas, compressed air, hydraulic systems, digesters, sewers, etc.

3.3.8 Physical Hazard Considerations for Material Handling

There are moderate to severe risks associated with moving heavy objects at the Site. The following physical hazards should be considered when handling materials at the Site:

- Heavy objects will be lifted and moved by mechanical devices rather than manual effort whenever possible.
- The mechanical devices will be appropriate for the lifting of moving task and will be operated only by trained and authorized personnel.
- Objects that require special handling or rigging will only be moved under the guidance of a person who has been specifically trained to move such objects.
- Lifting devices will be inspected, certified, and labeled to confirm their weight capacities. Defective equipment will be taken out of service immediately and repaired or destroyed.
- The wheels of any trucks being loaded or unloaded will be chocked to prevent movement. Outriggers will be fully extended on a flat, firm surface during operation.
- Personnel will not pass under a raised load, nor will a suspended load be left unattended.
- Personnel will not be carried on lifting equipment, unless it is specifically designed to carry passengers.
- All reciprocating, rotating, or other moving parts will be guarded at all times.
- Accessible fire extinguishers, currently (monthly) inspected, will be available in all mechanical lifting devices.
- Verify all loads/materials are secure before transportation.

Material handling tasks that are unusual or require specific guidance will need a written addendum to this CHASP. The addendum must identify the lifting protocols before the tasks are performed. Upon approval, the plan must be reviewed with all affected employees and documented. Any deviation from a written plan will require approval by the Langan HSM.

3.3.9 Hearing Conservation

Under the construction industry standard, the maximum permissible occupational noise exposure is 90 dbA (8-hour TWA), and noise levels in excess of 90 dbA must be reduced through feasible administrative and engineering controls (20 CFR 1926.52). Hearing protection is required when working within 15 feet of vacuum extraction equipment and drill rigs.

3.3.9 Open Water

Employees working over or near water, where the danger of drowning exists, shall be provided with U.S. Coast Guard-approved life jackets or buoyant work vests. Prior to and after each use, the buoyant work vests or life preservers shall be inspected for defects which would alter their strength or buoyancy. Defective units shall not be used.

And should a worker fall into the water, OSHA requires (29 CFR 1926.106(c)) that ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. The distance between ring buoys shall not exceed 200 feet. Another remedial action required by OSHA (29 CFR 1926.106(d)) is the use of lifesaving skiffs.

OSHA requires that at least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water and must include the following provisions.

- The skiff must be in the water or capable of being quickly launched by one person.
- At least one person must be present and specifically designated to respond to water emergencies and operate the skiff at all times when there are employees above water.
- When the operator is on break another operator must be designated to provide requisite coverage when there are employees above water.
- The designated operator must either have the skiff staffed at all times or have someone remain in the immediate area such that the operator can quickly reach the skiff and perform rescue services.
- The skiff operator maybe assigned other tasks provided the tasks do not interfere with the operator’s ability to quickly reach the skiff.
- A communication system, such as a walkie-talkie, must be used to inform the skiff operator of an emergency and to inform the skiff operator where the skiff is needed.
- The skiff must be equipped with both a motor and oars.

With regard to the number of skiffs required and the appropriate maximum response time, the following factors must be evaluated:

- The number of work locations where there is a danger of falling into water;
- The distance to each of those locations;
- Water temperature and currents;
- Other hazards such as, but not limited to, rapids, dams, and water intakes;

Other regulations that present S&H practices and PPE for work on or near water include: 29 CFR 1910, Subpart T (401 – 440)

3.4 Biological Hazards

3.4.1 Animals

There is a possibility of encountering wildlife including reptiles, rodents and other small and medium size mammals. The Langan personnel is to avoid interacting with any wildlife.

3.4.2 Insects

Ticks and other biting or stinging insects may to be encountered during site operations. Langan personnel should take necessary precautions including donning long sleeve shirts and insecticide to prevent bites and stings. After field work, Langan personnel should perform a complete visual inspection of their clothing to insure they are not inadvertently harboring ticks. If they do observe a tick bite, they are to contact the HSM or HSO and report the event.

3.4.3 Plants

Poisonous plants may to be encountered during site operations. Langan personnel should take necessary precautions including donning long sleeve shirts and applying preventative poison Ivy/Sumac lotion to prevent or limit effects of exposure. If after field work, Langan employees do observe a reaction to poisonous plant exposure, they are to contact the HSM or HSO and report the event.

3.4.4 Coronavirus

3.4.4.1 General Preventative Measures

Field personnel must follow general proper hygiene measures while in the field including:

- Avoid touching eyes, nose and mouth.
- Cover cough or sneeze with tissue, and throw in trash.
- Wash hands often with soap and water for 20 seconds after going to bathroom, before eating, after blowing nose, coughing or sneezing.
- Use hand sanitizer with at least 60% alcohol if soap and water are not available.
- Avoid physical contact with other people (e.g., no handshakes).
- Maintain a safe distance of at least 6 feet from other people (social distancing).
- Wear face coverings when around other worker to minimize spread of COVID-19. (May

be required in certain states or locations.)

3.4.4.2 Construction Trailers

Employees should avoid use of shared construction trailers or where employees cannot maintain a safe distance (minimum 6 feet) from other workers. If trailer use is needed, areas such as desks, phones, chairs and other common areas, should be cleaned and disinfected before and after use. Protocols should be developed to minimize trailer use to essential personal, restrict use from any workers who are ill or showing symptoms of being ill, and ensure a safe distance of 6 feet can be established between workers.

3.4.4.3 Communication

Include Coronavirus topics and prevention topics in daily tailgate meetings to ensure Coronavirus awareness is communicated daily. Discussions can focus on general topics including: social distancing, prevention measures for field personnel, signs and symptoms and recent news on the Coronavirus. Site-specific topics should include minimizing face-to-face contact, disinfecting/sterilizing field equipment, use of PPE to reduce exposure, site security and other potential exposure issues/concerns.

3.4.4.4 Sick/Ill Workers

No Langan employee is permitted to be onsite when ill and/or showing potential symptoms of the Coronavirus. Symptoms of the Coronavirus may appear 2-14 days after exposure and can range from mild to severe. The most common symptoms include: fever, fatigue, dry cough and shortness of breath. If an employee or subcontractor is observed being ill or exhibiting symptoms of Coronavirus, employees must immediately utilize their Stop Work Authority and contact their project manager to address the situation. If an employee observes another worker onsite exhibiting symptoms of Coronavirus, immediately utilize Stop Work Authority and notify their project manager and site construction manager or safety officer. Work should resume when the safety and health of Langan and subcontractors is adequately addressed.

3.5 Additional Safety Analysis

3.5.1 Presence of Non-Aqueous Phase Liquids (NAPL)

There is potential for exposure to NAPL at this site. Special care and PPE should be considered when NAPL is observed as NAPL is a typically flammable fluid and releases VOCs known to be toxic and/or carcinogenic. If NAPL is present in a monitoring well, vapors from the well casing may contaminate the work area breathing zone with concentrations of VOCs potentially exceeding health and safety action levels. In addition, all equipment used to monitor or sample

NAPL (or ground water from wells containing NAPL) must be intrinsically safe. Equipment that directly contacts NAPL must also be resistant to organic solvents.

At a minimum, a PID should be used to monitor for VOCs when NAPL is observed. If NAPL is expected to be observed in an excavation or enclosed area, air monitoring must be started using calibrated air monitoring equipment designed to sound an audio alarm when atmospheric concentrations of VOC are within 10% of the LEL. In normal atmospheric oxygen concentrations, the LEL monitoring may be done with a Wheatstone bridge/catalytic bead type sensor (i.e. MultiRAE). However in oxygen depleted atmospheres (confined space), only an LEL designed to work in low oxygen environments may be used. Best practices require that the LEL monitoring unit be equipped with a long sniffer tube to allow the LEL unit to remain outside the UST excavation.

When NAPL is present, Langan personnel are required to use disposable nitrile gloves at all times to prevent skin contact with contaminated materials. They should also consider having available a respirator and protective clothing (Tyvek® overalls), especially if NAPL is in abundance and there are high concentrations of VOCs.

All contaminated disposables including PPE and sampling equipment must be properly disposed of in labeled 55-gallon drums

3.6 Job Safety Analysis

A Job Safety Analysis (JSA) is a process to identify existing and potential hazards associated with each job or task so these hazards can be eliminated, controlled or minimized. A JSA will be performed at the beginning of each work day, and additionally whenever an employee begins a new task or moves to a new location. All JSAs must be developed and reviewed by all parties involved. A blank JSA form and documentation of completed JSAs are in Attachment G.

4.0 PERSONNEL TRAINING

4.1 Basic Training

Completion of an initial 40-hour HAZWOPER training program as detailed in OSHA's 29 CFR 1910.120(e) is required for all employees working on a site engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances, health hazards, or safety hazards as defined by 29 CFR 1910.120(a). Annual 8-hour refresher training is also required to maintain competencies to ensure a safe work environment. In addition to these training requirements, all employees must complete the OSHA 10 hour Construction Safety and Health training and supervisory personnel must also receive eight additional hours of specialized management training. Training records are maintained by the HSM.

4.2 Initial Site-Specific Training

Training will be provided to specifically address the activities, procedures, monitoring, and equipment for site operations at the beginning of each field mobilization and the beginning of each discrete phase of work. The training will include the site and facility layout, hazards, and emergency services at the site, and will detail all the provisions contained within this CHASP. For a HAZWOPER operation, training on the site must be for a minimum of 3 days. Specific issues that will be addressed include the hazards described in Section 3.0.

4.3 Tailgate Safety Briefings

Before starting work each day or as needed, the Langan HSO will conduct a brief tailgate safety meeting to assist site personnel in conducting their activities safely. Tailgate meetings will be documented in Attachment H. Briefings will include the following:

- Work plan for the day;
- Review of safety information relevant to planned tasks and environmental conditions;
- New activities/task being conducted;
- Results of Jobsite Safety Inspection Checklist;
- Changes in work practices;
- Safe work practices; and
- Discussion and remedies for noted or observed deficiencies.

5.0 MEDICAL SURVEILLANCE

All personnel who will be performing field work involving potential exposure to toxic and hazardous substances (defined by 29 CFR 1910.120(a)) will be required to have passed an initial baseline medical examination, with follow-up medical exams thereafter, consistent with 29 CFR 1910.120(f). Medical evaluations will be performed by, or under the direction of, a physician board-certified in occupational medicine.

Additionally, personnel who may be required to perform work while wearing a respirator must receive medical clearance as required under CFR 1910.134(e), *Respiratory Protection*. Medical evaluations will be performed by, or under the direction of, a physician board-certified in occupational medicine. Results of medical evaluations are maintained by the HSM.

6.0 PERSONAL PROTECTIVE EQUIPMENT

6.1 Levels of Protection

Langan will provide PPE to Langan employees to protect them from the specific hazards they are likely to encounter on-site. Direct hired contractors will provide their employees with equivalent PPE to protect them from the specific hazards likely to be encountered on-site. Selection of the appropriate PPE must take into consideration: (1) identification of the hazards or suspected hazards; (2) potential exposure routes; and, (3) the performance of the PPE construction (materials and seams) in providing a barrier to these hazards.

Based on anticipated site conditions and the proposed work activities to be performed at the site, Level D protection will be used. The upgrading/downgrading of the level of protection will be based on continuous air monitoring results as described in Section 6.0 (when applicable). The decision to modify standard PPE will be made by the site HSO or FTL after conferring with the PM. The levels of protection are described below.

<u>Level D Protection (as needed)</u>

- Safety glasses with side shields or chemical splash goggles
- Safety boots/shoes
- Coveralls (Tyvek® or equivalent)
- Hard hat
- Long sleeve work shirt and work pants
- Nitrile gloves
- Hearing protection
- Reflective safety vest

<u>Level D Protection (Modified, as needed)</u>

- Safety glasses with sideshields or chemical splash goggles
- Safety boots/shoes (toe-protected)
- Disposable chemical-resistant boot covers
- Coveralls (polycoated Tyvek or equivalent to be worn when contact with wet contaminated soil, groundwater, or non-aqueous phase liquids is anticipated)
- Hard hat
- Long sleeve work shirt and work pants
- Nitrile gloves
- Hearing protection (as needed)
- Personal floatation device (for work within 5 feet of the water)

- Reflective traffic vest

Level C Protection (as needed)

- Full or Half face, air-purifying respirator, with NIOSH approved HEPA filter
- Inner (latex) and outer (nitrile) chemical-resistant gloves
- Safety glasses with side shields or chemical splash goggles
- Chemical-resistant safety boots/shoes
- Hard hat
- Long sleeve work shirt and work pants
- Coveralls (Tyvek® or equivalent)
- Hearing protection (as needed)
- Reflective safety vest

The action levels used in determining the necessary levels of respiratory protection and upgrading to Level C are summarized in Table 4. The written Respiratory Protection Program is maintained by the HSM and is available if needed. The monitoring procedures and equipment are outlined in Section 6.0 (when applicable).

6.2 Respirator Fit-Test

All Langan employees who may be exposed to hazardous substances at the work site are in possession of a full- or half-face, air-purifying respirator and have been successfully fit-tested within the past year. Fit-test records are maintained by the HSM.

6.3 Respirator Cartridge Change-Out Schedule

Respiratory protection is required to be worn when certain action levels (table 2) are reached. A respirator cartridge change-out schedule has been developed in order to comply with 29 CFR 1910.134. The respirator cartridge change-out schedule for this project is as follows:

- Cartridges shall be removed and disposed of at the end of each shift, when cartridges become wet or wearer experiences breakthrough, whichever occurs first.
- If the humidity exceeds 85%, then cartridges shall be removed and disposed of after 4 hours of use.

Respirators shall not be stored at the end of the shift with contaminated cartridges left on. Cartridges shall not be worn on the second day, no matter how short the time period was the previous day they were used.

7.0 AIR QUALITY MONITORING AND ACTION LEVELS

7.1 Monitoring During Site Operations

Atmospheric air monitoring results may be collected and used to provide data to determine when exclusion zones need to be established and when certain levels of personal protective equipment are required. For all instruments there are Site-specific action level criteria which are used in making field health and safety determinations. Other data, such as the visible presence of contamination or the steady state nature of air contaminant concentration, are also used in making field health and safety decisions. Therefore, the HSO may establish an exclusion zone or require a person to wear a respirator even though atmospheric air contaminant concentrations are below established CHASP action levels.

During site work involving disturbance of petroleum-impacted or fill material, real time air monitoring may be conducted for volatile organic compounds (VOCs). A photoionization detector (PID) and/or flame ionization detector (FID) will be used to monitor concentrations of VOCs at personnel breathing-zone height. Air monitoring will be the responsibility of the HSO or designee. Air monitoring may be conducted during intrusive activities associated with the completion of excavation, debris removal, and soil grading. All manufacturers' instructions for instrumentation and calibration will be available onsite.

Subcontractors' air monitoring plans must be equal or more stringent as the Langan plan.

An air monitoring calibration log is provided in Attachment D of this CHASP.

7.1.1 Volatile Organic Compounds

Monitoring with a PID, such as a MiniRAE 2000 (10.6v) or equivalent may occur during intrusive work in the AOCs. Colormetric Indicator Tubes for benzene may be used as backup for the PID, if measurements remain above background monitor every 2 hours. The HSO will monitor the employee breathing zone at least every 30 minutes, or whenever there is any indication that concentrations may have changed (odors, visible gases, etc.) since the last measurement. If VOC levels are observed above 5 ppm for longer than 5 minutes or if the site PPE is upgraded to Level C, the HSO will begin monitoring the site perimeter at a location downwind of the AOC every 30 minutes in addition to the employee breathing zone. Instrument action levels for monitored gases are provided in Table 4.

7.1.2 Metals

Based upon the site historical fill, there is a potential for the soils to contain PAHs and metals. During invasive procedures which have the potential for creating airborne dust, such as excavation of dry soils, a real time airborne dust monitor such as a Mini-Ram may be used to monitor for air particulates. The HSO will monitor the employee breathing zone at least every 30 minutes, or whenever there is any indication that concentrations may have changed (appearance of visible dust) since the last measurement. If dust levels are observed to be greater than 0.100 mg/m^3 or visible dust is observed for longer than 15 minutes or if the site PPE is upgraded to Level C, the HSO will begin monitoring the site perimeter at a location downwind of the AOC every 30 minutes in addition to the employee breathing zone. Instrument action levels for dust monitoring are provided in Table 4.

7.2 Monitoring Equipment Calibration and Maintenance

Instrument calibration shall be documented and included in a dedicated safety and health logbook or on separate calibration pages of the field book. All instruments shall be calibrated before and after each shift. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings may be taken to confirm individual instrument response.

All instruments shall be operated in accordance with the manufacturers' specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on site by the HSO for reference.

7.3 Determination of Background Levels

Background (BKD) levels for VOCs and dust will be established prior to intrusive activities within the AOC at an upwind location. A notation of BKD levels will be referenced in the daily monitoring log. BKD levels are a function of prevailing conditions. BKD levels will be taken in an appropriate upwind location as determined by the HSO.

Table 4 lists the instrument action levels.

8.0 COMMUNITY AIR MONITORING PROGRAM

Community air monitoring may be conducted in compliance with local standards or the generic CAMP outlined below:

Monitoring for dust and odors will be conducted during all ground intrusive activities by the FTL. Continuous monitoring on the perimeter of the work zones for odor, VOCs, and dust may be required for all ground intrusive activities such as soil excavation and handling activities. The work zone is defined as the general area in which machinery is operating in support of remediation activities. A portable PID will be used to monitor the work zone and for periodic monitoring for VOCs during activities such as soil and groundwater sampling and .soil excavation. The site perimeter will be monitored for fugitive dust emissions by visual observations as well as instrumentation measurements (if required). When required, particulate or dust will be monitored continuously with real-time field instrumentation that will meet, at a minimum, the local standards or, default to the performance standards below:

If VOC monitoring is required, the following actions will be taken based on VOC levels measured:

- If total VOC levels exceed 5 ppm above background for the 15-minute average at the perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 ppm above background, work activities will resume with continued monitoring.
- If total VOC levels at the downwind perimeter of the hot zone persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps work activities will resume provided that the total organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm above background for the 15-minute average.
- If the total VOC level is above 25 ppm at the perimeter of the hot zone, activities will be shut down.

If dust monitoring with field instrumentation is required, the following actions will be taken based on instrumentation measurements:

- If the downwind particulate level is 100 micrograms per cubic meter (µg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression must be employed. Work may continue with dust suppression techniques provided that downwind PM10 levels do not exceed 150 µg/m^3 above the background level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM10 levels are greater than 150 µg/m^3 above the background level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM10 concentration to within 150 µg/m^3 of the upwind level and in preventing visible dust migration.

8.1 Vapor Emission Response Plan

This section applies if VOC monitoring is required. If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the hot zone, boring and well installation, and excavation activities will be halted or odor controls will be employed, and monitoring continued. When work shut-down occurs, downwind air monitoring as directed by the HSO or FTL will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

If the organic vapor level decreases below 5 ppm above background, sampling and boring and well installation can resume, provided:

- The organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest residential or commercial structure, whichever is less, is below 1 ppm over background, and
- More frequent intervals of monitoring, as directed by the HSO or FTL, are conducted.

8.2 Major Vapor Emission

This section applies if VOC monitoring is required. If any organic levels greater than 5 ppm over background are identified 200 feet downwind from the work site, or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted or odor controls must be implemented.

If, following the cessation of the work activities, or as the result of an emergency, organic levels persist above 5 ppm above background 200 feet downwind or half the distance to the nearest residential or commercial property from the hot zone, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20 Foot Zone).

If either of the following criteria is exceeded in the 20 Foot Zone, then the Major Vapor Emission Response Plan shall automatically be implemented.

- Sustained organic vapor levels approaching 5 ppm above background for a period of more than 30 minutes, or
- Organic vapor levels greater than 5 ppm above background for any time period.

8.3 Major Vapor Emission Response Plan

Upon activation, the following activities will be undertaken:

- The local police authorities will immediately be contacted by the HSO or FTL and advised of the situation;
- Frequent air monitoring will be conducted at 30-minute intervals within the 20 Foot Zone. If two successive readings below action levels are measured, air monitoring may be halted or modified by the HSO or FTL; and
- All Emergency contacts will go into effect as appropriate.

8.4 Dust Suppression Techniques

Preventative measures for dust generation may include wetting site fill and soil, construction of an engineered construction entrance with gravel pad, a truck wash area, covering soils with tarps, and limiting vehicle speeds to five miles per hour.

Work practices to minimize odors and vapors include limiting the time that the excavations remain open, minimizing stockpiling of contaminated-source soil, and minimizing the handling of contaminated material. Offending odor and organic vapor controls may include the application of foam suppressants or tarps over the odor or VOC source areas. Foam suppressants may include biodegradable foams applied over the source material for short-term control of the odor and VOCs.

If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: direct load-out of soils to trucks for off-site disposal; use of chemical odorants in spray or misting systems; and, use of staff to monitor odors in surrounding neighborhoods.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

9.0 WORK ZONES AND DECONTAMINATION

9.1 Site Control

Work zones are intended to control the potential spread of contamination throughout the site and to assure that only authorized individuals are permitted into potentially hazardous areas.

Any person working in an area where the potential for exposure to site contaminants exists will only be allowed access after providing the HSO with proper training and medical documentation.

Exclusion Zone (EZ) - All activities which may involve exposure to site contaminants, hazardous materials and/or conditions should be considered an EZ. Decontamination of field equipment will also be conducted in the Contaminant Reduction Zone (CRZ) which will be located on the perimeter of the EZ. The EZ and the CRZ will be clearly delineated by cones, tapes or other means. The HSO may establish more than one EZ where different levels of protection may be employed or different hazards exist. The size of the EZ shall be determined by the HSO allowing adequate space for the activity to be completed, field members and emergency equipment.

9.2 Contamination Zone

9.2.1 Personnel Decontamination Station

Personal hygiene, coupled with diligent decontamination, will significantly reduce the potential for exposure.

9.2.2 Minimization of Contact with Contaminants

During completion of all site activities, personnel should attempt to minimize the chance of contact with contaminated materials. This involves a conscientious effort to keep "clean" during site activities. All personnel should minimize kneeling, splash generation, and other physical contact with contamination as PPE is intended to minimize accidental contact. This may ultimately minimize the degree of decontamination required and the generation of waste materials from site operations.

Field procedures will be developed to control over spray and runoff and to ensure that unprotected personnel working nearby are not affected.

9.2.3 Personnel Decontamination Sequence

Decontamination may be performed by removing all PPE used in EZ and placing it in drums/trash cans at the CRZ. Baby wipes should be available for wiping hands and face. Drums/trash cans-will be labeled by the field crews in accordance with all local, state, and federal requirements. Management plans for contaminated PPE, and tools are provided below.

9.2.4 Emergency Decontamination

If circumstances dictate that contaminated clothing cannot be readily removed, then remove gross contamination and wrap injured personnel with clean garments/blankets to avoid contaminating other personnel or transporting equipment. If the injured person can be moved, he/she will be decontaminated by site personnel as described above before emergency responders handle the victim. If the person cannot be moved because of the extent of the injury (a back or neck injury), provisions shall be made to ensure that emergency response personnel will be able to respond to the victim without being exposed to potentially hazardous atmospheric conditions. If the potential for inhalation hazards exist, such as with open excavation, this area will be covered with polyethylene sheeting to eliminate any potential inhalation hazards. All emergency personnel are to be immediately informed of the injured person's condition, potential contaminants, and provided with all pertinent data.

9.2.5 Hand-Held Equipment Decontamination

Hand-held equipment includes all monitoring instruments as stated earlier, samples, hand tools, and notebooks. The hand-held equipment is dropped at the first decontamination station to be decontaminated by one of the decontamination team members. These items must be decontaminated or discarded as waste prior to removal from the CRZ.

To aid in decontamination, monitoring instruments can be sealed in plastic bags or wrapped in polyethylene. This will also protect the instruments against contaminants. The instruments will be wiped clean using wipes or paper towels if contamination is visually evident. Sampling equipment, hand tools, etc. will be cleaned with non-phosphorous soap to remove any potentially contaminated soil, and rinsed with deionized water. All decontamination fluids will be containerized and stored on-site pending waste characterization sampling and appropriate off-site disposal.

9.2.6 Heavy Equipment Decontamination

All heavy equipment and vehicles arriving at the work site will be free from contamination from offsite sources. Any vehicles arriving to work that are suspected of being impacted will not be permitted on the work site. Potentially contaminated heavy equipment will not be permitted to leave the EZ unless it has been thoroughly decontaminated and visually inspected by the HSO or his designee.

9.3 Support Zone

The support zone or cold zone will include the remaining areas of the job site. Break areas and support facilities (include equipment storage and maintenance areas) will be located in this zone. No equipment or personnel will be permitted to enter the cold zone from the hot zone without passing through the decontamination station in the warm zone (if necessitated). Eating, smoking, and drinking will be allowed only in this area.

9.4 Communications

The following communications equipment will be utilized as appropriate.

- Telephones - A cellular telephone will be located with the HSO for communication with the HSM and emergency support services/facilities.
- Hand Signals - Hand signals shall be used by field teams, along with the buddy system. The entire field team shall know them before operations commence and their use covered during site-specific training. Typical hand signals are the following:

Hand Signal	Meaning
Hand gripping throat	Out of air; cannot breathe
Grip partners wrists or place both hands around waist	Leave immediately without debate
Hands on top of head	Need assistance
Thumbs up	OK; I'm alright; I understand
Thumbs down	No; negative
Simulated "stick" break with fists	Take a break; stop work

9.5 The Buddy System

When working in teams of two or more, workers will use the "buddy system" for all work activities to ensure that rapid assistance can be provided in the event of an emergency. This requires work groups to be organized such that workers can remain close together and maintain visual contact with one another. Workers using the "buddy system" have the following responsibilities:

- Provide his/her partner with assistance.
- Observe his/her partner for signs of chemical or heat exposure.
- Periodically check the integrity of his/her partner's PPE.
- Notify the HSO or other site personnel if emergency service is needed.

10.0 NEAREST MEDICAL ASSISTANCE

The address and telephone number of the nearest hospital:

Brooklyn Hospital Center
121 Dekalb Avenue
Brooklyn, NY
718-250-8000

Map with directions to the hospital are shown in Figure 2. This information will either be posted prominently at the site or will be available to all personnel all of the time. Further, all field personnel, including the HSO & FTL, will know the directions to the hospital.

11.0 STANDING ORDERS/SAFE WORK PRACTICES

The standing orders, which consist of a description of safe work practices that must always be followed while on-site by Langan employees and contractors, are shown in Attachment A. The site HSO and FTL each have the responsibility for enforcing these practices. The standing orders will be posted prominently at the site, or are made available to all personnel at all times. Those who do not abide by these safe work practices will be removed from the site.

12.0 SITE SECURITY

No unauthorized personnel shall be permitted access to the work areas.

13.0 UNDERGROUND UTILITIES

As provided in Langan's Underground Utility Clearance Guidelines, the following safe work practices should be followed by Langan personnel and the contractor before and during subsurface work in accordance with federal, state and local regulations:

- Obtain available utility drawings from the property owner/client or operator.
- Provide utility drawings to the project team.
- In the field, mark the proposed area of subsurface disturbance (when possible).
- Ensure that the utility clearance system has been notified.
- Ensure that utilities are marked before beginning subsurface work.
- Discuss subsurface work locations with the owner/client and contractors.
- Obtain approval from the owner/client and operators for proposed subsurface work locations.
- Use safe digging procedures when applicable.
- Stay at least 10 feet from all equipment performing subsurface work.

14.0 SITE SAFETY INSPECTION

The Langan HSO or alternate will check the work area daily, at the beginning and end of each work shift or more frequently to ensure safe work conditions. The HSO or alternate must complete the Jobsite Safety Inspection Checklist, found in Attachment F. Any deficiencies shall be shared with the FTL, HSM and PM and will be discussed at the daily tailgate meeting.

15.0 HAND AND POWER TOOLS

All hand- and electric-power tools and similar equipment shall be maintained in a safe operating condition. All electric-power tools must be inspected before initial use. Damaged tools shall be removed immediately from service or repaired. Tools shall be used only for the purpose for which they were designed. All users must be properly trained in their safe operation.

16.0 EMERGENCY RESPONSE

16.1 General

This section establishes procedures and provides information for use during a project emergency. Emergencies happen unexpectedly and quickly, and require an immediate response; therefore, contingency planning and advanced training of staff is essential. Specific elements of emergency support procedures that are addressed in the following subsections include communications, local emergency support units, and preparation for medical emergencies, first aid for injuries incurred on site, record keeping, and emergency site evacuation procedures. In case of emergency, in addition to 911, call *Incident Intervention®* at 1-888-479-7787 to report their injuries. For all other communications, contact the Langan Incident Hotline at **(800) 9-LANGAN** (800-952-6426) extension 4699 as soon as possible.

Should outside assistance be needed for accidents, fire, or release of hazardous substances, the emergency numbers will be available and posted at the site (Table 5) where a readily accessible telephone is made available for emergency use.

Also, in the event of an incident where a team member becomes exposed or suffers from an acute symptom from contact with site materials and has to be taken to a hospital, a short medical data sheet (Attachment T) for that individual will be made available to the attending physician. The medical data sheet will include the following:

- Name, address, home phone
- Age, height, weight
- Name of person to be notified in case of an accident
- Allergies
- Particular sensitivities
- Does he/she wear contact lenses
- Short checklist of previous illness
- Name of personal physician and phone
- Name of company physician and phone
- Prescription and non-prescription medications currently used.

A sample medical data sheet is included in Attachment T.

16.2 Responsibilities

16.2.1 Health and Safety Officer (HSO)

The HSO is responsible for ensuring that all personnel are evacuated safely and that machinery and processes are shut down or stabilized in the event of a stop work order or evacuation. The HSO is responsible for ensuring the HSM are notified of all incidents, all injuries, near misses, fires, spills, releases or equipment damage. The HSO is required to immediately notify the HSM of any fatalities or catastrophes (three or more workers injured and hospitalized) so that the HSM can notify OSHA within the required time frame.

16.2.2 Emergency Coordinator

The HSO or their designated alternate will serve as the Emergency Coordinator. The Emergency Coordinator is responsible for ensuring that all personnel are evacuated safely and that machinery and processes are shut down or stabilized in the event of a stop work order or evacuation. They are also responsible for ensuring the HSM are notified of all incidents, all injuries, near misses, fires, spills, releases or equipment damage. The Emergency Coordinator is required to immediately notify the HSM of any fatalities or catastrophes (three or more workers injured and hospitalized.

The Emergency Coordinator shall locate emergency phone numbers and identify hospital routes prior to beginning work on the sites. The Emergency Coordinator shall make necessary arrangements to be prepared for any emergencies that could occur.

The Emergency Coordinator is responsible for implementing the Emergency Response Plan.

16.2.3 Site Personnel

Project site personnel are responsible for knowing the Emergency Response Plan and the procedures contained herein. Personnel are expected to notify the Emergency Coordinator of situations that could constitute a site emergency. Project site personnel, including all subcontractors will be trained in the Emergency Response Plan.

16.3 Communications

Once an emergency situation has been stabilized, or as soon as practically, the injured Langan personnel should contact *Incident Intervention®* at 1-888-479-7787 to report their injuries. For all other communications, contact the Langan Incident Hotline at **(800) 9-LANGAN** (800-952-6426) extension 4699 as soon as possible.

16.4 Local Emergency Support Units

In order to be able to deal with any emergency that might occur during investigative activities at the site, the Emergency Notification Numbers (Table 5) will be posted and provided to all personnel conducting work within the EZ.

Figure 2 shows the hospital route map. Outside emergency number 911 and local ambulance should be relied on for response to medical emergencies and transport to emergency rooms. Always contact first responders when there are serious or life threatening emergencies on the site. Project personnel are instructed not to drive injured personnel to the Hospital. In the event of an injury, provide first aid and keep the injured party calm and protected from the elements and treat for shock when necessary.

16.5 Pre-Emergency Planning

Langan will communicate directly with administrative personnel from the emergency room at the hospital in order to determine whether the hospital has the facilities and personnel needed to treat cases of trauma resulting from any of the contaminants expected to be found on the site. Instructions for finding the hospital will be posted conspicuously in the site office and in each site vehicle.

16.6 Emergency Medical Treatment

The procedures and rules in this CHASP are designed to prevent employee injury. However, should an injury occur, no matter how slight, it will be reported to the HSO, immediately. First-aid equipment will be available on site at the following locations:

- First Aid Kit: Contractor Vehicles
- Emergency Eye Wash: Contractor Vehicles

During the site safety briefing, project personnel will be informed of the location of the first aid station(s) that has been set up. Some injuries, such as severe cuts and lacerations or burns, may require immediate treatment. Any first aid instructions that can be obtained from doctors or paramedics, before an emergency-response squad arrives at the site or before the injured person can be transported to the hospital, will be followed closely.

16.7 Personnel with current first aid and CPR certification will be identified.

Only in non-emergency situations may an injured person be transported to an urgent care facility. Due to hazards that may be present at the site and the conditions under which operations are conducted, it is possible that an emergency situation may develop. Emergency situations can be characterized as injury or acute chemical exposure to personnel, fire or explosion, environmental release, or hazardous weather conditions.

16.8 Emergency Site Evacuation Routes and Procedures

All project personnel will be instructed on proper emergency response procedures and locations of emergency telephone numbers during the initial site safety meeting. If an emergency occurs as a result of the site investigation activities, including but not limited to fire, explosion or significant release of toxic gas into the atmosphere, the Langan Project Manager will be verbally notified immediately. All heavy equipment will be shut down and all personnel will evacuate the work areas and assemble at the nearest intersection to be accounted for and to receive further instructions.

In the event that an emergency situation arises, the FTL will implement an immediate evacuation of all project personnel due to immediate or impending danger. The FTL will also immediately communicate with the contractor to coordinate any needed evacuation of the property.

The FTL or Site Supervisor will give necessary instructions until the Designated Incident Commander (IC) assumes control. After the emergency has been resolved, the FTL or Site Supervisor will coordinate with the IC and indicate when staff should resume their normal duties. If dangers are present for those at the designated assembly point, another designated location of assembly will be established.

It will be the responsibility of the FTL or Site Supervisor to report a fire or emergency, assess the seriousness of the situation, and initiate emergency measures until the arrival of the local fire fighters or other first responders, should they be necessary. The FTL, working with emergency responders, may also order the closure of the Site for an indefinite period as long as it is deemed necessary.

Under no circumstances will incoming visitors be allowed to proceed to the area of concern, once an emergency evacuation has been implemented. Visitors or other persons present in the area of the emergency shall be instructed to evacuate the area. The FTL will ensure that access roads are not obstructed and will remain on-site to provide stand-by assistance upon arrival of emergency personnel.

If it is necessary to temporarily control traffic in the event of an emergency, those persons controlling traffic will wear proper reflection warning vests until the arrival of police or fire personnel.

16.8.1 Designated Assembly Locations

All personnel will evacuate the site and assemble at a designated assembly location. The assembly location will be designated by Langan personnel and discussed during each shift's pre-job safety briefing.

16.8.2 Accounting for Personnel

All contractor and subcontractor supervisors are responsible for the accounting of all personnel assembled at the designed assembly area. The Designated Incident Commander shall be notified if personnel are not found.

16.9 Fire Prevention and Protection

In the event of a fire or explosion, procedures will include immediately evacuating the site and notification of the Langan Project Manager of the investigation activities. Portable fire extinguishers will be provided at the work zone. The extinguishers located in the various locations should also be identified prior to the start of work. No personnel will fight a fire beyond the stage where it can be put out with a portable extinguisher (incipient stage).

16.9.1 Fire Prevention

Fires will be prevented by adhering to the following precautions:

- Good housekeeping and storage of materials.
  - Storage of flammable liquids and gases away from oxidizers.
  - Shutting off engines to refuel.
  - Grounding and bonding metal containers during transfer of flammable liquids.
  - Use of UL approved flammable storage cans.
  - Fire extinguishers rated at least 10 pounds ABC located on all heavy equipment, in all trailers and near all hot work activities.

The person responsible for the control of fuel source hazards and the maintenance of fire prevention and/or control equipment is the HSO.

16.10 Significant Vapor Release

Based on the proposed tasks, the potential for a significant vapor release is low. However, if a release occurs, the following steps will be taken:

- Move all personnel to an upwind location. All non-essential personnel shall evacuate.
- Upgrade to Level C Respiratory Protection.

- Downwind perimeter locations shall be monitored for volatile organics.
- If the release poses a potential threat to human health or the environment in the community, the Emergency Coordinator shall notify the Langan Project Manager.
- Local emergency response coordinators will be notified.

16.11 Overt Chemical Exposure

The following are standard procedures to treat chemical exposures. Other, specific procedures detailed on the Material Safety Data Sheet (MSDS) will be followed, when necessary.

SKIN AND EYE: Use copious amounts of soap and water from eye-wash kits and portable hand wash stations.

CONTACT: Wash/rinse affected areas thoroughly, then provide appropriate medical attention. Skin shall also be rinsed for 15 minutes if contact with caustics, acids or hydrogen peroxide occurs. Affected items of clothing shall also be removed from contact with skin.

Providing wash water and soap will be the responsibility of each individual contractor or subcontractor on-site.

16.12 Decontamination during Medical Emergencies

If emergency life-saving first aid and/or medical treatment is required, normal decontamination procedures may need to be abbreviated or omitted. The HSO or designee will accompany contaminated victims to the medical facility to advice on matters involving decontamination when necessary. The outer garments can be removed if they do not cause delays, interfere with treatment or aggravate the problem. Respiratory equipment must always be removed. Protective clothing can be cut away. If the outer contaminated garments cannot be safely removed on site, a plastic barrier placed between the injured individual and clean surfaces should be used to help prevent contamination of the inside of ambulances and/or medical personnel. Outer garments may then be removed at the medical facility. No attempt will be made to wash or rinse the victim if his/her injuries are life threatening, unless it is known that the individual has been contaminated with an extremely toxic or corrosive material which could also cause severe injury or loss of life to emergency response personnel. For minor medical problems or injuries, the normal decontamination procedures will be followed.

16.13 Adverse Weather Conditions

In the event of adverse weather conditions, the HSO will determine if work will continue without potentially risking the safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat stress and heat-related injuries.
- Potential for cold stress and cold-related injuries.
- Treacherous weather-related working conditions (hail, rain, snow, ice, high winds).
- Limited visibility (fog).
- Potential for electrical storms.
- Earthquakes.
- Other major incidents.

Site activities will be limited to daylight hours, or when suitable artificial light is provided, and acceptable weather conditions prevail. The HSO will determine the need to cease field operations or observe daily weather reports and evacuate, if necessary, in case of severe inclement weather conditions.

16.14 Spill Control and Response

All small spills/environmental releases shall be contained as close to the source as possible. Whenever possible, the MSDS will be consulted to assist in determining proper waste characterization and the best means of containment and cleanup. For small spills, sorbent materials such as sand, sawdust or commercial sorbents should be placed directly on the substance to contain the spill and aid recovery. Any acid spills should be diluted or neutralized carefully prior to attempting recovery. Berms of earthen or sorbent materials can be used to contain the leading edge of the spills. All spill containment materials will be properly disposed. An exclusion zone of 50 to 100 feet around the spill area should be established depending on the size of the spill.

All contractor vehicles shall have spill kits on them with enough material to contain and absorb the worst-case spill from that vehicle. All vehicles and equipment shall be inspected prior to be admitted on site. Any vehicle or piece of equipment that develops a leak will be taken out of service and removed from the job site.

The following seven steps shall be taken by the Emergency Coordinator:

1. Determine the nature, identity and amounts of major spills.
2. Make sure all unnecessary persons are removed from the spill area.
3. Notify the HSO immediately.
4. Use proper PPE in consultation with the HSO.
5. If a flammable liquid, gas or vapor is involved, remove all ignition sources and use non-sparking and/or explosion-proof equipment to contain or clean up the spill (diesel-only vehicles, air-operated pumps, etc.)

6. If possible, try to stop the leak with appropriate material.
7. Remove all surrounding materials that can react or compound with the spill.

In addition to the spill control and response procedures described in this CHASP, Langan personnel will coordinate with the designated project manager relative to spill response and control actions. Notification to the Project Manager must be immediate and, to the extent possible, include the following information:

- Time and location of the spill.
- Type and nature of the material spilled.
- Amount spilled.
- Whether the spill has affected or has a potential to affect a waterway or sewer.
- A brief description of affected areas/equipment.
- Whether the spill has been contained.
- Expected time of cleanup completion. If spill cleanup cannot be handled by Langan's on-site personnel alone, such fact must be conveyed to the Project Manager immediately.

Langan shall not make any notification of spills to outside agencies. The client will notify regulatory agencies as per their reporting procedures.

16.15 Emergency Equipment

The following minimum emergency equipment shall be kept and maintained on site:

- Industrial first aid kit.
- Fire extinguishers (one per site).

16.16 Restoration and Salvage

After an emergency, prompt restoration of utilities, fire protection equipment, medical supplies and other equipment will reduce the possibility of further losses. Some of the items that may need to be addressed are:

- Refilling fire extinguishers.
- Refilling medical supplies.
- Recharging eyewashes and/or showers.
- Replenishing spill control supplies.

16.17 Documentation

Immediately following an incident or near miss, unless emergency medical treatment is required, either the employee or a coworker must contact the Langan Incident/Injury Hotline at 1-(800)-9-

LANGAN (ext. #4699) and the client representative to report the incident or near miss. For emergencies involving personnel injury and/or exposure, the HSO and affected employee will complete and submit an Employee Exposure/Injury Incident Report (Attachment C) to the Langan Corporate Health and Safety Manager as soon as possible following the incident.

17.0 SPECIAL CONDITIONS

This guideline contains information and requirements for special conditions that may not be routinely encountered.

17.1 Scope

The guideline applies to the specific projects identified within this document. Additional provisions will be addressed in each Site-Specific CONSTRUCTION HEALTH AND SAFETY PLAN (CHASP), as needed.

17.2 Responsibilities

Site Personnel - All site personnel must be alert to safety hazards on work sites and take action to minimize such hazards. Personnel must utilize the buddy system, watch for inappropriate behavior, and be alert to changes in site conditions.

Health and Safety Officer (HSO) - The HSO is responsible for considering these procedures in the development of site specific CHASPs. The HSO shall schedule frequent "tail gate" safety briefings to enhance safety awareness and discuss potential problems.

17.3 Procedures

The procedures outlined below shall be followed when such conditions are encountered.

17.3.1 Ladders

Langan safety procedures shall be used to ensure employee safety when using ladders in the office or work sites. All ladders shall be coated or repaired to prevent injury to the employee from punctures or lacerations and to prevent snagging or clothing. Any wood ladders used must have an opaque covering except for identification or warning labels, which may be placed on one face only of a side rail.

17.3.1.1 Ladder Use

Employees shall only use ladders for the purposes, which they were designed and shall not be used as scaffolding. Ladders will be maintained and inspected prior to use for slip hazards including oil and grease. Employees shall use ladders only on stable and level surfaces unless the ladder is secured to prevent possible displacement. Ladders should not be used on slippery surfaces unless secured or provided with slip resistant feet to prevent accidental displacement. Ladders should not be used in locations where they could be displaced by workplace activities or traffic. Ladder rungs, cleats and steps shall be parallel, level and uniformly spaced when the ladder is in the use position.

Employees should not be carrying anything including equipment that could cause injury if there was a fall while utilizing the ladder. The top and bottom of the ladder area must remain clear while in use. When ascending and descending the ladder, employees must face the ladder.

Ladders shall not be loaded beyond the maximum intended load for which they were built or the manufacturer’s rated capacity.

17.3.1.2 Portable Ladders

Rungs, cleats and steps for portable ladders and fixed ladders shall be spaced not less than 10 inches apart, nor more than 14 inches apart, as measured between center lines of the rungs, cleats and steps. When used to access an upper landing surface, the ladder side rails must extend at least three feet above the upper landing surface to which the ladder is used to gain access. If this is not possible, due to the ladders length, then the top of the ladder shall be secured at its top to a rigid support.

17.3.1.3 Step Stools

Rungs, cleats and steps of step stools shall not be less than 8 inches apart, nor more than 12 inches apart, as measured between center lines of the rungs, cleats and steps.

17.3.1.4 Extension Ladders

Rungs, cleats and steps of the base section of extension trestle ladders shall be spaced not less than 8 inches apart, nor more than 18 inches apart, as measured between center lines of the rungs, cleats and steps. The rung spacing on the extension section of the extension trestle ladder shall not be less than 6 inches nor more than 12 inches, as measured between center lines of the rungs, cleats and steps. Ladders shall be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder (the distance along the ladder between the foot and the top support).

17.3.1.5 Inspection

Ladders will be inspected for visible detects periodically, prior to utilization or after any occurrence that could have negatively affected the ladder. Portable ladders with defects including broken or missing rungs, cleats, or steps, broken or split rails, corroded components or other faulty or defective components shall not be used. The ladder will be immediately marked as defective, tagged as "Do Not Use" or blocked from being used and removed from service until repaired.

17.3.2 First Aid/Cardiopulmonary Resuscitation (CPR)

Langan field and office personnel will be encouraged to be trained in First Aid and Cardiopulmonary Resuscitation (CPR). Training will be provided free of charge by Langan to all employees. Employees will receive a training certificate that will be kept on file with the Health & Safety Coordinator (HSC). Training and certification will be provided by a credited provider such as American Red Cross or equivalent.

17.3.2.1 Emergency Procedures

Prior to work at sites the Langan employees certified in first aid and CPR will be identified in the site specific CHASP. Langan will endear to have at least one employee at a job site trained and able to render first aid and CPR. The site specific CHASP will contain first aid information on both potential chemical and physical hazards. Emergency procedures to be followed are in case of injury or illnesses are provided in the CHASP. The CHASP will include emergency contact information including local police and fire departments, hospital emergency rooms, ambulance services, on-site medical personnel and physicians. The CHASP will also include directions and contact information to the nearest emergency facility in case immediate medical attention is required. The emergency contact information will be conspicuously posted at the worksite. Employees that are injured and require immediate medical attention shall call either 911 or the local posted emergency contacts. Employees should use ambulatory services to transport injured workers to the nearest facility for emergency medical care. In areas where 911 is not available, the telephone numbers of the physicians, hospitals, or ambulances shall be conspicuously posted.

17.3.2.2 First Aid Supplies

First aid supplies are readily available to all Langan employees when required. First aid kits are located in each Langan office. Portable first aid kits are available for employees to use at work sites. First aid kits should consist of items needed to treat employees for potential chemical and physical injuries. At a minimum, first aid kits should contain items to allow basic first aid to be rendered. Where the eyes or body of an employee may be exposed to corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use including eye wash.

First aid kits will be weatherproof with individual sealed packages of each item. All portable first aid kits shall be inspected by Langan employees before and after use to ensure all used items are replaced. When out in the field, employees shall check first aid kits weekly to ensure used items are replaced.

17.3.3 Hydrogen Sulfide

Langan employees with the potential to be exposed to hydrogen sulfide while at work sites shall have training in hydrogen sulfide awareness. The training will include identification of areas where employees could be exposed to hydrogen sulfide, health effects, permissible exposure limits, first aid procedures and personnel protective equipment. Langan employees could be exposed to hydrogen sulfide while at job sites including petroleum refineries, hazardous waste treatment, storage and disposal facilities, uncontrolled hazardous waste sites and remediation projects.

17.3.3.1 Characteristics

Hydrogen sulfide is a colorless gas with a strong odor of rotten eggs that is soluble in water. Hydrogen sulfide is used to test and make other chemicals. It is also found as a by-product of chemical reactions, such as in sewer treatment. It is a highly flammable gas and a dangerous fire hazard. Poisonous gases are produced in fires including sulfur oxides. Hydrogen sulfide is not listed as a carcinogen.

17.3.3.2 Health Effects

Hydrogen Sulfide can affect employees if inhaled or through contact with skin or eyes. Acute (or short term) health effects of hydrogen sulfide exposure include irritation of the nose and throat, dizziness, confusion, headache and trouble sleeping. Inhalation of hydrogen sulfide can irritate the lungs causing coughing and/or shortness of breath. Higher levels of exposure can cause build-up of fluid in the lungs (pulmonary edema), a medical emergency, with severe shortness of breath.

Chronic (or long term) health effects of low levels of exposure to hydrogen sulfide can cause pain and redness of the eyes with blurred vision. Repeated exposure may cause bronchitis with cough, phlegm and shortness of breath.

17.3.3.3 Protective Clothing and Equipment

Respirators are required for those operations in which employees will be exposed to hydrogen sulfide above OSHA permissible exposure level. The maximum OSHA permissible exposure limit (PEL) for hydrogen sulfide is 20 parts of hydrogen sulfide vapor per million parts of air (20 ppm) for an 8-hour workday and the maximum short-term exposure limit (STEL) is 10 ppm for any 10-minute period.

Where employees are exposed to levels up to 100 parts of hydrogen sulfide vapor per million parts of air (100 ppm), the following types of respiratory protection are allowed:

- Any powered, air purifying respirator with cartridge(s);
- Any air purifying, full-facepiece respirator (gas mask) with a chin style, front- or back-mounted canister;
- Any supplied air system with escape self-contained breathing apparatus, if applicable; and,
- Any self-contained breathing apparatus with a full facepiece.

Respirators used by employees must have joint Mine Safety and Health Administration and the National Institute for Occupational Safety and Health (NIOSH) seal of approval. Cartridges or canisters must be replaced before the end of their service life, or the end of the shift, whichever occurs first. Langan employees that have the potential to be exposed to hydrogen sulfide will be trained in the proper use of respirators. Respirator training is discussed under– Langan's Respiratory Protection Program.

Employees with potential exposure to hydrogen sulfide, or when required by the client, will wear a portable hydrogen sulfide gas detector. The detector should have an audible, visual and vibrating alarm. The detector may also provide detection for carbon monoxide, sulfur dioxide and oxygen deficient atmospheres. The hydrogen sulfide monitor will, at a minimum, be calibrated to detect hydrogen sulfide at a level of 20 parts of hydrogen sulfide vapor per million parts of air (20 ppm). Many portable gas detectors will have factory defaults with a low level alarm at 10 ppm and a high level alarm at 15 ppm. Langan employees shall consult clients to determine if any site specific threshold levels exist.

If the hydrogen sulfide gas detector sounds and employees are not wearing appropriate respiratory protection, employees must immediately vacate the area and meet at the assigned emergency location. Langan employees may not re- enter the site without proper respiratory protection and approval from the client or property owner, if needed.

Employees shall wear PPE to prevent eye and skin contact with hydrogen sulfide. Employees must wear appropriate protective clothing including boots, gloves, sleeves and aprons, over any parts of their body that could be exposed to hydrogen sulfide. Non-vented, impact resistant goggles should be worn when working with or exposed to hydrogen sulfide.

17.3.3.4 Emergency and First Aid Procedures

Eye and Face Exposure

If hydrogen sulfide comes in contact with eyes, it should be washed out immediately with large amounts of water for 30 minutes, occasionally lifting the lower and upper eye lids. Seek medical attention immediately.

Skin Exposure

If hydrogen sulfide contaminates clothing or skin, remove the contaminated clothing immediately and wash the exposed skin with large amounts of water and soap. Seek medical attention immediately. Contaminated clothing should either be disposed of or washed before wearing again.

Breathing

If a Langan employee or other personnel breathe in hydrogen sulfide, immediately get the exposed person to fresh air. If breathing has stopped, artificial respiration should be started. Call for medical assistance or a doctor as soon as possible.

Safety Precautions

Hydrogen sulfide is a highly flammable gas and a dangerous fire hazard. Containers of hydrogen sulfide may explode in a fire situation. Poisonous gases are produced during fires.

Langan employees should contact property owners and operators prior to conducting work onsite to be aware of any site specific contingency plans, identify where hydrogen sulfide is used at the facility and be informed about additional safety rules or procedures.

19.3.4 Fire Protection/Extinguishers

Langan field personnel that have been provided with portable fire extinguishers for use at worksites will be trained to familiarize employees with general principles of fire extinguisher use and hazards associated with the incipient stage of firefighting. Training will be provided prior to initial assignment for field work and annually thereafter.

Portable fire extinguishers shall be visually inspected monthly and subjected to an annual maintenance check. Langan shall retain records of the annual maintenance date.

17.3.5 Overhead lines

When field work is performed near overhead lines, the lines shall be deenergized and grounded, or other protective measures shall be provided before the work shall commence. If overhead lines are to be deenergized, arrangements shall be made with the client, property owner or organization that operates or controls the electric circuits involved to deenergize and ground them. If protective measures, such as guarding, isolating, or insulating, are provided, these precautions shall prevent employees from contacting such lines directly with any part of their body or indirectly through conductive materials, tools, or equipment.

When unqualified Langan personnel are working in an elevated position near overhead lines, the location shall be such that the person and the longest conductive object they may contact cannot come closer to any unguarded, energized overhead line than the following distances:

1. For voltages to ground 50kV or below - 10 feet; and
2. For voltages to ground over 50kV - 10 feet, plus 4 inches for every 10kV over 50kV.

As previously indicated, Langan does not retain qualified employees to perform work on energized equipment.

17.3.5.1 Vehicle and Equipment Clearance

Any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines shall be operated so that a clearance of 10 feet is maintained. If the voltage of the overhead lines is higher than 50kV, the clearance shall be increased 4 inches for every 10kV over that voltage.

If any of the following discussed conditions occur, the clearance may be reduced.

- If the vehicle is in transit with its structure lowered, the clearance may be reduced to 4 ft. If the voltage is higher than 50kV, the clearance shall be increased 4 in. for every 10 kV over that voltage.
- If insulating barriers are installed to prevent contact with the lines, and if the barriers are rated for the voltage of the line being guarded and are not a part of or an attachment to the vehicle or its raised structure, the clearance may be reduced to a distance within the designed working dimensions of the insulating barrier.

Employees standing on the ground may not contact the vehicle or mechanical equipment or any of its attachments, unless the employee is using protective equipment rated for the voltage; or the equipment is located so that no uninsulated part of its structure (that portion of the structure that provides a conductive path to employees on the ground) can come closer to the overhead line than permitted.

If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding may not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials, depending on earth resistivity and fault currents, which can develop within the first few feet or more outward from the grounding point.

17.3.6 Trade Secret

Langan employees could potentially be provided trade secret information by the client or property owner when site specific information is provided about highly hazardous chemicals. Trade secret means any confidential formula, pattern, process, device, information or compilation of information that is used in an employer's business, and that gives the employer an opportunity to obtain an advantage over competitors who do not know or use it. Langan employees understand that this information should be kept confident and if required, may enter into a confidentially agreement with the client.

17.3.7 Bloodborne Pathogens

Langan employees that can reasonably anticipate exposure to blood or other potentially infectious material while at work sites shall have training in bloodborne pathogens. Applicable employees would include those trained in first aid and serving a designated role as an emergency medical care provider. Bloodborne pathogens are pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus and human immunodeficiency virus.

17.3.7.1 Training

Langan employees with potential occupational exposure to blood or other potentially infectious material must participate in a training program. Training must be conducted prior to initial assignment where there would be potential for exposure and annually thereafter within one year of previous training. The training program will be provided to Langan employees at no cost to them and during working hours.

Langan will ensure the training program shall consist of the following:

- An accessible copy of the regulatory text of 29 CFR 1910.1030 and an explanation of its contents;
- A general explanation of the epidemiology and symptoms of bloodborne diseases;
- An explanation of the modes of transmission of bloodborne pathogens;
- An explanation of Langan's exposure control plan and the means by which the employee can obtain a copy of the written plan;
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
- An explanation of the use and limitations of personal protective
  - equipment (PPE) to prevent and reduce exposure;
  - Information on the types, proper use, location, removal, handling and disposal of PPE;
  - An explanation of the basis for selection of PPE;
  - Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
  - Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
  - An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
  - Information on the post-exposure evaluation and follow-up that the
  - employer is required to provide for the employee following an exposure incident;
  - An explanation of the signs and labels and/or color coding required by paragraph 29 CFR 1910.1030(g)(1); and
  - An opportunity for interactive questions and answers with the person conducting the training session.

Langan will develop and implement a written Exposure Control Plan, which will be designed to eliminate or minimize employee exposure to bloodborne pathogens. The Exposure Control Plan will contain the following elements:

- An exposure determination for employees;
- The schedule and method of implementation for Methods of Compliance (29 CFR 191.1030(d)), Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up (29 CFR 1910.1030(f)), Communication of Hazards to Employees (29 CFR 1910.1030(g)) and (h) Recordkeeping (29 CFR 1910.1030(h));
- The procedure for the evaluation of circumstances surrounding exposure incidents;
- Ensure a copy of the Exposure Control Plan will be accessible to employees; and,
- The Exposure Control Plan shall be reviewed and updated at least annually.

Langan employees with occupational exposure to bloodborne pathogens include any employees trained in first aid that would be expected to provide emergency medical care. This determination is made without regards to the use of PPE, which could eliminate or minimize exposure.

Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for bloodborne pathogens. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

Work practice controls shall be used to eliminate or minimize employee exposure, if applicable. Since Langan employees will have occupational exposure only during rendering of first aid, personnel protective equipment will be utilized to reduce or minimize exposure. PPE that could be available to Langan personnel when administering first aid includes safety glasses, gloves, and Tyvek suits or sleeves. PPE and first aid kits will be provided to employees at no cost to them.

Langan employees that render first aid in office areas will have access to hand washing facilities or restrooms. For first aid rendered at field locations, first aid kits will contain an appropriate antiseptic hand cleanser and clean cloth/paper towels or antiseptic towelettes. After using antiseptic hand cleansers or towelettes, employees shall wash their hands with soap and running water as soon as feasible.

After administering first aid, potentially infectious materials, including towels, personnel protective equipment, clothes and bandages, shall be placed in a container, which prevents leakage during collection, handling, processing, storage, transport, or shipping. All PPE will be dispose of after use. Any equipment or working surfaces which was been exposed to blood or potentially infectious materials due to an injury, will be decontaminated prior to reuse.

Langan will make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident. These services will be available to the employee at no cost to them through a medical provider.

17.3.7.2 Recordkeeping

Langan will maintain training and medical records for each employee with occupational exposure to blood or potentially infectious materials. Medical and training records will be maintained by Langan's H&S Department.

Training records will include the following:

- Dates of the training sessions;
- Contents or a summary of the training sessions;
- Names and qualifications of persons conducting the training; and
- Names and job titles of all persons attending the training sessions.

Training records shall be maintained for 3 years from the date on which the training occurred. Medical records will be will be preserved and maintained for the duration of employment plus 30 years.

All records will be made available upon request to employees, the Assistant Secretary of Labor for Occupational Safety and Health, and Director of National Institute for Occupational Safety and Health Director of OSHA for examination and copying. Medical records must have written consent from employee before releasing.

If Langan ceases to do business, all records shall be transferred to the successor employer. The successor employer shall receive and maintain these records.

If there will not be a successor, Langan will notify current employees of their rights to access records at least three months prior to the cessation of business.

18.0 RECORDKEEPING

The following is a summary of required health and safety logs, reports and recordkeeping.

18.1 Field Change Authorization Request

Any changes to the work to be performed that is not included in the CHASP will require an addendum that is approved by the Langan project manager and Langan HSM to be prepared. Approved changes will be reviewed with all field personnel at a safety briefing.

18.2 Medical and Training Records

Copies or verification of training (40-hour, 8-hour, supervisor, site-specific training, documentation of three-day OJT, and respirator fit-test records) and medical clearance for site work and respirator use will be maintained in the office and available upon request. Records for all subcontractor employees must also be available upon request. All employee medical records will be maintained by the HSM.

18.3 Onsite Log

A log of personnel on site each day will be kept by the HSO or designee.

18.4 Daily Safety Meetings ("Tailgate Talks")

Completed safety briefing forms will be maintained by the HSO.

18.5 Exposure Records

All personal monitoring results, laboratory reports, calculations and air sampling data sheets are part of an employee exposure record. These records will be maintained by the HSO during site work. At the end of the project they will be maintained according to 29 CFR 1910.1020.

18.6 Hazard Communication Program/MSDS-SDS

Material safety data sheets (MSDS) of Safety Data Sheets (SDS) have been obtained for applicable substances and are included in this CHASP (Attachment D). Langan's written hazard communication program, in compliance with 29 CFR 1910.1200, is maintained by the HSM.

18.7 Documentation

Immediately following an incident or near miss, unless emergency medical treatment is required, either the employee or a coworker must contact the Langan incident/injury hotline at 1-800-952-6426, extension 4699 and the Project Manager to report the incident or near miss. The Project Manager will contact the client or client representative. A written report must be completed and submitted HSM within 24 hours of the incident. For emergencies involving personnel injury and/or exposure, employee will complete and submit the Langan incident/injury report to the Langan corporate health and safety manager as soon as possible following the incident. Accidents will be investigated in-depth to identify all causes and to recommend hazard control measures.

18.7.1 Accident and Injury Report Forms

18.7.1.1 Accident/Incident Report

All injuries, no matter how slight, shall be reported to the FTL and the PM immediately. The accident/incident report forms, attached in Attachment U and Attachment V will be filled out on all accidents by the applicable contractor supervision personnel, the FTL, or the HSO. Copies of all accident/incident reports shall be kept on-site and available for review. Project personnel will be instructed on the location of the first aid station, hospital, and doctor and ambulance service near the job. The emergency telephone numbers will be conspicuously posted in site vehicles near the work zone. First aid supplies will be centrally located and conspicuously posted between restricted and non-restricted areas to be readily accessible to all on the site.

18.7.1.2 First Aid Treatment Record

The forms in will be used for recording all non-lost time injuries treated by the project first-aid attendant, the local physician or hospital will be entered in detail on this record. "Minor" treatment of scratches, cuts, etc. will receive the same recording attention as treatment of more severe injuries.

18.7.1.3 OSHA Form 300

An OSHA Form 300 will be kept at the Langan Corporate Office in Parsippany, New Jersey. All recordable injuries or illnesses will be recorded on this form. Subcontractor employers must also meet the requirements of maintaining an OSHA 300 form. The Incident Report form used to capture the details of work-related injuries/illnesses meets the requirements of the OSHA Form 301 (supplemental record) and must be maintained with the OSHA Form 300 for all recordable injuries or illnesses. Forms for recording OSHA work-related injuries and illnesses are included in Attachment U and Attachment V.

19.0 CONFINED SPACE ENTRY

Confined spaces are not anticipated at the Site during planned construction activities. If confined spaces are identified, the contractor must implement their own confined space program that all applicable federal, state and local regulations. Confined spaces **will not** be entered by Langan personnel.

20.0 HASP ACKNOWLEDGEMENT FORM

All Langan personnel and contractors will sign this CHASP Compliance Agreement indicating that they have become familiar with this CHASP and that they understand it and agree to abide by it.

Printed Name	Signature	Company	Date

Printed Name	Signature	Company	Date

Printed Name	Signature	Company	Date

Printed Name	Signature	Company	Date

Printed Name	Signature	Company	Date

TABLES

TABLE 1
TASK HAZARD ANALYSES

Task	Hazard	Description	Control Measures	First Aid
1.3.1 – 1.3.8	Contaminated Soil or Groundwater-Dermal Contact	Contaminated water spills on skin, splashes in eyes; contact with contaminated soil/fill during construction activities or sampling.	Wear proper PPE; follow safe practices, maintain safe distance from construction activities	See Table 2, seek medical attention as required
1.3.1 – 1.3.8	Lacerations, abrasions, punctures	Cutting bailer twine, pump tubing, acetate liners, etc. with knife; cuts from sharp site objects or previously cut piles, tanks, etc.; Using tools in tight spaces	Wear proper PPE; follow safe practices	Clean wound, apply pressure and/or bandages; seek medical attention as required.
1.3.1 – 1.3.8	Contaminated Media Inhalation	Opening drums, tanks, wells; vapors for non-aqueous phase liquids or other contaminated site media; dust inhalation during excavation; vapor accumulation in excavation	Follow air monitoring plan; have quick access to respirator, do not move or open unlabeled drums found at the site, maintain safe distance from construction activities	See Table 2, seek medical attention as required
1.3.1 – 1.3.8	Lifting	Improper lifting/carrying of equipment and materials causing strains	Follow safe lifting techniques; Langan employees are not to carry contractor equipment or materials	Rest, ice, compression, elevation; seek medical attention as required
1.3.1 – 1.3.8	Slips, trips, and falls	Slips, trips and falls due to uneven surfaces, cords, steep slopes, debris and equipment in work areas	Good housekeeping at site; constant awareness and focus on the task; avoid climbing on stockpiles; maintain safe distance from construction activities and excavations; avoid elevated areas over six feet unless fully accredited in fall protection and wearing an approved fall protection safety apparatus	Rest, ice, compression, elevation; seek medical attention as required
1.3.1 – 1.3.8	Noise	Excavation equipment, hand tools, drilling equipment.	Wear hearing protection; maintain safe distance from construction activities	Seek medical attention as required
1.3.1 – 1.3.8	Falling objects	Soil material, tools, etc. dropping from drill rigs, front-end loaders, etc.	Hard hats to be worn at all times while in work zones; maintain safe distance from construction activities and excavations	Seek medical attention as required
1.3.1 – 1.3.8	Underground/ overhead utilities	Excavation equipment, drill rig auger makes contact with underground object; boom touches overhead utility	"One Call" before dig; follow safe practices; confirm utility locations with contractor; wear proper PPE; maintain safe distance from construction activities and excavations	Seek medical attention as required
1.3.1 – 1.3.8	Insects (bees, wasps, hornet, mosquitoes, and spider)	Sings, bites	Insect Repellent; wear proper protective clothing (work boots, socks and light colored pants);field personnel who may have insect allergies (e.g., bee sting) should provide this information to the HSO or FSO prior to commencing work, and will have allergy medication on site.	Seek medical attention as required
1.3.1 – 1.3.8	Vehicle traffic / Heavy Equipment Operation	Vehicles unable to see workers on site, operation of heavy equipment in tight spaces, equipment failure, malfunctioning alarms	Wear proper PPE, especially visibility vest; use a buddy system to look for traffic; rope off area of work with cones and caution tape or devices at points of hazard, maintain safe distance from construction activities and equipment	Seek medical attention as required

TABLE 2
CONTAMINANT HAZARDS OF CONCERN

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	1,2,4,5-Tetramethylbenzene	95-93-2	NA	NA NA	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2,4,5-Tetrachlorobenzene Benzene tetrachloride s-Tetrachlorobenzene	95-94-3	PID	NA NA	Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin,	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2,3-Trichlorobenzene Vic- Trichlorobenzene 1,2,6- Trichlorobenzene	87-61-6	PID	5 ppm NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; In Animals: liver, kidney damage; possible teratogenic effects	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	1,2,4-Trichlorobenzene Unsym-Trichlorobenzene 1,2,4-Trichlorobenzol 1,2,4,5-Trichlorbenzene	120-82-1	NA	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; In Animals: liver, kidney damage; possible teratogenic effects	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2,4-Trimethylbenzene	95-63-6	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,3,5-Trimethylbenzene Mesitylene sym-Trimethylbenzene	108-67-8	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	2,2,4-Trimethylpentane	540-84-1	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat, respiratory system; bronchitis; hypochromic anemia; headache, drowsiness, lassitude (weakness, exhaustion), dizziness, nausea, incoordination; vomiting, confusion; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2,3,4,6-Tetrachlorophenol Phenol,2,3,4,6-tetrachloro-	58-90-5	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, respiratory system; dermatitis with vesiculation; Abdominal pain. Diarrhea. Headache. Dizziness. Vomiting. Weakness. Convulsions. Muscular spasms. Increased body temperature and sweating	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	o-Chlorophenol 2-Chlorophenol 2-Chloro-1-hydroxybenzene 2-Hydroxychlorobenzene	95-57-8	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, respiratory system; dermatitis with vesiculation; Abnormal pain, drowsiness, weakness, convulsions	ye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	1.2-Dibromoethane Ethylene Dibromide Ethylene bromide Glycol dibromide	106-93-4	PID	20 ppm 100 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, respiratory system; dermatitis with vesiculation; liver, heart, spleen, kidney damage; reproductive effects; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,3-Butadiene Biethylene Bivinyl Butadiene Divinyl Erythrene Vinylethylene	106-99-0	PID	1 ppm 2000 ppm	Vapor	inhalation, skin and/or eye contact (liquid)	irritation to the eyes, nose, throat; drowsiness, dizziness; liquid: frostbite; teratogenic, reproductive effects; [potential occupational carcinogen]	Eye: Frostbite Skin: Frostbite Breathing: Respiratory support
1.3.1 – 1.3.8	Allyl chloride 1-Chloro-2-propene 3-Chloropropene 3-Chloropropylene	107-05-1	PID	1 ppm 250 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, nose, mucous membrane; pulmonary edema; In Animals: liver, kidney injury	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2-Dibromo-3-chloropropane	96-12-8	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat; drowsiness; nausea, vomiting; pulmonary edema; liver, kidney injury; sterility; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	1,1-Dichloroethane Asymmetrical dichloroethane Ethylidene chloride 1,1-Ethylidene dichloride 1,1-DCA	75-34-3	PID	100 ppm 3000 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the skin; central nervous system depression; liver, kidney, lung damage	Eye: Irrigate immediately Skin: Soap flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2-Dichlorobenzene	95-50-1	PID	50 ppm 200 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eye, swelling periorbital (situated around the eye); profuse rhinitis; headache, anorexia, nausea, vomiting; weight loss, jaundice, cirrhosis; in animals: liver, kidney injury; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2,4-Dinitrotoluene 1-Methyl-2,4-dinitrobenzene 2,4-DNT Dinitrotoluol Methyldinitrobenzene	121-14-2	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, respiratory system, Blue lips or finger nails. Blue skin. Headache. Dizziness. Nausea. Confusion. Convulsions. Unconsciousness	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	2,6-Dinitrotoluene 2-Methyl-1,3-dinitrobenzene 2,6-DNT 2-methyl-1,3-dinitrobenzene 1-Methyl-2,6-dinitrobenzene 2,4-dinitromethylbenzene	606-20-2	PID	1.5 mg/m3	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	headache, weakness, nausea or dizziness, affect the nervous system causing fatigue, nausea, vomiting, drowsiness, and personality changes (irritability, anxiety, confusion and depression); shortness of breath and collapse. Can burn eyes and skin.	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	p-Diethylbenzene 1,4-Diethyl benzene	105-05-5	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, respiratory system; skin burns; in animals: central nervous system depression	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	p-Dichlorobenzene p-DCB 1,4-Dichlorobenzene para-Dichlorobenzene Dichlorocide	106-46-7	PID	75 ppm 150 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, swelling periorbital (situated around the eye); profuse rhinitis; headache, anorexia, nausea, vomiting; weight loss, jaundice, cirrhosis; in animals: liver, kidney injury; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	trans-1,4-Dichloro-2-butene	110-57-6	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, respiratory system	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,3-Dichlorobenzene 1,3-Dichlorobenzene; m-Dichlorobenzol; m-Phenylene dichloride	541-73-1	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, swelling periorbital (situated around the eye); profuse rhinitis; headache, anorexia, nausea, vomiting; weight loss, jaundice, cirrhosis; in animals: liver, kidney injury; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2-Butanone, Ethyl methyl ketone MEK Methyl acetone Methyl ethyl ketone	78-93-3	PID	200 ppm 3000 ppm	Soil Groundwater Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose; headache; dizziness; vomiting; dermatitis	Eye: Irrigate immediately Skin: Water wash immediately Breathing: Fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	2-Hexanone Butyl methyl ketone MBK Methyl butyl ketone Methyl n-butyl ketone	591-78-6	PID	100 ppm 1600 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, nose; peripheral neuropathy: lassitude (weakness, exhaustion), paresthesia; dermatitis; headache, drowsiness	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	4-Methyl-2-pentanone Hexone Isobutyl methyl ketone Methyl isobutyl ketone MIBK	108-10-1	PID	100 ppm 500 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; headache, narcosis, coma; dermatitis; in animals: liver, kidney damage	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2,4-Dimethylphenol 2,4-Xylenol m-Xylenol 1-Hydroxy-2,4-dimethylbenzene 2,4-Dimethylphenol 4-Hydroxy-1,3-dimethylbenzene 4,6-Dimethylphenol 1,3-Dimethyl-4-hydroxybenze	105-67-9	NA	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; headache, narcosis, coma; dermatitis; in animals: liver, kidney damage	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2,4-Dichlorophenol	120-83-2	PID	NA NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact, in	irritation to the eyes, skin, mucous membrane, nose, throat, respiratory system; ingestion: burning sensation, abdominal pain, tremor, weakness, convulsion, labored breathing, shock or collapse	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2,4,5-Trichlorophenoxyacetic acid 2,4,5-T	93-76-5	NA	10 mg/m^3 250 mg/m^3	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	in Animals: ataxia; skin irritation, acne-like rash; liver damage	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	2,4,5-Trichlorophenol 2,4,5-TCP 1-Hydroxy-2,4,5-trichlorobenzene	95-95-4	NA	NA NA	Soil	inhalation, ingestion, skin and/or eye contact	Irritation to the eyes (Redness. Pain. Blurred vision), skin, mucous membrane; Abdominal pain. Diarrhea. Dizziness. Headache. Vomiting. Fatigue. Sweating.	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2,4,6-Trichlorophenol	88-06-2	NA	NA NA	Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; Convulsions. Diarrhea. Dizziness. Headache. Shortness of breath. Vomiting. Weakness. Ataxia.	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	4-Isopropyltoulene 1-Methyl-4-(1-methylethyl)benzene 4-Isopropyltoluene; 4-Methylcumene; Paracymene p-Cymene p-Isopropyltoluene	99-87-6	PID	NA NA	Soil Groundwater Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; dermatitis; headache, narcosis, coma	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	2-Methylnaphthalene β-methylnaphthalene	91-57-6	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion or skin absorption, eye contact	irritation to the skin, eyes, mucous membranes and upper respiratory tract. It may also cause headaches, nausea, vomiting, diarrhea, anemia, jaundice, euphoria, dermatitis, visual disturbances, convulsions and comatose	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Acenaphthene 1,2-Dihydroacenaphthylene 1,8-Ethylenenaphthalene peri-Ethylenenaphthalene Naphthyleneethylene Tricyclododecapentaene	83-32-9	PID	NA NA	Soil	inhalation, ingestion, skin and/or eye contact,	irritation to the skin, eyes, mucous membranes and upper respiratory tract; If ingested, it can cause vomiting	Eye: Irrigate immediately Skin: Soap wash immediately, if redness or irritation develop, seek medical attention immediately Breathing: Move to fresh air Swallow: do not induce vomiting, seek medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Acenaphthylene Cycopental(de)naphthalene, Acenaphthalene	208-96-8	PID	NA NA	Soil	inhalation, ingestion, skin and/or eye contact	irritation to the skin, eyes, mucous membranes and upper respiratory tract	Eye: Irrigate immediately, seek medical attention immediately, Skin: Soap wash immediately, if redness or irritation develop, seek medical attention immediately Breathing: Move to fresh air Swallow: do not induce vomiting, seek medical attention immediately
1.3.1 – 1.3.8	Acetophenone 1-phenylethanone Methyl phenyl ketone PhenylethaNA	98-86-2	NA	NA NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation to the skin, eyes, mucous membranes and upper respiratory tract	Eye: Irrigate immediately, seek medical attention immediately, Skin: Soap wash immediately, if redness or irritation develop, seek medical attention immediately Breathing: Move to fresh air Swallow: do not induce vomiting, seek medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Acetone Dimethyl ketone Ketone propane 2-Propanone	67-64-1	PID	1000 ppm 2500 ppm	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, nose, throat; headache, dizziness, central nervous system depression; dermatitis	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Acrolein Acraldehyde Acrylaldehyde Acrylic aldehyde Allyl aldehyde Propenal 2-Propenal	107-02-8	PID	0.1 ppm 2 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; decreased pulmonary function; delayed pulmonary edema; chronic respiratory disease	Eye: Irrigate immediately Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Acrylonitrile Acrylonitrile monomer AN Cyanoethylene Propenenitrile 2-Propenenitrile VCN, Vinyl cyanide	107-13-1	PID	1 ppm 85 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; asphyxia; headache; sneezing; nausea, vomiting; lassitude (weakness, exhaustion), dizziness; skin vesiculation; scaling dermatitis; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Water wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Atrazine 2-Chloro-4-ethylamino-6-isopropylamino-s-triazine 6-Chloro-N-ethyl-N'- (1-methylethyl)-1,3,5-triazine-2,4-diamine	1912-24-9	NA	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin; dermatitis, sensitization skin; dyspnea (breathing difficulty), lassitude (weakness, exhaustion), incoordination, salivation; hypothermia; liver injury	Eye: Irrigate immediately Skin: Water wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Aldrin 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-endo-1,4-exo-5,8-dimethanonaphthalene HHDN Octalene	309-00-2	PID	0.25 ppm 5 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	headache, dizziness; nausea, vomiting, malaise (vague feeling of discomfort); myoclonic jerks of limbs; clonic, tonic convulsions; coma; hematuria (blood in the urine), azotemia; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Azobenzene	103-33-3	NA	NA NA	Soil	inhalation, skin or eye contact, ingestion	Irritation to the skin, eyes, mucous membranes and upper respiratory tract, abdominal pain if ingested.	Eye: Irrigate immediately, seek medical attention immediately, Skin: Soap wash immediately, Breathing: Move to fresh air, refer to medical attention; Swallow: refer to medical attention
1.3.1 – 1.3.8	Anthracene	120-12-7	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Soil	inhalation, skin or eye contact, ingestion	irritation to the skin, eyes, mucous membranes and upper respiratory tract, abdominal pain if ingested.	Eye: Irrigate immediately, seek medical attention immediately, Skin: Soap wash immediately, Breathing: Move to fresh air, refer to medical attention; Swallow: refer to medical attention

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Benzaldehyde Benzoic aldehyde	100-52-7	NA	NA NA	Soil	inhalation, skin or eye contact, ingestion	irritation to the skin, eyes, mucous membranes and upper respiratory tract,	Eye: Irrigate immediately, seek medical attention immediately, Skin: Soap wash immediately, Breathing: Move to fresh air, refer to medical attention; Swallow: refer to medical attention
1.3.1 – 1.3.8	Benzidine ,4'-Bianiline 1,1'-Biphenyl-4,4'-diamine 4,4'-Biphenyldiamine, 4,4'-Diaminobiphenyl p-Diaminodiphenyl	92-87-5	NA	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	hematuria (blood in the urine); secondary anemia from hemolysis; acute cystitis; acute liver disorders; dermatitis; painful, irregular urination; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Chlorobromomethane Bromochloromethane CB CBM Fluorocarbon 1011 Halon® 1011 Methyl chlorobromide	74-97-5	PID	200 ppm 2000 ppm	Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, throat; confusion, dizziness, central nervous system depression; pulmonary edema	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Bromobenzene Monobromobenzene Phenyl bromide	108-86-1	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; lassitude (weakness, exhaustion) [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Benzene Benzol Phenyl hydride	71-43-2	PID	3.19 mg/m^3 1,595 mg/mg^3	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; lassitude (weakness, exhaustion) [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Benzo(a)anthracene Benzanthracene Benzanthrene 1,2-Benzanthracene Benzo[b]phenanthrene Tetraphene	56-55-3	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Groundwater Soil	inhalation, skin or eye contact, ingestion	dermatitis, bronchitis, [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Benzo(a)pyrene	50-32-8	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Soil	inhalation, skin or eye contact, ingestion	dermatitis, bronchitis, [potential occupational carcinogen]	Eye: Irrigate immediately, seek medical attention Skin: Soap wash immediately; Breathing: move to fresh air; Swallow: Induce vomiting if conscious, seek medical attention immediately
1.3.1 – 1.3.8	Benzo(b)fluoranthene	205-99-2	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Soil	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation(dizziness, weakness, fatigue, nausea, headache)	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Benzo(g,h,i)perylene	191-24-2	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Soil	inhalation, skin or eye contact, ingestion	NA	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Benzo(k)fluoranthene	207-08-9	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Soil	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation (dizziness, weakness, fatigue, nausea, headache)	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Benzoic acid Carboxybenzene E210 Dracylic acid Phenylmethanoic acid Benzenecarboxylic acid	65-85-0	NA	NA NA	Groundwater Soil Vapor	inhalation, skin or eye contact, ingestion	irritation to eyes with possible eye damage, skin causing rash, redness or burning, irritation to nose, throat and lungs	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air
1.3.1 – 1.3.8	Benzyl Alcohol Benzenemethanol Phenyl carbinol alpha-Hydroxytoluene Benzoyl alcohol Phenyl methanol	100-51-6	NA	NA NA	Groundwater Soil Vapor	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation (dizziness, weakness, fatigue, nausea, headache	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Benzyl butyl phthalate Butyl benzyl phthalate	86-66-7	NA	NA NA	Groundwater Soil Vapor	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation (dizziness, weakness, fatigue, nausea, headache	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Caprolactam Aminocaproic lactam epsilon-Caprolactam Hexahydro-2H-azepin-2-one 2-Oxohexamethyleneimine	105-60-2	NA	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation skin, eyes, respiratory system; epistaxis (nosebleed); dermatitis, skin sensitization; asthma; irritability, confusion, dizziness, headache; abdominal cramps, diarrhea, nausea, vomiting; liver, kidney injury	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Benzyl chloride Chloromethylbenzene α-Chlorotoluene	100-44-7	PID	1 ppm 10 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, nose; lassitude (weakness, exhaustion); irritability; headache; skin eruption; pulmonary edema	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Carbon disulfide	75-15-0	PID	20 ppm 500 ppm	Soil Groundwater Vapor	inhalation, skin or eye contact, ingestion	irritation to the eyes, skin, respiratory system	Eye: Irrigate immediately (liquid) Skin: Water flush immediately (liquid) Breathing: Respiratory support

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Carbon tetrachloride Carbon chloride Carbon tet Freon® 10 Halon® 104 Tetrachloromethane	56-23-5	PID	10 ppm 200 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; central nervous system depression; nausea, vomiting; liver, kidney injury; drowsiness, dizziness, incoordination; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Carbazole 9-azafluorene Dibenzopyrrole Diphenylenimine diphenyleneimide	86-74-8	NA	NA NA	Soil	inhalation, skin absorption (liquid), skin and/or eye contact	irritation to eyes and skin, respiratory irritation	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Chlordane Chlordan Chlordano 1,2,4,5,6,7,8,8-Octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane	57-74-9	NA	0.5 mg/m^3 100 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	Blurred vision; confusion; ataxia, delirium; cough; abdominal pain, nausea, vomiting, diarrhea; irritability, tremor, convulsions; anuria	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Chloroform Methane trichloride Trichloromethane	67-66-3	None	50 ppm 500 ppm	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; dizziness, mental dullness, nausea, confusion; headache, lassitude (weakness, exhaustion); anesthesia; enlarged liver; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Cis-Chlordane a-Chlordane cis-Chlordan CIS-CHLORDANE Chlordane cis-;Chlordane cis;ALPHA-CHLORDAN Chlordan, cis-;ALPHA-CHLORDANE ;alpha(cis)-chlordane α-chlordane solution	5102-71-9	NA	0.5 mg/m^3 100 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	Blurred vision; confusion; ataxia, delirium; cough; abdominal pain, nausea, vomiting, diarrhea; irritability, tremor, convulsions; anuria	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	trans-Chlordane gamma-Chlordane	5103-74-2	NA	0.5 mg/m^3 100 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	Blurred vision; confusion; ataxia, delirium; cough; abdominal pain, nausea, vomiting, diarrhea; irritability, tremor, convulsions; anuria	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Chrysene Benzo[a]phenanthrene 1,2-Benzphenanthrene	218-01-9	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Groundwater Soil	inhalation, absorption, ingestion, consumption	irritation to eye, skin, and respiratory, gastrointestinal irritation nausea, vomit, diarrhea [potential occupational carcinogen]	Eyes: Irrigate immediately Skin: Soap wash promptly. Breath: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Cyclohexane Benzene hexahydride Hexahydrobenzene Hexamethylene Hexanaphthene	110-82-7	PID	300 ppm 1300 ppm	Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, respiratory system; drowsiness; dermatitis; narcosis, coma	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Diethyl phthalate DEP Diethyl ester of phthalic acid Ethyl phthalate	84-66-2	PID	NA NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat; headache, dizziness, nausea; lacrimation (discharge of tears); possible polyneuropathy, vestibular dysfunc; pain, numb, lassitude (weakness, exhaustion), spasms in arms & legs; In Animals: reproductive effects	Eye: Irrigate immediately Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2-Dichloroethylene 1,2-DCE cis-1,2-Dichloroethylene mixture of cis and trans Acetylene dichloride cis-Acetylene dichloride trans-Acetylene dichloride sym-Dichloroethylene cis- 1,2-Dichloroethene trans-1,2-Dichloroethylene, tDCE cDCE cis-1,2-Dichloroethene 1,1-dimethyl-;dimethyl 1,1-cyclohexane trans-1,2-Dichloroethene sym-Dichloroethylene	540-59-0	PID	200 ppm 4000 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, respiratory system; central nervous system depression	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2,3-Trichloropropane Allyl trichloride Glycerol trichlorohydrin Glyceryl trichlorohydrin Trichlorohydrin	96-18-4	PID	50 ppm 100 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, nose, throat; central nervous system depression; In Animals: liver, kidney injury; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	1,1-Dichloropropane Propylidene chloride	78-99-9	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, respiratory system; central nervous system depression	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2,2-Dichloropropane	594-20-7	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, respiratory system; central nervous system depression	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Propylene dichloride Dichloro-1,2-propane 1,2-Dichloropropane	78-87-5	PID	75 ppm 400 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, respiratory system; drowsiness, dizziness; liver, kidney damage; in animals: central nervous system depression; [potential occupational carcinogen]	irritation to the eyes, skin, respiratory system; drowsiness, dizziness; liver, kidney damage; in animals: central nervous system depression; [potential occupational carcinogen]

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	trans-1,3-Dichloropropene	10061-02-6	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, respiratory system; eye, skin burns; lacrimation (discharge of tears); headache, dizziness; in animals; liver, kidney damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Dieldrin HEOD 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo exo-5,8-dimethanonaphthalene	60-57-1	PID	0.25 mg/m^3 50 mg/m^3	Groundwater Soil Water	inhalation, skin absorption, ingestion, skin and/or eye contact	headache, dizziness; nausea, vomiting, malaise (vague feeling of discomfort), sweating; myoclonic limb jerks; clonic, tonic convulsions; coma; [potential occupational carcinogen]; in animals: liver, kidney damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Dioxane Diethylene dioxide Diethylene ether Dioxan p-Dioxane 1,4-Dioxane	123-91-1	PID	100 ppm 500 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; drowsiness, headache; nausea, vomiting; liver damage; kidney failure; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Water wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	m-Cresol 3-methylphenol meta-Cresol 3-Cresol m-Cresylic acid 1-Hydroxy-3-methylbenzene 3-Hydroxytoluene 3-Methylphenol	108-39-4	PID	5 ppm 250 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	p-Chloro-m-cresol 2-Chloro-5-hydroxytoluene 4-Chloro-3-methylphenol 4-Chloro-m-cresol	59-50-7	NA	NA NA	Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	o-Cresol ortho-Cresol 2-Cresol o-Cresylic acid 1-Hydroxy-2-methylbenzene 2-Hydroxytoluene 2-Methyl phenol 2-Methylphenol	95-48-7	PID	5 ppm 250 pppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	p-Cresol para-Cresol 4-Cresol p-Cresylic acid 1-Hydroxy-4-methylbenzene 4-Hydroxytoluene 4-Methylphenol	106-44-5	PID	5 ppm 250 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; central nervous system effects: confusion, depression, resp failure; dyspnea (breathing difficulty), irreg rapid resp, weak pulse; eye, skin burns; dermatitis; lung, liver, kidney, pancreas damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Cumene Cumol Isopropylbenzene 2-Phenyl propane	98-82-8	PID	50 ppm 900 ppm	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; dermatitis; headache, narcosis, coma	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,2-Dichlorotetrafluoroethane 1,2-Dichlorotetrafluoroethane Dichlorotetrafluorethane 1,2-Dichloro-1,1,2,2-tetrafluoroethane Freon® 114 Genetron® 114 Halon® 242 Refrigerant 114	76-14-2	PID	1000 ppm 15000 ppm	Groundwater Soil Vapor	inhalation, skin and/or eye contact (liquid)	irritation respiratory system; asphyxia; cardiac arrhythmias, cardiac arrest; liquid: frostbite	Eye: Frostbite Skin: Frostbite Breathing: Respiratory support
1.3.1 – 1.3.8	2,4-D 2,3-Dichlorophenoxy acetic acid Hedonal Trinoxol	94-75-7	NA	10 mg/m^3 100 mg/m^3	Soil Groundwater	inhalation, skin absorption, ingestion, skin and/or eye contact	lassitude (weakness, exhaustion), stupor, hyporeflexia, muscle twitching; convulsions; dermatitis; In Animals: liver, kidney injury	Eye:Irrigate immediately Skin:Soap wash promptly Breathing:Respiratory support Swallow:Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	2-Nitrophenol o-Nitrophenol 2-Hydroxynitrobenzene o-Hydroxynitrobenzene	88-75-5	NA	NA NA	Soil	ingestion, inhalation, skin and/or eye contact	Irritant to eyes, skin mucous membranes and respiratory system, Headache. Drowsiness. Nausea. Blue lips or fingernails. Blue skin. Confusion. Convulsions. Dizziness. Unconsciousness.	Eye: Irrigate promptly Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	2-Nitroaniline o-Nitroaniline 1-Amino-2-nitrobenzene	88-74-4	NA	NA NA	Soil	ingestion, inhalation, skin and/or eye contact	Blue lips or finger nails. Blue skin. Headache. Dizziness. Nausea. Confusion. Convulsions. Labored breathing. Unconsciousness.	Eye: Irrigate promptly Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	3-Nitroaniline m-Nitroaniline 1-Amino-3-nitrobenzene meta-Nitroaniline	99-09-2	NA	NA NA	Groundwater Soil	ingestion, inhalation, skin and/or eye contact	Blue lips or finger nails. Blue skin. Headache. Dizziness. Nausea. Confusion. Convulsions. Labored breathing. Unconsciousness.	Eye: Irrigate promptly Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	4-Nitroaniline p-Nitroaniline 1-Amino-4-nitrobenzene	100-01-6	PID	6 mg/m^3 300 mg/m^3	Groundwater Soil Vapor	ingestion, inhalation, skin and/or eye contact	Blue lips or finger nails. Blue skin. Headache. Dizziness. Nausea. Confusion. Convulsions. Labored breathing. Unconsciousness.	Eye: Irrigate promptly Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	p-Nitrophenol 4-Nitrophenol 4-hydroxynitrobenzene	100-02-7	NA	NA NA	Groundwater Soil	ingestion, inhalation, skin and/or eye contact	Irritant to eyes , skin mucous membranes and respiratory system, irritant to digestive track	Eye: Irrigate immediately, medical attention immediately; Skin: Water flush promptly, medical attention immediately; Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	4-Chloroaniline Chloroamionbenzene p-Chloroaniline	106-47-8	NA	NA NA	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to eyes, skin, respiratory; Blue lips or finger nails. Blue skin. Confusion. Convulsions. Dizziness. Headache. Nausea. Unconsciousness.	Eyes: Irrigate immediately Skin: Soap wash promptly. Breath: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	4-Chlorophenyl phenyl ether 4-Chlorodiphenyl ether	7005-72-3	NA	NA NA	Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, chloracne; liver damage; reproductive effects; [potential occupational carcinogen]	Eyes: Irrigate immediately Skin: Soap wash promptly. Breath: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Dinitro-o-cresol 2-Methyl-4,6-dinitrophenol 4,6-Dinitro-o-cresol 3,5-Dinitro-2-hydroxytoluen 4,6-Dinitro-2-methyl phenol DNC DNOC	534-52-1	NA	0.2 mg/m^3 5 mg/m^3	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	Sense of wellbeing; headache, fever, lassitude (weakness, exhaustion), profuse sweating, excess thirst, tachycardia, hyperpnea, cough, short breath, coma	Eyes: Irrigate immediately Skin: Soap wash promptly. Breath: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	4-Bromophenyl phenyl ether 4-Bromodiphenyl Ether PBDE 3 4-BDE	101-55-3	NA	NA NA	Soil	inhalation, absorption, ingestion	irritation to eyes, skin, respiratory, and digestion [potential occupational carcinogen]	Eyes: Irrigate immediately Skin: Soap wash promptly. Breath: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Dibenzo(a,h)anthracene	53-70-3	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Groundwater Soil	inhalation, absorption, ingestion	irritation to eyes, skin, respiratory, and digestion [potential occupational carcinogen]	Eyes: Irrigate immediately Skin: Soap wash promptly. Breath: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Dibenzofuran	132-64-9	NA	NA NA	Soil	inhalation, absorption	irritation to eyes, and skin	Eyes: Irrigate immediately Skin: Soap wash promptly.

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Dimethyl phthalate dimethyl benzene-1,2-dicarboxylate	131-11-3	NA	5 mg/m^3 2000 mg/m^3	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, upper respiratory system; stomach pain	Eye: Irrigate promptly Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Bis(2-chloroethyl)ether 2,2-Dichlorethyl ether 1,1-Oxybis(2-chloro)ethane Sym-Dichloroethyl ether Diethylene glycol dichloride	111-44-4	PID	15 ppm 100 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	Inhalation: Cough, sore throat, nausea, vomiting, burning sensation, labor breathing Irritation: Redness, pain Ingestion: Abdominal pain, nausea, vomiting, burning sensation	Eye: Irrigate immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Bis(2-chloroethoxy)methane Dichloroethylformal 2,2-Dichloroethylformal Di-2-chloroethyl formal	111-91-1	NA	NA NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	Toxic by inhalation and ingestion; Strong irritation	Eye: Irrigate immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Bis-(2-chloroisopropyl) ether	108-60-1	NA	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, upper respiratory system, stomach	Eye: Irrigate immediately Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Bis(2-ethylhexyl)phthalate Di-sec octyl phthalate DEHP Di(2-ethylhexyl)phthalate Octyl phthalate	117-81-7	NA	5 mg/m^3 5000 mg/m^3	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, mucous membrane; in animals: liver damage; teratogenic effects; [potential occupational carcinogen	Eye: Irrigate immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Dibutyl phthalate Di-n-butyl phthalate Butyl phthalate n-Butyl phthalate 1,2-Benzenedicarboxylic acid dibutyl ester o-Benzenedicarboxylic acid dibutyl ester DBP Palatinol C, Elaol Dibutyl-1,2-benzene-dicarboxylate	84-74-2	NA	5 mg/m^3 4000 mg/m^3	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, upper respiratory system, stomach	Eye: Irrigate immediately Skin: Wash regularly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Di-n-octyl phthalate Di-sec octyl phthalate DEHP, Di(2-ethylhexyl)phthalate, DOP, bis-(2-Ethylhexyl)phthalate, Octyl phthalate	117-84-0	NA	5 mg/m^3 5000 mg/m^3	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, mucous membrane; in animals: liver damage; teratogenic effects; [potential occupational carcinogen]	Eye: Irrigate immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Dichlorodifluoromethane Difluorodichloromethane, Fluorocarbon 12, Freon® 12, Genetron® 12, Halon® 122, Propellant 12, Refrigerant 12	75-71-8	NA	1000 pp, 15,000 ppm	Groundwater Soil Vapor	inhalation, skin and/or eye contact (liquid)	dizziness, tremor, asphyxia, unconsciousness, cardiac arrhythmias, cardiac arrest; liquid: frostbite	Eye: Frostbite Skin: Frostbite Breathing: Respiratory support

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	4,4’-DDD Dichlorodiphenyldichloroethane 1,1'-(2,2-Dichloroethylidene)bis (4-chlorobenzene)	72-54-8	NA	NA NA	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; paresthesia tongue, lips, face; tremor; anxiety, dizziness, confusion, malaise (vague feeling of discomfort), headache, lassitude (weakness, exhaustion); convulsions; paresis hands; vomiting; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Ethanol Absolute alcohol Alcohol cologne spirit drinking alcohol ethane monoxide ethylic alcohol EtOH ethyl alcohol ethyl hydrate ethyl hydroxide ethylol grain alcohol hydroxyethane methylcarbinol	64-17-5	PID	1000 ppm 3300 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough; liver damage; anemia; reproductive, teratogenic effects	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Ethyl acetate Acetic ester Acetic ether Ethyl ester of acetic acid Ethyl ethanoate	141-78-6	PID	400 ppm 2000 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin, nose, throat; narcosis; dermatitis	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	3,3'-Dichlorobenzidine 4,4'-Diamino-3,3'-dichlorobiphenyl Dichlorobenzidine base o,o'-Dichlorobenzidine 3,3'-Dichlorobiphenyl-4,4'-diamine 3,3'-Dichloro-4,4'-biphenyldiamine 3,3'-Dichloro-4,4'-diaminobiphenyl	91-94-1	NA	NA NA	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	Skin sensitization, dermatitis; headache, dizziness; caustic burns; frequent urination, dysuria; hematuria (blood in the urine); gastrointestinal upset; upper respiratory infection; [potential occupational carcinogen]	Eye: Irrigate immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Endosulfan sulfate 1,4,5,6,7,7-Hexachloro-5-norbornene-2,3-dimethanol, cyclic sulfate 6,7,8,9,10,10-hexachloro01,5,5a,9,9a-hexahydro-6,9-methano-2,4,3-benzodioxathiepin-3,3-dioxide	1031-07-8	NA	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	Hypersensitive to stimulation, sensation of prickling, tingling or creeping on skin. Headache, dizziness, nausea, vomiting, incoordination, tremor, mental confusion, hyperexcitable state. In severe cases: convulsions, seizures, coma and respiratory depression.	Eye: Irrigate immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	DDT 4,4-DDT p,p'-DDT Dichlorodiphenyltrichloroethane 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane	50-29-3	NA	1 mg/m^3 500 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; paresthesia tongue, lips, face; tremor; anxiety, dizziness, confusion, malaise (vague feeling of discomfort), headache, lassitude (weakness, exhaustion); convulsions; paresis hands; vomiting; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	DDE 4,4-DDE 1,1-bis-(4-chlorophenyl)-2,2-dichloroethene Dichlorodiphenyldichloroethylene	72-55-9	NA	NA NA	Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	Oral ingestion of food is the primary source of exposure for the general population. Acute and chronic ingestion may cause nausea, vomiting, diarrhea, stomach pain, headache, dizziness, disorientation, tingling sensation, kidney damage, liver damage, convulsions, coma, and death. 4,4' DDE may cross the placenta and can be excreted in breast milk	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Endosulfan Benzoepin; Endosulphan; 6,7,8,9,10-Hexachloro-1,5,5a,6,9,9a-hexachloro-6,9-methano-2,4,3-benzo-dioxathiepin-3-oxide Thiodan	115-29-7	NA	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation skin; nausea, confusion, agitation, flushing, dry mouth, tremor, convulsions, headache; in animals: kidney, liver injury; decreased testis weight	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Endosulfan I	959-98-8	NA	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation skin; nausea, confusion, agitation, flushing, dry mouth, tremor, convulsions, headache; in animals: kidney, liver injury; decreased testis weight	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Endosulfan II	33213-65-9	NA	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation skin; nausea, confusion, agitation, flushing, dry mouth, tremor, convulsions, headache; in animals: kidney, liver injury; decreased testis weight	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Endrin, 1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo,endo-5,8-dimethanonaphthalene; Hexadrin	72-20-8	NA	0.1 mg/m^3 2 mg/m^3	Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	epileptiform convulsions; stupor, headache, dizziness; abdominal discomfort, nausea, vomiting; insomnia; aggressiveness, confusion; drowsiness, lassitude (weakness, exhaustion); anorexia; in animals: liver damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Endrin aldehyde	7421-93-4	NA	0.1 mg/m3 2 mg/m3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	epileptiform convulsions; stupor, headache, dizziness; abdominal discomfort, nausea, vomiting; insomnia; aggressiveness, confusion; drowsiness, lassitude (weakness, exhaustion); anorexia; in animals: liver damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Endrin ketone	53494-70-5	NA	0.1 mg/m3 2 mg/m3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	epileptiform convulsions; stupor, headache, dizziness; abdominal discomfort, nausea, vomiting; insomnia; aggressiveness, confusion; drowsiness, lassitude (weakness, exhaustion); anorexia; in animals: liver damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Ethyl ether Diethyl ether Diethyl oxide Ethyl oxide Ether Solvent ether	60-29-7	PID	400 ppm 1900 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, upper respiratory system; dizziness, drowsiness, headache, excited, narcosis; nausea, vomiting	Eye: Irrigate immediately Skin: Water wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Ethyl benzene Ethylbenzene Ethylbenzol Phenylethane	100-40-4	PID	435 mg/m^3 3,472 mg/m^3	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Ethylene dichloride 1,2-Dichloroethane Ethylene chloride Glycol dichloride 1,2-DCA	107-06-2	PID	1 ppm 50 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin absorption, skin and/or eye contact	irritation to the eyes, corneal opacity; central nervous system depression; nausea, vomiting; dermatitis; liver, kidney, cardiovascular system damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	p-Ethyltoluene 4-Ethyltoluene 1-ethyl-4-methyl-benzene	622-96-8	NA	NA NA	Soil	ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Fluoranthene Benzo(j, k)fluorene	206-44-0	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Groundwater Soil	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation(dizziness, weakness, fatigue, nausea, headache)	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Fluorene	86-73-7	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Soil	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation(dizziness, weakness, fatigue, nausea, headache)	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Heptachlor	76-44-8	NA	0.5 mg/m^3 35 mg/m^3	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	In animals: tremor, convulsions; liver damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Heptachlor epoxide 1,4,5,6,7,8,8-Heptachloro-3a,4,7,7a-tetrahydro-4,7-methano-1H-indene	1024-57-3	NA	0.5 mg/m^3 35 mg/m^3	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	In animals: tremor, convulsions; liver damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Heptane n-Heptane	142-82-5	PID	500 ppm 750 ppm	Goundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	dizziness, stupor, incoordination; loss of appetite, nausea; dermatitis; chemical pneumonitis (aspiration liquid); unconsciousness	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	alpha-Hexachlorocyclohexane alpha-BHC 1-alpha,2-alpha,3-beta,4-alpha,5-beta,6-beta-Hexachlorocyclohexane alpha-1,2,3,4,5,6-Hexachlorocyclohexane alpha-Benzenehexachloride	319-84-6	PID	NA NA	Soil	inhalation, ingestion, skin and/or eye contact	Cough. Sore throat Diarrhea. Dizziness. Headache. Nausea. Vomiting. Tremors.	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	beta-Hexachlorocyclohexane beta-BHC β-1,2,3,4,5,6-hexachlorocyclohexane β-HCH β-Benzenehexachloride	319-85-7	PID	NA NA	Soil	inhalation, ingestion, skin and/or eye contact	Cough. Sore throat Diarrhea. Dizziness. Headache. Nausea. Vomiting. Tremors.	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	delta-BHC delta-hexachlorocyclohexane	319-86-8	NA	NA NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	Irritating to eyes, skin and mucous membranes. Prolonged periods of ingestion may cause cutaneous porphyria	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Hexachlorobenzene Perchlorobenzene Pentachlorophenylchloride Benzene hexachloride Phenyl perchloryl HCB BHC	118-74-1	NA	NA NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	Irritating to eyes, skin and mucous membranes. Prolonged periods of ingestion may cause cutaneous porphyria	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Hexachlorocyclopentadiene	77-47-4	PID	NA NA	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	Irritation eyes, skin, respiratory system; eye, skin burns; lacrimation (discharge of tears); sneezing, cough, dyspnea (breathing difficulty), salivation, pulmonary edema; nausea, vomiting, diarrhea; In Animals: liver, kidney injury	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Hexachlorobutadiene HCBD Hexachloro-1,3-butadiene 1,3-Hexachlorobutadiene Perchlorobutadiene	87-68-3	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	In animals: irritation to the eyes, skin, respiratory system; kidney damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Hexachloroethane Carbon hexachloride Ethane hexachloride Perchloroethane	67-72-1	PID	1 ppm\ 300 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; In Animals: kidney damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Indeno(1,2,3-cd)pyrene	193-39-5	NA	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Groundwater Soil	inhalation, absorption, ingestion, consumption	irritation to eyes, skin, respiratory, and digestion [potential occupational carcinogen]	Eyes: Irrigate immediately Skin: Soap wash promptly. Breath: Respiratory support Swallow: Medical attention immediately, wash mouth with water
1.3.1 – 1.3.8	Isophorone Isoacetophorone 3,5,5-Trimethyl-2-cyclohexenone 3,5,5-Trimethyl-2-cyclo-hexen-1-one	78-59-1	NA	25 ppm 200 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation eyes, nose, throat; headache, nausea, dizziness, lassitude (weakness, exhaustion), malaise (vague feeling of discomfort), narcosis; dermatitis; In Animals: kidney, liver damage	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Diphenylamine Anilinobenzene DPA Phenylaniline, N-Phenylaniline N-Phenylbenzenamine NDPA	122-39-4	NA	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; eczema; tachycardia, hypertension; cough, sneezing; methemoglobinemia; increased blood pressure, heart rate; proteinuria, hematuria (blood in the urine), bladder injury; In Animals: teratogenic effects	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	n-Nitrosodimethylamine Dimethylnitrosamine N,N-Dimethylnitrosamine DMNA N-Methyl-N-nitroso-methanamine NDMA N-Nitroso-N,N-dimethylamine	62-75-9	NA	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	nausea, vomiting, diarrhea, abdominal cramps; headache; fever; enlarged liver, jaundice; decreased liver, kidney, pulmonary function; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	N-Nitrosodi-n-propylamine Dipropylamine N-nitroso Dipropylnitrosamine N-Nitrosodipropylamine N,N-Dipropylnitrosamine Nitrosodipropylamine Di-n-propylnitrosoamine Di-N-propylnitrosamine DPN DPNA N-Nitroso-N-propyl-1-propanamine N-Nitrosodi-N-propylamine NDPA Propanamine N-nitroso-N-propyl-;Propylamine N-nitroso-N-di- 2-Oxo-1,1-dipropylhydrazine	621-64-7	NA	NA NA	Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	nausea, vomiting, diarrhea, abdominal cramps; headache; fever; enlarged liver, jaundice; decreased liver, kidney, pulmonary function; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Isopropyl alcohol Carbinol IPA Isopropanol 2-Propanol sec-Propyl alcohol Rubbing alcohol	67-63-0	PID	400 ppm 2000 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Lindane BHC HCH ã-Hexachlorocyclohexane gamma isomer of 1,2,3,4,5,6-Hexachlorocyclohexane	58-89-9	NA	0.5 mg/m^3 50 mg/m^3	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; headache; nausea; clonic convulsions; resp difficulty; cyanosis; aplastic anemia; muscle spasm; in animals: liver, kidney damage	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Methoxychlor p,p'-Dimethoxydiphenyltrichloroethane DMDT Methoxy-DDT 2,2-bis(p-Methoxyphenyl)-1,1,1-trichloroethane 1,1,1-Trichloro-2,2-bis-(p-methoxyphenyl)ethane	72-43-5	NA	15 mg/m^3 5000 mg/m^3	Groundwater Soil Vapor	inhalation, ingestion	fasciculation, trembling, convulsions; kidney, liver damage; [potential occupational carcinogen]	Skin: Soap wash Breathing: Fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Methyl Acetate	79-20-9	PID	200 ppm 3100 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; headache, drowsiness; optic nerve atrophy; chest tightness; in animals: narcosis	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Methylcyclohexane Hexahydrotoluene Cyclohexylmethane Toluene hexahydride Methyl cyclohexane	108-87-2	PID	500 ppm 1200 ppm	Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; dizziness, drowsiness; in animals: narcosis	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Methyl *tert*-butyl ether MTBE Methyl tertiary-butyl ether Methyl t-butyl ether tert-Butyl methyl ether tBME tert-BuOMe	1634-04-4	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; burning sensation in chest; headache, nausea, lassitude (weakness, exhaustion), restlessness, incoordination, confusion, drowsiness; vomiting, diarrhea; dermatitis; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Methyl Chloride Chloromethane Monochloromethane	74-87-3	NA	100 ppm 2000 ppm	Groundwater Soil	inhalation, skin and/or eye contact	dizziness, nausea, vomiting; visual disturbance, stagger, slurred speech, convulsions, coma; liver, kidney damage; liquid: frostbite; reproductive, teratogenic effects; [potential occupational carcinogen]	Eye: Frostbite Skin: Frostbite Breathing: Respiratory support
1.3.1 – 1.3.8	Methylene Chloride Dichloromethane Methylene dichloride	75-09-2	PID	25 ppm 2300 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; lassitude (weakness, exhaustion), drowsiness, dizziness; numb, tingle limbs; nausea; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Methyl chloroform Chlorothene 1,1,1-Trichloroethane 1,1,1-Trichloroethane (stabilized) 1,1,1-TCA	71-55-6	PID	350 ppm 700 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin; headache, lassitude (weakness, exhaustion), central nervous system depression, poor equilibrium; dermatitis; cardiac arrhythmias; liver damage	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention
1.3.1 – 1.3.8	1,1,2-Trichloroethane 1,1,2-TCA Ethane trichloride β-Trichloroethane Vinyl trichloride	79-00-5	PID	10 ppm 100 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, nose; central nervous system depression; liver, kidney damage; dermatitis	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention
1.3.1 – 1.3.8	2-Chloronaphthalene	91.58-7	NA	NA MA	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, nose; skin	Eye: Irrigate immediately , Medical attention Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention
1.3.1 – 1.3.8	Naphthalene Naphthalin Tar camphor White tar	91-20-3	PID	50 mg/m^3 250 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes; headache, confusion, excitement, malaise (vague feeling of discomfort); nausea, vomiting, abdominal pain; irritation bladder; profuse sweating; hematuria (blood in the urine); dermatitis, optical neuritis	Eye: Irrigate immediately Skin: Molten flush immediately/solid-liquid soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	n-Butylbenzene	104-51-8	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin; dry nose, throat; headache; low blood pressure, tachycardia, abnormal cardiovascular system stress; central nervous system, hematopoietic depression; metallic taste; liver, kidney injury	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	tert-Butylbenzene *t*-Butylbenzene 2-Methyl-2-phenylpropane Pseudobutylbenzene Phenyltrimethylmethane Dimethylethylbenzene 2-Phenyl-2-methylpropane (1,1-Dimethylethyl)benzene Trimethylphenylmethane	98-06-6	PID	10 ppm NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	eye, skin irritation; dry nose, throat; headaches; low blood pressure, tachycardia; abnormal cardiovascular system; central nervous system depression; hematopoietic depression	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	n-Hexane Hexane, Hexyl hydride, normal-Hexane	110-54-3	PID	500 ppm 1100 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, nose; nausea, headache; peripheral neuropathy: numb extremities, muscle weak; dermatitis; dizziness; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	n-Propylbenzene Isocumene Propylbenzene 1-Phenylpropane 1-Propylbenzene Phenylpropane	103-65-1	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin; dry nose, throat; headache; low blood pressure, tachycardia, abnormal cardiovascular system stress; central nervous system, hematopoietic depression; metallic taste; liver, kidney injury	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Nitrobenzene Essence of mirbane Nitrobenzol Oil of mirbane	98-95-3	NA	1 ppm 200 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin; anoxia; dermatitis; anemia; methemoglobinemia; In Animals: liver, kidney damage; testicular effects	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Phenanthrene	85-01-8	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Groundwater Soil	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation(dizziness, weakness, fatigue, nausea, headache)	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Pyrene benzo[def]phenanthrene	129-00-0	PID	0.2 mg/m^3 80 mg/m^3 (Coal Pitch Tar)	Groundwater Soil	inhalation, skin or eye contact, ingestion	irritation to eyes and skin, respiratory irritation(dizziness, weakness, fatigue, nausea, headache)	Eye: Irrigate immediately, refer to medical attention Skin: Soap wash immediately Breathing: move to fresh air Swallow: Medical attention immediately
1.3.1 – 1.3.8	Phenol Carbolic acid Hydroxybenzene, Monohydroxybenzene Phenyl alcohol Phenyl hydroxide	108-95-2	PID	5 ppm 250 ppm	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, nose, throat; anorexia, weight loss; lassitude (weakness, exhaustion), muscle ache, pain; dark urine, skin burns; dermatitis; tremor, convulsions, twitching	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Pentachlorophenol PCP; Penta; 2,3,4,5,6-Pentachlorophenol	87-86-5	PID	0.5 mg/m^3 2.5 mg/m^3	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, nose, throat; sneezing, cough; lassitude (weakness, exhaustion), anorexia, weight loss; sweating; headache, dizziness; nausea, vomiting; dyspnea (breathing difficulty), chest pain; high fever; dermatitis	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Pyridine Azabenzene Azine	110-86-1	PID	5 ppm 1000 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes; headache, anxiety, dizziness, insomnia; nausea, anorexia; dermatitis; liver, kidney damage	Eye: Irrigate immediately Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,1′-Biphenyl, Biphenyl, Phenyl benzene Diphenyl	92-52-4	NA	1 mg/m^3 100 mg/m^3	Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, throat; headache, nausea, lassitude (weakness, exhaustion), numb limbs; liver damage	Eye: Irrigate immediately Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	sec-Butylbenzene	135-98-8	PID	10 ppm 100 ppm	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, nose, throat; inhalation: nausea or vomiting	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Silvex 2-(2,4,5-Trichlorophenoxy)propionic acid Fenoprop	93-72-1	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, nose, respiratory system; headache, lassitude (weakness, exhaustion), dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, unsteady gait; narcosis; defatting dermatitis; possible liver injury; reproductive effects	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention
1.3.1 – 1.3.8	Styrene Ethenyl benzene Phenylethylene Styrene monomer Styrol Vinyl benzene	100-42-5	PID	100 ppm 700 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, nose, respiratory system; headache, lassitude (weakness, exhaustion), dizziness, confusion, malaise (vague feeling of discomfort), drowsiness, unsteady gait; narcosis; defatting dermatitis; possible liver injury; reproductive effects	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Tert-Butyl Alcohol Tertiary Butyl Alcohol 2-Methyl-2-propanol Trimethyl carbinol TBA	75-65-0	PID	100 ppm 1600 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; drowsiness, narcosis	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	1,1,1,2-Tetrachloroethane	630-20-6	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation eyes, skin; lassitude (weakness, exhaustion), restlessness, irregular respiration, muscle incoordination; In Animals: liver changes	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Tetrachloroethane 1,1,2,2-Tetrachloroethane Acetylene tetrachloride Symmetrical tetrachloroethane	79-34-5	PID	5 ppm 100 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	nausea, vomiting, abdominal pain; tremor fingers; jaundice, hepatitis, liver tenderness; dermatitis; leukocytosis (increased blood leukocytes); kidney damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Tetrachloroethylene Perchlorethylene Perchloroethylene PCE Perk Tetrachlorethylene Tetrachloroethene	127-18-4	PID	100 ppm 150 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat, respiratory system; nausea; flush face, neck; dizziness, incoordination; headache, drowsiness; skin erythema (skin redness); liver damage; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Tetrahydrofuran Diethylene oxide 1,4-Epoxybutane Tetramethylene oxide THF	109-99-9	PID	200 ppm 2000 ppm	Groundwater Soil Vapor	inhalation, skin and/or eye contact, ingestion	irritation to the eyes, upper respiratory system; nausea, dizziness, headache, central nervous system depression	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immedi

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	4-Chlorotoluene p-Chlorotoluene 1-Chloro-4-methylbenzene p-Tolyl chloride	106-43-4	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; dermatitis; drowsiness, incoordination, anesthesia; cough; liver, kidney injury	ye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	o-Chlorotoluene 1-Chloro-2-methylbenzene 2-Chloro-1-methylbenzene 2-Chlorotoluene o-Tolyl chloride	95-49-8	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, mucous membrane; dermatitis; drowsiness, incoordination, anesthesia; cough; liver, kidney injury	ye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Toluene Methyl benzene Methyl benzol Phenyl methane Toluol	108-88-3	PID	200 ppm 500 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, nose; lassitude (weakness, exhaustion), confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, paresthesia; dermatitis	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Toxaphene Chlorocamphene Octachlorocamphene Polychlorocamphene Chlorinated camphene	8001-35-2	PID	0.5 mg/m^3 200 mg/m^3	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, respiratory system; central nervous system, lungs, kidneys; may cause convulsive seizures	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Trichloroethylene Ethylene trichloride TCE Trichloroethene Trilene	79-01-6	PID	100 ppm 1000 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; headache, visual disturbance, lassitude (weakness, exhaustion), dizziness, tremor, drowsiness, nausea, vomiting; dermatitis; cardiac arrhythmias, paresthesia; liver injury; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Trichlorofluoromethane Fluorotrichloromethane Freon® 11 Monofluorotrichloromethane Refrigerant 11 Trichloromonofluoromethane	75-69-4	PID	1000 ppm 2000 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	incoordination, tremor; dermatitis; cardiac arrhythmias, cardiac arrest; asphyxia; liquid: frostbite	Eye: Irrigate immediately Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	1,1,2-Trichloro-1,2,2-trifluoroethane Chlorofluorocarbon-113 CFC-113 Freon® 113 Genetron® 113 Halocarbon 113 Refrigerant 113 TTE	76-13-1	PID	1000 ppm 2000 ppm	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation skin, throat, drowsiness, dermatitis; central nervous system depression; in animals: cardiac arrhythmias, narcosis	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Vinyl bromide Bromoethene Bromoethylene Monobromoethylene	593-60-2	NA	NA NA	Soil Vapor	inhalation, ingestion (liquid), skin and/or eye contact	irritation eyes, skin; dizziness, confusion, incoordination, narcosis, nausea, vomiting; liquid: frostbite; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Vinyl Chloride Chloroethene Chloroethylen Ethylene monochloride Monochloroethene Monochloroethylene VC Vinyl chloride monomer (VCM)	75-01-4	PID	1 ppm NA	Groundwater Soil Vapor	inhalation, skin and/or eye contact (liquid)	lassitude (weakness, exhaustion); abdominal pain, gastrointestinal bleeding; enlarged liver; pallor or cyanosis of extremities; liquid: frostbite; [potential occupational carcinogen]	Eye: Frostbite Skin: Frostbite Breathing: Respiratory support
1.3.1 – 1.3.8	Vinyl acetate 1-Acetoxyethylene Ethenyl acetate Ethenyl ethanoate VAC Vinyl acetate monomer Vinyl ethanoate	108-05-4	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; hoarseness, cough; loss of smell; eye burns, skin blisters	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Vinylidene chloride 1,1-DCE 1,1-Dichloroethene 1,1-Dichloroethylene VDC Vinylidene chloride monomer Vinylidene dichloride	75-35-4	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, throat; dizziness, headache, nausea, dyspnea (breathing difficulty); liver, kidney disturbance; pneumonitis; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Total PCBs Chlorodiphenyl (42% chlorine) Aroclor® 1242 PCB Polychlorinated biphenyl	53469-21-9	NA	0.5 mg/m^3 5 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, chloracne	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	o-Xylenes 1,2-Dimethylbenzene ortho-Xylene o-Xylol	95-47-6	PID	100 ppm 900 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; nausea, vomiting, abdominal pain; dermatitis	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	m-Xylenes 1,3-Dimethylbenzene m-Xylol Metaxylene	108-38-3	PID	100 ppm 900 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; nausea, vomiting, abdominal pain; dermatitis	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	p-Xylenes 1,4-Dimethylbenzene para-Xylene p-Xylol	106-42-3	PID	100 ppm 900 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; nausea, vomiting, abdominal pain; dermatitis	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Total Xylenes Dimethylbenzene Xylol	1330-20-7	PID	100 ppm 900 ppm	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; dizziness, excitement, drowsiness, incoordination, staggering gait; corneal vacuolization; nausea, vomiting, abdominal pain; dermatitis	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Gasoline	8006-61-9	PID	NA NA	Groundwater Soil Vapor	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Fuel Oil No. 2	68476-30-2	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; burning sensation in chest; headache, nausea, lassitude (weakness, exhaustion), restlessness, incoordination, confusion, drowsiness; vomiting, diarrhea; dermatitis; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Diesel Fuel automotive diesel fuel oil No. 2 distillate diesoline diesel oil diesel oil light diesel oil No. 1-D summer diesel	68334-30-5	PID	NA NA	Groundwater Soil Vapor	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; burning sensation in chest; headache, nausea, lassitude (weakness, exhaustion), restlessness, incoordination, confusion, drowsiness; vomiting, diarrhea; dermatitis; chemical pneumonitis (aspiration liquid)	Eye: Irrigate immediately Skin: Soap flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Aluminum	7429-90-5	NA	0.5 mg/m3 50 mg/m3	Soil	inhalation, skin and/or eye contact	irritation to the eyes, skin, respiratory system	Eye: Irrigate immediately Breathing: Fresh air
1.3.1 – 1.3.8	Antimony	7440-36-0	NA	0.5 mg/m^3 50 mg/m^3	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation skin, possible dermatitis; resp distress; diarrhea; muscle tremor, convulsions; possible gastrointestinal tract	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Arsenic	NA	NA	0.5 mg/m^3 NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation skin, possible dermatitis; resp distress; diarrhea; muscle tremor, convulsions; possible gastrointestinal tract	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Barium	10022-31-8	NA	0.5 mg/m^3 50 mg/m^3	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasm; slow pulse	Eye: Irrigate immediately Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Boron	7440-42-8	None	NA NA	Soil Groundwater	inhalation, skin and/or eye contact	Irritation to the eyes, skin.	Eye: Irrigate immediately Skin: Soap wash promptly Swallow: Medical attention immediately
1.3.1 – 1.3.8	Beryllium	7440-41-7	NA	0.002 mg/m^3 4 mg/m^3	Soil	inhalation, skin and/or eye contact	berylliosis (chronic exposure): anorexia, weight loss, lassitude (weakness, exhaustion), chest pain, cough, clubbing of fingers, cyanosis, pulmonary insufficiency; irritation to the eyes; dermatitis; [potential occupational carcinogen]	Eye: Irrigate immediately Breathing: Fresh air

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Cadmium	7440-43-9	NA	0.005 mg/m^3 9 mg/m^3	Soil	inhalation, ingestion	pulmonary edema, dyspnea (breathing difficulty), cough, chest tightness, substernal (occurring beneath the sternum) pain; headache; chills, muscle aches; nausea, vomiting, diarrhea; anosmia (loss of the sense of smell), emphysema, proteinuria, mild anemia; [potential occupational carcinogen]	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Calcium	7440-70-2	NA	NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, upper resp tract; ulcer, perforation nasal septum; pneumonitis; dermatitis	Eye: Irrigate immediately Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Chromium Total Chromium Chromium, Total	7440-47-3	None	1.0 mg/m^3 250 mg/m^3	Groundwater Soil	inhalation absorption ingestion	irritation to eye, skin, and respiratory	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Chromium Hexavalent- Trivalent-	7440-47-3	NA	1.0 mg/m^3 250 mg/m^3	Groundwater Soil	inhalation absorption ingestion	irritation to eye, skin, and respiratory	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Cobalt	7440-48-4	NA	0.1mg/m^3 20 mg/m^3	Soil	inhalation, ingestion, skin and/or eye contact	Cough, dyspnea (breathing difficulty), wheezing, decreased pulmonary function; weight loss; dermatitis; diffuse nodular fibrosis; resp hypersensitivity, asthma	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Copper	7440-50-8	NA	1.0 mg/m^3 100 mg/m^3	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, nose, metallic taste; dermatitis; anemia	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Cyanide	57-12-5	NA	5 mg/m^3 25 mg/m^3	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	Exposure to cyanide can cause weakness, headaches, confusion, dizziness, fatigue, anxiety, sleepiness, nausea and vomiting. Breathing can speed up then become slow and gasping. Coma and convulsions also occur. If large amounts of cyanide have been absorbed by the body, the person usually collapses and death can occur very quickly. Long-term exposure to lower levels of cyanide can cause skin and nose irritation, itching, rashes and thyroid changes.	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Iron	7439-89-6	NA	10 mg/m^3 NA	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, mucous membrane; abdominal pain, diarrhea, vomiting	Eye: Irrigate immediately Skin: Soap wash Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Lead	7439-92-1	NA	0.050 mg/m^3 100 mg/m^3	Groundwater Soil	inhalation, ingestion, skin and/or eye contact	lassitude (weakness, exhaustion), insomnia; facial pallor; anorexia, weight loss, malnutrition; constipation, abdominal pain, colic; anemia; gingival lead line; tremor; paralysis wrist, ankles; encephalopathy; kidney disease; irritation to the eyes; hypertension	Eye: Irrigate immediately Skin: Soap flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Manganese	7439-96-5	NA	5 mg/m^3 500 mg/m^3	Groundwater Soil	inhalation, ingestion	aerosol is irritating to the respiratory tract	Eye: Irrigate immediately Skin: Soap flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Magnesium	7439-95-4	NA	15 mg/m^3 NA	Soil	inhalation, skin and/or eye contact	irritation to the eyes, skin, respiratory system; cough	Eye: Irrigate immediately Breathing: Fresh air
1.3.1 – 1.3.8	Mercury	7439-97-6	NA	0.1 mg/m^3 10 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation to the eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria	Eye: Irrigate immediately Skin: Soap wash promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Nickel	7440-02-0	NA	NA 10 mg/m^3	Groundwater Soil	ion, ingestion, skin and/or eye contact	sensitization dermatitis, allergic asthma, pneumonitis; [potential occupational carcinogen]	Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Potassium	7440-09-7	NA	NA NA	Soil	inhalation, skin absorption, ingestion, skin and/or eye contact inhalation, ingestion, skin and/or eye contact	eye: Causes eye burns. Skin: Causes skin burns. Reacts with moisture in the skin to form potassium hydroxide and hydrogen with much heat. ingestion: Causes gastrointestinal tract burns. inhalation: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Causes chemical burns to the respiratory tract. inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.	Eyes: Get medical aid immediately Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. ingestion: If victim is conscious and alert, give 2-4 full cups of milk or water. Get medical aid immediately. inhalation: Get medical aid immediately.

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Selenium	7782-49-2	NA	1 mg/m^3 0.2 mg/m^3	Soil	inhalation, ingestion, skin and/or eye contact	irritation to the eyes, skin, nose, throat; visual disturbance; headache; chills, fever; dyspnea (breathing difficulty), bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns; in animals: anemia; liver necrosis, cirrhosis; kidney, spleen damage	Eye: Irrigate immediately Skin: Soap wash immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Silver	7440-22-4	NA	0.01 mg/m^3 10 mg/m^3	Soil	inhalation, ingestion, skin and/or eye contact	blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance	Eye: Irrigate immediately Skin: Water flush Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Sodium	7440-23-5	NA	NA NA	Groundwater Soil	ion, ingestion, skin and/or eye contact	sensitization dermatitis, allergic asthma, pneumonitis; [potential occupational carcinogen]	Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Thallium	7440-28-0	NA	0.1 mg/m^3 15 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	nausea, diarrhea, abdominal pain, vomiting; ptosis, strabismus; peri neuritis, tremor; retrosternal (occurring behind the sternum) tightness, chest pain, pulmonary edema; convulsions, chorea, psychosis; liver, kidney damage; alopecia; paresthesia legs	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Tin	7440-31-5	NA	0,2 mg/m^3 25 mg/m^3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	irritation eyes, skin, respiratory system; headache, dizziness; psycho-neurologic disturbance; sore throat, cough; abdominal pain, vomiting; urine retention; paresis, focal anesthesia; skin burns, pruritus; In Animals: hemolysis; hepatic necrosis; kidney damage	Eye: Irrigate immediately Skin: Water flush immediately Breathing: Respiratory support Swallow: Medical attention immediately
1.3.1 – 1.3.8	Vanadium	7440-62-2	NA	0.1 mg/m3 15 mg/m3	Groundwater Soil	inhalation, skin absorption, ingestion, skin and/or eye contact	nausea, diarrhea, abdominal pain, vomiting; ptosis, strabismus; peri neuritis, tremor; retrosternal (occurring behind the sternum) tightness, chest pain, pulmonary edema; convulsions, chorea, psychosis; liver, kidney damage; alopecia; paresthesia legs	Eye: Irrigate immediately Skin: Water flush promptly Breathing: Respiratory support Swallow: Medical attention immediately

Task	Contaminant	CAS Number	Monitoring Device	PEL/ IDLH	Source of Concentration on Site	Route of Exposure	Symptoms	First Aid
1.3.1 – 1.3.8	Zinc	7440-62-2	NA	15 mg/m^3 500 mg/m^3	Groundwater Soil	inhalation	chills, muscle ache, nausea, fever, dry throat, cough; lassitude (weakness, exhaustion); metallic taste; headache; blurred vision; low back pain; vomiting; malaise (vague feeling of discomfort); chest tightness; dyspnea (breathing difficulty), rales, decreased pulmonary function	Breathing: Respiratory support
1.3.1 – 1.3.8	Non-Flammable Gas Mixture CALGAS (Equipment Calibration Gas : Oxygen Methane Hydrogen Sulfide Carbon Monoxide Nitrogen	7782-44-7 74-82-8 7783-08-4 830-08-0 7727-37-9	Multi-Gas PID	NA/NA NA/NA 10/100 ppm 50/1200 ppm NA/NA	NA	inhalation	dizziness, headache, and nausea	Breathing: Respiratory support

EXPLANATION OF ABBREVIATIONS

PID = Photoionization Detector
PEL = Permissible Exposure Limit (8-hour Time Weighted Average)
IDLH = Immediately Dangerous to Life and Health
ppm = part per million
mg/m^3 = milligrams per cubic meter

TABLE 3
Summary of Monitoring Equipment

Instrument	Operation Parameters
Photoionization Detector (PID)	**Hazard Monitored:** Many organic and some inorganic gases and vapors. **Application:** Detects total concentration of many organic and some inorganic gases and vapors. Some identification of compounds is possible if more than one probe is measured. **Detection Method:** Ionizes molecules using UV radiation; produces a current that is proportional to the number of ions. **General Care/Maintenance:** Recharge or replace battery. Regularly clean lamp window. Regularly clean and maintain the instrument and accessories. **Typical Operating Time:** 10 hours. 5 hours with strip chart recorder.
Oxygen Meter	**Hazard Monitored:** Oxygen (O_2). **Application:** Measures the percentage of O_2 in the air. **Detection Method:** Uses an electrochemical sensor to measure the partial pressure of O_2 in the air, and converts the reading to O_2 concentration. **General Care/Maintenance:** Replace detector cell according to manufacturer's recommendations. Recharge or replace batteries prior to explanation of the specified interval. If the ambient air is less than 0.5% C O_2, replace the detector cell frequently. **Typical Operating Time:** 8 – 12 hours.
Additional equipment (if needed, based on site conditions)	
Combustible Gas Indicator (CGI)	**Hazard Monitored:** Combustible gases and vapors. **Application:** Measures the concentration of combustible gas or vapor. **Detection Method:** A filament, usually made of platinum, is heated by burning the combustible gas or vapor. The increase in heat is measured. Gases and vapors are ionized in a flame. A current is produced in proportion to the number of carbon atoms present. **General Care/Maintenance:** Recharge or replace battery. Calibrate immediately before use. **Typical Operating Time:** Can be used for as long as the battery lasts, or for the recommended interval between calibrations, whichever is less.
Flame Ionization Detector (FID) with Gas Chromatography Option *(i.e., Foxboro Organic Vapor Analyzer (OVA))*	**Hazard Monitored:** Many organic gases and vapors (approved areas only). **Application:** In survey mode, detects the concentration of many organic gases and vapors. In gas chromatography (GC) mode, identifies and measures specific compounds. In survey mode, all the organic compounds are ionized and detected at the same time. In GC mode, volatile species are separated. **General Care/Maintenance:** Recharge or replace battery. Monitor fuel and/or combustion air supply gauges. Perform routine maintenance as described in the manual. Check for leaks. **Typical Operating Time:** 8 hours; 3 hours with strip chart recorder.
Potable Infrared (IR) Spectrophotometer	**Hazard Monitored:** Many gases and vapors. **Application:** Measures concentration of many gases and vapors in air. Designed to quantify one or two component mixtures. **Detection Method:** Passes different frequencies of IR through the sample. The frequencies absorbed are specific for each compound. **General Care/Maintenance:** As specified by the manufacturer.

Instrument	Operation Parameters
Direct Reading Colorimetric Indicator Tube	**Hazard Monitored:** Specific gas and vapors. **Application:** Measures concentration of specific gases and vapors. **Detection Method:** The compound reacts with the indicator chemical in the tube, producing a stain whose length or color change is proportional to the compound's concentration. **General Care/Maintenance:** Do not use a previously opened tube even if the indicator chemical is not stained. Check pump for leaks before and after use. Refrigerate before use to maintain a shelf life of about 2 years. Check expiration dates of tubes. Calibrate pump volume at least quarterly. Avoid rough handling which may cause channeling.
Aerosol Monitor	**Hazard Monitored:** Airborne particulate (dust, mist, fume) concentrations **Application:** Measures total concentration of semi-volatile organic compounds, PCBs, and metals. **Detection Method:** Based on light-scattering properties of particulate matter. Using an internal pump, air sample is drawn into the sensing volume where near infrared light scattering is used to detect particles. **General Care/Maintenance:** As specified by the mfr. Also, the instrument must be calibrated with particulates of a size and refractive index similar to those to be measured in the ambient air.
Monitox	**Hazard Monitored:** Gases and vapors. **Application:** Measures specific gases and vapors. **Detection Method:** Electrochemical sensor relatively specific for the chemical species in question. **General Care/Maintenance:** Moisten sponge before use; check the function switch; change the battery when needed.
Gamma Radiation Survey Instrument	**Hazard Monitored:** Gamma Radiation. **Application:** Environmental radiation monitor. **Detection Method:** Scintillation detector. **General Care/Maintenance:** Must be calibrated annually at a specialized facility. **Typical Operating Time:** Can be used for as long as the battery lasts, or for the recommended interval between calibrations, whichever is less.

TABLE 4
INSTRUMENTATION ACTION LEVELS

Photoionization Detector Action Levels	**Action Required**
Background to 5 ppm	No respirator; no further action required
> 1 ppm but < 5 ppm for > 5 minutes	1. Temporarily discontinue all activities and evaluate potential causes of the excessive readings. If these levels persist and cannot be mitigated (i.e., by slowing drilling or excavation activities), contact HSO to review conditions and determine source and appropriate response action. 2. If PID readings remain above 1 ppm, temporarily discontinue work and upgrade to Level C protection. 3. If sustained PID readings fall below 1 ppm, downgrading to Level D protection may be permitted.
> 5 ppm but < 150 ppm for > 5 minutes	1. Discontinue all work; all workers shall move to an area upwind of the jobsite. 2. Evaluate potential causes of the excessive readings and allow work area to vent until VOC concentrations fall below 5 ppm. 3. Level C protection will continue to be used until PID readings fall below 1 ppm.
> 150 ppm	Evacuate the work area

Notes:

1. 1 ppm level based on OSHA Permissible Exposure Limit (PEL) for benzene.
2. 5 ppm level based on OSHA Short Term Exposure Limit (STEL) maximum exposure for benzene for any 15 minute period.
3. 150 ppm level based on NIOSH Immediately Dangerous to Life and Health (IDLH) for tetrachloroethylene.

TABLE 5
EMERGENCY NOTIFICATION LIST

ORGANIZATION	CONTACT	TELEPHONE
Local Police Department	NYPD	911
Local Fire Department	NYFD	911
Ambulance/Rescue Squad	NYFD	911
Hospital	Brooklyn Hospital Center	911 or 718-250-80000
Langan Incident Hotline		800-952-6426 ex 4699
Medical Treatment Hotline	Incident Intervention	888-449-7787
Langan Environmental Project Manager Langan Geotechnical Project Manager	Albert Tashji Kenneth Hubert	551-404-5597 (cell) 631-525-6007 (cell)
Langan Health and Safety Manager (HSM)	Tony Moffa	215-756-2523 (cell)
Langan Health & Safety Officer (HSO)	William Bohrer	410-984-3068 (cell)
Langan Field Team Leader (FTL)	To Be Determined	
Client's Representative	Matt Horrigan	203-561-7480
National Response Center (NRC)		800-424-8802
Chemical Transportation Emergency Center (Chemtrec)		800-424-9300
Center for Disease Control (CDC)		404-639-3534
EPA (RCRA Superfund Hotline)		800-424-9346
TSCA Hotline		202-554-1404
Poison Control Center		800-222-1222

Immediately following an injury, unless immediate emergency medical treatment is required, the injured employee must contact Incident Intervention® at 888-449-7787.

For all other incidents or near misses, unless emergency response is required, either the employee or a coworker must contact the Langan Incident Hotline at 1-(800)-9-LANGAN (ext. #4699).

TABLE 6

SUGGESTED FREQUENCY OF PHYSIOLOGICAL MONITORING FOR FIT AND ACCLIMATED WORKERS[A]

Adjusted Temperature[b]	Normal Work Ensemble[c]	Impermeable Ensemble
90°F or above (32.2°C) or above	After each 45 min. of work	After each 15 min. of work
87.5°F (30.8°-32.2°C)	After each 60 min. of work	After each 30 min. of work
82.5°-87.5°F (28.1°-30.8°C)	After each 90 min. of work	After each 60 min. of work
77.5°-82.5°F (25.3°-28.1°C)	After each 120 min. of work	After each 90 min. of work
72.5°-77.5°F (22.5°-25.3°C)	After each 150 min. of work	After each 120 min. of work

a For work levels of 250 kilocalories/hour.

b Calculate the adjusted air temperature (ta adj) by using this equation: ta adj $^{\circ}$F = ta $^{\circ}$F + (13 x % sunshine). Measure air temperature (ta) with a standard mercury-in-glass thermometer, with the bulb shielded from radiant heat. Estimate percent sunshine by judging what percent time the sun is not covered by clouds that are thick enough to produce a shadow. (100 percent sunshine = no cloud cover and a sharp, distinct shadow; 0 percent sunshine = no shadows.)

c A normal work ensemble consists of cotton coveralls or other cotton clothing with long sleeves and pants.

TABLE 7

HEAT INDEX

ENVIRONMENTAL TEMPERATURE (Fahrenheit)

	70	**75**	**80**	**85**	**90**	**95**	**100**	**105**	**110**	**115**	**120**
RELATIVE HUMIDITY	**APPARENT TEMPERATURE***										
0%	64	69	73	78	83	87	91	95	99	103	107
10%	65	70	75	80	85	90	95	100	105	111	116
20%	66	72	77	82	87	93	99	105	112	120	**130**
30%	67	73	78	84	90	96	104	113	123	**135**	**148**
40%	68	74	79	86	93	101	110	123	**137**	**151**	
50%	69	75	81	88	96	107	120	**135**	**150**		
60%	70	76	82	90	100	114	**132**	**149**			
70%	70	77	85	93	106	124	**144**				
80%	71	78	86	97	113	**136**					
90%	71	79	88	102	122						
100%	72	80	91	108							

*Combined Index of Heat and Humidity...what it "feels like" to the body
Source: National Oceanic and Atmospheric Administration

How to use Heat Index:
1. Across top locate Environmental Temperature
2. Down left side locate Relative Humidity
3. Follow across and down to find Apparent Temperature
4. Determine Heat Stress Risk on chart at right

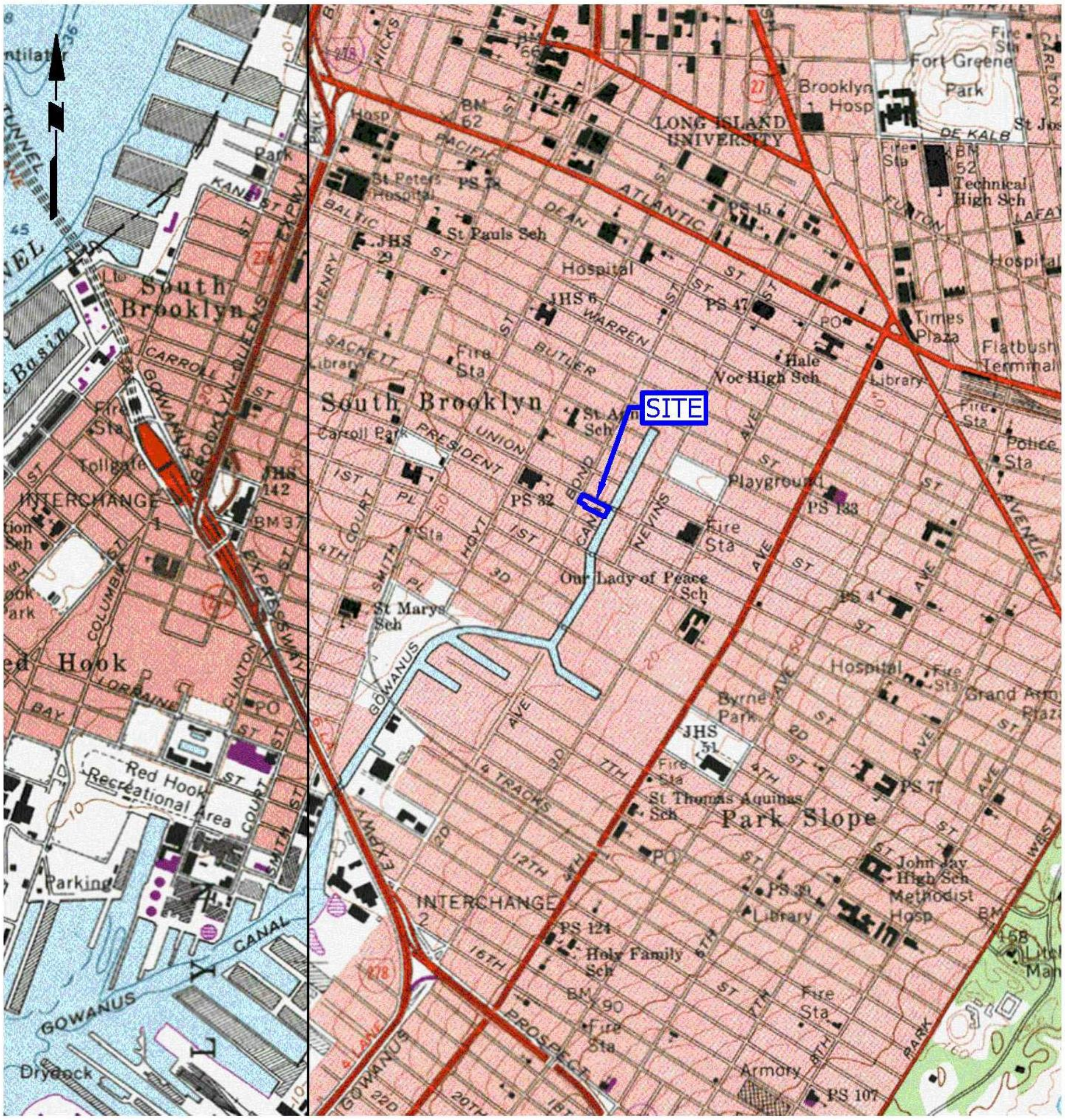
Note: Exposure to full sunshine can increase Heat Index values by up to 15 degrees F.

Apparent Temperature	**Heat Stress Risk with Physical Activity and/or Prolonged Exposure**
90-105	Heat Cramps or Heat Exhaustion Possible
105-130	Heat Cramps or Heat Exhaustion Likely, Heat Stroke Possible
>130	Heatstroke Highly Likely

FIGURES

FIGURE 1

Site Location Map



LEGEND:

▭ BCP SITE BOUNDARY

GENERAL NOTES:

1. BASE MAP TAKEN FROM UNITED STATES GEOLOGICAL SURVEY (USGS) TOPOGRAPHIC MAPS FOR BROOKLYN AND JERSEY CITY QUADRANGLES.

LANGAN

21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BROOKLYN NEW YORK

Figure Title
SITE LOCATION MAP

Project No.
170301202
Date
3/2/2016
Scale
1"=1500'
Drawn By
PMM
Checked By
NCR
Submission Date
–

Figure No.
1
Sheet 1 of 2

Filename: \\langan.com\data\NY\data2\170301202\Cadd Data - 170301202\2D-DesignFiles\Environmental\BCP RIR\Figure 1 - Site Location Map_BCP RIR.dwg Date: 3/18/2016 Time: 10:45 User: nrice Style Table: Langan.stb Layout: SLM

FIGURE 2

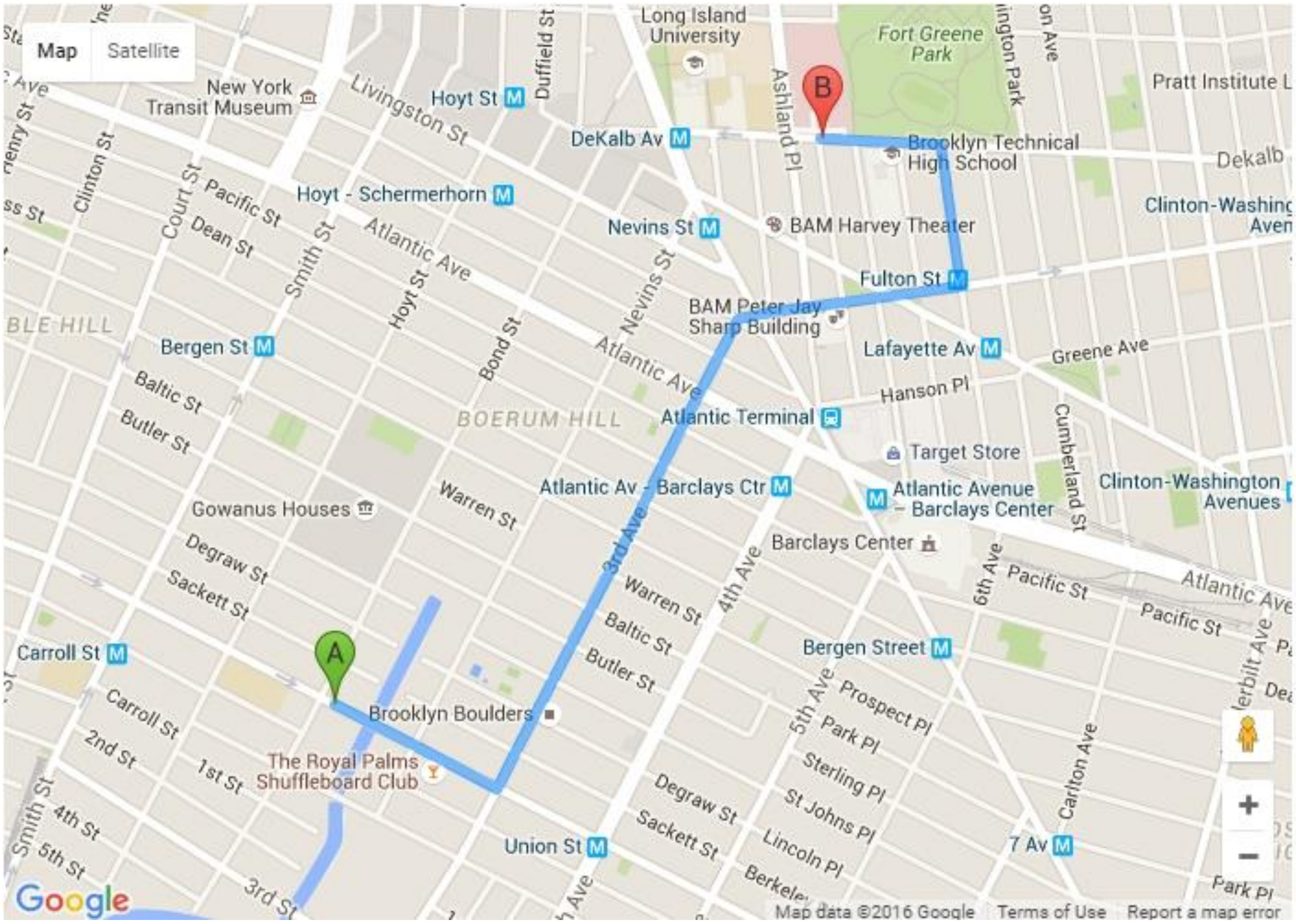
HOSPITAL ROUTE PLAN

Hospital Location: **Brooklyn Hospital Center**
121 Dekalb Avenue
New York, NY
718-250-8000

START: 450 Union Street, Brooklyn, NY

1. Head southeast on Union Street toward Nevins Street
2. Turn left at the 2nd cross street onto 3rd Avenue
3. Slight right onto Lafayette Avenue
4. Turn left onto South Portland Avenue
5. Turn left onto Dekalb Avenue, destination will be on the right.

END: Brooklyn Hospital Center, 121 Dekalb Avenue, Brooklyn, NY



ATTACHMENT A

STANDING ORDERS

STANDING ORDERS

GENERAL

- No smoking, eating, or drinking in this work zone.
- Upon leaving the work zone, personnel will thoroughly wash their hands and face.
- Minimize contact with contaminated materials through proper planning of work areas and decontamination areas, and by following proper procedures. Do not place equipment on the ground. Do not sit on contaminated materials.
- No open flames in the work zone.
- Only properly trained and equipped personnel are permitted to work in potentially contaminated areas.
- Always use the appropriate level of PPE.
- Maintain close contact with your buddy in the work zone
- Contaminated material will be contained in the Exclusion Zone (EZ).
- Report any unusual conditions.
- Work areas will be kept clear and uncluttered. Debris and other slip, trip, and fall hazards will be removed as frequently as possible.
- The number of personnel and equipment in the work zone will be kept to an essential minimum.
- Be alert to the symptoms of fatigue and heat/cold stress, and their effects on the normal caution and judgment of personnel.
- Conflicting situations which may arise concerning safety requirements and working conditions must be addressed and resolved quickly by the site HSO.

TOOLS AND HEAVY EQUIPMENT

- Do not, under any circumstances, enter or ride in or on any backhoe bucket, materials hoist, or any other device not specifically designed to carrying passengers.
- Loose-fitting clothing or loose long hair is prohibited around moving machinery.
- Ensure that heavy equipment operators and all other personnel in the work zone are using the same hand signals to communicate.
- Drilling/excavating within 10 feet in any direction of overhead power lines is prohibited.
- The locations of all underground utilities must be identified and marked out prior to initiating any subsurface activities.
- Check to insure that the equipment operator has lowered all blades and buckets to the ground before shutting off the vehicle.
- If the equipment has an emergency stop device, have the operator show all personnel its location and how to activate it.
- Help the operator ensure adequate clearances when the equipment must negotiate in tight quarters; serve as a signalman to direct backing as necessary.
- Ensure that all heavy equipment that is used in the Exclusion Zone is kept in that zone until the job is done, and that such equipment is completely decontaminated before moving it into the clean area of the work zone.
- Samplers must not reach into or get near rotating equipment such as the drill rig. If personnel must work near any tools that could rotate, the equipment operator must completely shut down the rig prior to initiating such work. It may be necessary to use a remote sampling device.

ATTACHMENT B

DECONTAMINATION PROCEDURES

PERSONNEL DECONTAMINATION

LEVEL C DECONTAMINATION

Station 1:	Equipment Drop	1. Deposit equipment used on-site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, cool down stations may be set up within this area.
Station 2:	Outer Garment, Boots, and Gloves Wash and Rinse	2. Scrub outer boots, outer gloves and chemical-resistant splash suit with decon solution or detergent and water. Rinse off using copious amounts of water.
Station 3:	Outer Boot and Glove Removal	3. Remove outer boots and gloves. Deposit in container with plastic liner.
Station 4:	Canister or Mask Change	4. If worker leaves Exclusion Zone to change canister (or mask), this is the last step in the decontamination procedure. Worker's canister is exchanged, new outer gloves and boot covers donned, joints taped, and worker returns to duty.
Station 5:	Boot, Gloves and Outer Garment Removal	5. Boots, chemical-resistant splash suit, inner gloves removed and deposited in separate containers lined with plastic.
Station 6:	Face piece Removal	6. Face piece is removed (avoid touching face with fingers). Face piece deposited on plastic sheets.
Station 7:	Field Wash	7. Hands and face are thoroughly washed. Shower as soon as possible.

LEVEL D DECONTAMINATION

Station 1:	Equipment Drop	1. Deposit equipment used on-site (tools, sampling devices and containers, monitoring instruments, radios, clipboards, etc.) on plastic drop cloths. Segregation at the drop reduces the probability of cross contamination. During hot weather operations, cool down stations may be set up within this area.
Station 2:	Outer Garment, Boots, and Gloves Wash and Rinse	2. Scrub outer boots, outer gloves and chemical-resistant splash suit with decon solution or detergent and water. Rinse off using copious amounts of water.
Station 3:	Outer Boot and Glove Removal	3. Remove outer boots and gloves. Deposit in container with plastic liner.
Station 4:	Boot, Gloves and Outer Garment Removal	4. Boots, chemical-resistant splash suit, inner gloves removed and deposited in separate containers lined with plastic.
Station 5:	Field Wash	5. Hands and face are thoroughly washed. Shower as soon as possible.

EQUIPMENT DECONTAMINATION

GENERAL:

Equipment to be decontaminated during the project may include tools, monitoring equipment, respirators, sampling containers, laboratory equipment and drilling equipment.

All decontamination will be done by personnel in protective gear, appropriate for the level of decontamination, as determined by the site HSO. The decontamination work tasks will be split or rotated among support and work crews.

Depending on site conditions, backhoe and pumps may be decontaminated over a portable decontamination pad to contain wash water; or, wash water may be allowed to run off into a storm sewer system. Equipment needed may include a steam generator with high-pressure water, empty drums, screens, screen support structures, and shovels. Drums will be used to hold contaminated wash water pumped from the lined pit. These drums will be labeled as such.

Miscellaneous tools and equipment will be dropped into a plastic pail, tub, or other container. They will be brushed off and rinsed with a detergent solution, and finally rinsed with clean water.

MONITORING EQUIPMENT:

Monitoring equipment will be protected as much as possible from contamination by draping, masking, or otherwise covering as much of the instruments as possible with plastic without hindering the operation of the unit. The PID, HNu or OVA meter, for example, can be placed in a clear plastic bag, which allows reading of the scale and operation of knobs. The probes can be partially wrapped keeping the sensor tip and discharge port clear.

The contaminated equipment will be taken from the drop area and the protective coverings removed and disposed in the appropriate containers. Any dirt or obvious contamination will be brushed or wiped with a disposable paper wipe.

RESPIRATORS:

Respirators will be cleaned and disinfected after every use. Taken from the drop area, the masks (with the cartridges removed and disposed of with other used disposable gear) will be immersed in a cleaning solution and scrubbed gently with a soft brush, followed by a rinse in plain warm water, and then allowed to air dry. In the morning, new cartridges will be installed. Personnel will inspect their own masks for serviceability prior to donning them. And, once the mask is on, the wearer will check the respirator for leakage using the negative and positive pressure fit check techniques.

ATTACHMENT C

EMPLOYEE EXPOSURE/ INJURY INCIDENT REPORT

EMPLOYEE INCIDENT/INJURY REPORT
LANGAN ENGINEERING & ENVIRONMENTAL SERVICES

(Complete and return to Tony Moffa in the Doylestown Office)

Affected Employee Name: ______________________________ Date: ______________________________

Incident type: ☐ Injury ☐ Report Only/No Injury
☐ Near Miss ☐ Other: ______________________________ _______

EMPLOYEE INFORMATION (Person completing Form)

Employee Name: ______________________________ Employee No: ______________________________

Title: ______________________________ Office Location: ______________________________

Length of time employed or date of hire: ______________________________

Mailing address: ______________________________

____

Sex: M ☐ F ☐ Birth date: ______________

Business phone & extension: ______________ Residence/cell phone: ______________________________

ACCIDENT INFORMATION

Project: ______________________________ Project #: ______________________________

Date & time of incident: ______________ Time work started & ended: ______________________________

Site location: ______________________________

Incident Type: Possible Exposure ☐ Exposure ☐ Physical Injury ☐

Names of person(s) who witnessed the incident:____

____

Exact location incident occurred:

____

____

Describe work being done:_________________________________

____

____

____

Describe what affected employee was doing prior to the incident occurring:

____

____

____

Describe in detail how the incident occurred:

____

____

____

____

Nature of the incident (List the parts of the body affected):

____

____

____

____

Person(s) to whom incident was reported (Time and Date):

____

____

List the names of other persons affected during this incident:

Possible causes of the incident (equipment, unsafe work practices, lack of PPE, etc.):

Weather conditions during incident:

MEDICAL CARE INFORMATION

Did affected employee receive medical care? Yes ☐ No ☐

If Yes, when and where was medical care received:___________________________________

Provide name of facility (hospital, clinic, etc.):

Length of stay at the facility?

Did the employee miss any work time? Yes ☐ No ☐ Undetermined ☐

Date employee last worked: ________________________ Date employee returned to work:____

Has the employee returned to work? Yes ☐ No ☐

Does the employee have any work limitations or restrictions from the injury? : Yes ☐ No ☐

If Yes, please describe:

Did the exposure/injury result in permanent disability? Yes ☐ No ☐ Unknown ☐

If Yes, please describe:

HEALTH & SAFETY INFORMATION

Was the operation being conducted under an established site specific CONSTRUCTION CONSTRUCTION HEALTH AND SAFETY PLAN?

Yes ☐ No ☐ Not Applicable: ☐

Describe protective equipment and clothing used by the employee:

Did any limitations in safety equipment or protective clothing contribute to or affect exposure / injury? If so, explain:

Employee Signature Date

Langan Representative Date

ATTACHMENT D

CALIBRATION LOG

DATE:________________ PROJECT:____________________

CALIBRATION LOG

Date & Time	Inst Type	Inst #	Media	Initial Reading	Span #	Calibrat. Reading	Performed By:

Date & Time	Inst Type	Inst #	Media	Initial Reading	Span #	Calibrat. Reading	Performed By:

Date & Time	Inst Type	Inst #	Media	Initial Reading	Span #	Calibrat. Reading	Performed By:

Date & Time	Inst Type	Inst #	Media	Initial Reading	Span #	Calibrat. Reading	Performed By:

Date & Time	Inst Type	Inst #	Media	Initial Reading	Span #	Calibrat. Reading	Performed By:

ATTACHMENT E

MATERIAL SAFETY DATA SHEETS

SAFETY DATA SHEETS

All Langan Field Personnel Completing This Work Plan Are To Have Real Time Accessibility To Material Safety Data Sheet (MSDs) or Safety Data Sheet (SDSs) Through Their Smart Phone.

The link is http://www.msds.com/
The login name is "drapehead"
The password is "2angan987"

If You Are Unable To Use the Smart Phone App, You Are To Bring Printed Copies of the MSDs/SDSs to the Site

ATTACHMENT F

JOBSITE SAFETY INSPECTION CHECKLIST

Jobsite Safety Inspection Checklist

Date: ______________________ **Inspected By:** ______________________

Location: ______________________ **Project #:** ______________________

Check one of the following: **A:** Acceptable **NA**: Not Applicable **D**: Deficiency
☐ ☐ ☐ ☐

	A	NA	D	Remark
1. CHASP available onsite for inspection?				
2. Health & Safety Compliance agreement (in CHASP) appropriately signed by Langan employees and contractors?				
3. Hospital route map with directions posted on site?				
4. Emergency Notification List posted on site?				
5. First Aid kit available and properly stocked?				
6. Personnel trained in CPR/First Aid on site?				
7. MSDSs readily available, and all workers knowledgeable about the specific chemicals and compounds to which they may be exposed?				
8 Appropriate PPE being worn by Langan employees and contractors?				
9. Project site safe practices ("Standing Orders") posted?				
10. Project staff have 40-hr./8-hr./Supervisor HAZWOPER training?				
11. Project staff medically cleared to work in hazardous waste sites and fit-tested to wear respirators, if needed?				
12. Respiratory protection readily available?				
13. Health & Safety Incident Report forms available?				
14. Air monitoring instruments calibrated daily and results recorded on the Daily Instrument Calibration check sheet?				
15. Air monitoring readings recorded on the air monitoring data sheet/field log book?				
16. Subcontract workers have received 40-hr./8-hr./Spvsr. HAZWOPER training, as appropriate?				
17. Subcontract workers medically cleared to work on site, and fit-tested for respirator wear?				
18. Subcontract workers have respirators readily available?				
19. Mark outs of underground utilities done prior to initiating any subsurface activities?				
20. Decontamination procedures being followed as outlined in CHASP?				
21. Are tools in good condition and properly used?				
22. Drilling performed in areas free from underground objects including utilities?				

23. Adequate size/type fire extinguisher supplied?				
24. Equipment at least 20 feet from overhead power lines?				
25. Evidence that drilling operator is responsible for the safety of his rig.				
26. Trench sides shored, layer back, or boxed?				
27. Underground utilities located and authorities contacted before digging?				
28. Ladders in trench (25-foot spacing)?				
29. Excavated material placed more than 2 feet away from excavation edge?				
30. Public protected from exposure to open excavation?				
31. People entering the excavation regarding it as a permit-required confined space and following appropriate procedures?				
32. Confined space entry permit is completed and posted?				
33. All persons knowledgeable about the conditions and characteristics of the confined space?				
34. All persons engaged in confined space operations have been trained in safe entry and rescue (non-entry)?				
35. Full body harnesses, lifelines, and hoisting apparatus available for rescue needs?				
36. Attendant and/or supervisor certified in basic first aid and CPR?				
37. Confined space atmosphere checked before entry and continuously while the work is going on?				
38. Results of confined space atmosphere testing recorded?				
39. Evidence of coordination with off-site rescue services to perform entry rescue, if needed?				
40. Are extension cords rated for this work being used and are they properly maintained?				
41. Are GFCIs provided and being used?				

Unsafe Acts: ____________________

Notes: ____________________

ATTACHMENT G

JOB SAFETY ANALYSIS FORM

LANGAN	**Job Safety Analysis (JSA)** **Health and Safety**
JSA TITLE: **JSA NUMBER:**	**DATE CREATED:** **CREATED BY:** **REVISION DATE:** **REVISED BY:**

Langan employees must review and revise the Job Safety Analysis (JSA) as needed to address the any site specific hazards not identified. Employees must provide their signatures on the last page of the JSA indicating they have review the JSA and are aware the potential hazards associated with this work and will follow the provided preventive or corrective measures.

PERSONAL PROTECTIVE EQUIPMENT REQUIRED: (PPE): ■ Required	☒ As Needed	
☐ Steel-toed boots	☐ Nitrile gloves	☐ Dermal Protection (Specify)
☐ Long-sleeved shirt	☐ Leather/ Cut-resistant gloves	☐ High visibility vest/clothing
☐ Safety glasses	☐Face Shield	☐ Hard hat
ADDITIONAL PERSONAL PROTECTIVE EQUIPMENT NEEDED (Provide specific type(s) or descriptions)		
☐ Air Monitoring:	☐ Respirators:	☐ Other:

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE OR CORRECTIVE ACTION
1.	1. 2.	1a. 1b. 2a. 2b.
2.	1.	1
Additional items identified in the field.		
Additional Items.		

If additional items are identified during daily work activities, please notify all relevant personnel about the change and document on this JSA.

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: COVID-19 Awareness – Site Work
JSA Number: JSA046-00

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions. Prior to the start of any work "TAKE 5" and conduct a Last Minute Risk Assessment.

S – Stop, what has changed?
T – Think about the task
E – Evaluate potential hazards
P – Plan safe approach
S - Start task / **Stop** & regroup

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Boots	☐ Long Sleeves	☐ Safety Vest (Class 2)	☐ Hard Hat	☐ Hearing Protection
☐ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☐ Nitrile Gloves	☐ PVC Gloves
☐ Leather Gloves	☐ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	

☒ Other: Alcohol-based hand sanitizer, disinfectant wipes/spray

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
1. All Activities	1. Transmittal/exposure of COVID-19	1. Ask yourself and your managers – is this work essential? Can this be done remotely? 2. Stay home if sick or showing symptoms of COVID-19 (e.g. fever, cough, etc.). 3. Carry nitrile gloves, alcohol-based hand sanitizer, face coverings and disinfectant wipes/spray during field work. 4. Check federal, state, and/or local travel restrictions **prior** to travel. Many states, counties, and cities are passing strict "shelter-in-place" or business restrictions in response to COVID-19. 5. Immediately notify Beverly Williams or Rory Johnston (Supervisor if employee chooses) if you display symptoms of COVID-19. Symptoms include fever (over 100.4 F), cough, and shortness of breath. 6. Notify Beverly Williams or Rory Johnston, Supervisor and Coronavirus Task Force if you had close contact with an individual who tested positive or displayed symptoms of COVID-19. 7. Do not touch your face, to the extent possible. 8. Wear face coverings when around other worker to minimize spread of COVID-19. (May be required in certain states or locations.)

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
		9. Practice social distancing, maintaining at least 6 feet of distance between yourself and others. Avoid gatherings of more than 10 people. Limit, to the extent possible, contact with public items/objects. 10. Clean your hands frequently with soap and water for at least 20 seconds especially after you have been in a public place, or after blowing your nose, coughing, sneezing, or using the rest room. 11. If soap and water are not readily available, use a hand sanitizer that contains at least 60% alcohol. Cover all surfaces of your hands and rub them together until they feel dry. 12. Cover your mouth and nose with a tissue when you cough or sneeze or use the inside of your elbow. 13. Clean and disinfect frequently touched surfaces daily, for example, cell phones, computer equipment, headsets, tables, doorknobs, light switches, countertops, handles, desks, toilets, faucets, and sinks.
2. Travel to Jobsite	1. Transmittal/exposure of COVID-19 between passengers 2. Transmittal/exposure of COVID-19 from previous occupants (rental and fleet vehicles) 3. Transmittal/exposure of COVID-19 while refueling	1. Limit the number of occupants to each vehicle to 2 people. Employees should sit as far away from each other as possible. 2. Disinfect high “hand-traffic” areas of the vehicle: Door handles, steering wheel, turn signal and control rods, dashboard controls, seatbelts, armrests, etc. To the extent possible, do not use recycled air for heat/AC and travel with the windows open. 3. Use hand sanitizer before and after pumping gas and only return to the inside of the vehicle after refueling is complete. 4. Wear nitrile gloves if available or disinfect the key pad, pump handle, and fuel grade button prior to use. 5. Recommend face coverings are worn to minimize spread of COVID-19.
3. Conduct Tailgate Safety Meeting & Complete H&S Paperwork	1. Transmittal/exposure of COVID-19 between meeting participants	1. Practice social distancing, maintaining at least 6 feet of distance between yourself and others. 2. Recommend face coverings are worn when around other workers to minimize spread of COVID-19, 3. Hold meetings outside and keep in mind wind direction. To the extent possible, remain cross-wind from other people. 4. Designate a single person to maintain sign-in sheets/permits throughout the day to limit the passing of pens/clipboards between people. 5. Each person should complete their own JSA, even if they are completing similar tasks as others in order to limit the passing of paper/pens/clipboards between people. 6. Include COVID-19 topics and prevention measures in safety meetings.
4. Conduct Site Work	1. Transmittal/exposure of COVID-19 between site workers and public.	1. Practice social distancing maintaining 6 feet of distance between yourself and others. 2. Recommend face coverings are worn when around other workers to minimize spread of COVID-19, 3. To the extent possible, do not interact with the public. If it is necessary, politely explain you are practicing social distance and request they stay at least 6 feet away and they do not attempt to pass objects to you. 4. Wear nitrile gloves during site work underneath the appropriate gloves for your task. Utilize appropriate decontamination procedures, securely bag all waste (including nitrile gloves) generated during site work and dispose of.

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
		5. Do not share tools. Each person should be equipped with the tools to complete their task or tasks should be divided to remove the need to share tools. If tools must be shared, surfaces should be disinfected. 6. Clean and disinfect surfaces of rental tools and equipment upon receipt. To the extent possible rent equipment from Langan's internal equipment reservation center, where cleaning/disinfecting procedures can be verified.
5. Use of Construction Trailers	1. Transmittal/exposure of COVID-19 between site workers and others.	1. Avoid use of shared trailers, if possible. Minimize trailer use to essential personnel. 2. Practice social distancing; maintaining 6 feet of distance between yourself and others in trailer. 3. Clean and disinfect areas including desks, phones, chairs and other common areas, before and after use.
6. Purchasing Food from a Restaurant	1. Transmittal/exposure of COVID-19 from other customers, staff, surfaces.	1. To the extent possible, bring your own food. 2. If you must visit a restaurant, call ahead for take-out or "contactless delivery". Do not dine in. When picking up food, follow guidelines for <u>Job Step #8: Purchasing Supplies at Retail/Shipping Centers</u>. 3. Wash hands before and after eating.
7. Smoking Cigarettes	1. Transmittal/exposure of COVID-19 by touching mouth with hands	1. Cigarette smokers maybe at greater risk of complications arising from COVID-19. Nicotine patches/lozenges/gum, smoking cessation programs, and prescription medications may aid in "kicking the habit" if you decide to quit. 2. Wash hands thoroughly before and after smoking. 3. Discard cigarette butts properly. Do not light cigarettes from others and do not give cigarettes to others.
8. Hotel Stay	1. Transmittal/exposure of COVID-19 from previous occupants, hotel staff, common areas.	1. Verify the hotel chain/brand has modified cleaning procedures to reflect risk of COVID-19. Most hotel companies have issued statements on their websites and in email blasts reflecting these new procedures. 2. Use the front door, and not peripheral entrances. Front doors of hotels are generally automatic. 3. Request ground floor room to avoid elevator use and a room that has not be utilized in 48-72 hours. 4. If elevator use is required, do not directly touch elevator buttons with your hands. Do not ride elevators with other people, to the extent possible. 5. Bring disinfecting wipes or sanitizing spray. Upon arrival, disinfect high "hand-traffic" areas of the hotel room: Door handles, light switches, shower/sink faucet handles, TV remote, curtain/blind handles. Clean these surfaces daily. 6. Place the "Do Not Disturb" Sign on your door to prevent people (housekeeping) from entering your room. 7. Avoid common spaces and hotel sponsored events where crowds will be present. 8. Confirm hotel cleaning procedures have been modified to address COVID-19. Confirm no COVID-19 cases have occurred in hotel
9. Purchasing Supplies at Retail/Shipping Centers	1. Transmittal/exposure of COVID-19 from other customers, staff, surfaces.	1. Plan your travel to limit the need to visit retail/shipping centers. 2. Practice social distancing, maintaining at least 6 feet of distance between yourself and others. If the store is too crowded/small, consider visiting another store or returning at a different time. 3. Avoid high "hand-traffic" items/areas like door handles (i.e. use your shoulder, hip/butt, or open with a disposable napkin/paper towel), credit cards terminals (i.e. use Apple/Android pay if available), shopping carts/baskets (i.e. bring your own shopping

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
		bags), counter tops (i.e. ask clerk if you can hold the items while they are scanned) and bulk/buffet items (i.e. just avoid them). 4. Disinfect your hands before and after visiting a retail/shipping center.

Print Name	Sign Name	Date
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Dense Non-Aqueous Phase Liquid (DNAPL) Monitoring and Recovery**
JSA Number: JSA018-01

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions. Prior to the start of any work "TAKE 5" and conduct a Last Minute Risk Assessment.

S – ***Stop,*** *what has changed?*

T – ***Think*** *about the task*

E – ***Evaluate*** *potential hazards*

P – ***Plan*** *safe approach*

S - ***Start*** *task /* ***Stop*** *& regroup*

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☐ Cut Resist. Gloves	☒ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	
☒ Other: Tyvek sleeves, Dermal Protection, PID, Oil Water Interface Probe				

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
1. Transport equipment to work area	1. Back Strain 2. Slips/ Trips/ Falls 3. Traffic 4. Cuts/abrasions from equipment 5. Contusions from dropped equipment	1. Use proper lifting techniques / Use wheeled transport 2. Minimize distance to work area / Have unobstructed path to work area / Follow good housekeeping procedures 3. Wear proper PPE (high visibility vest or clothing) 4. Wear proper PPE (leather gloves, long sleeves) 5. Wear proper PPE (safety shoes)
2. Remove well cover	1. Scrape knuckles/hand 2. Strain wrist/bruise palm 3. Pinch fingers or hand	1. Wear proper PPE (leather gloves) 2. Using a hammer, tap the end of the wrench to loosen grip of bolts 3. Wear proper PPE (leather gloves)
3. Remove well cap and lock	1. Well can pops from pressure 2. Exposure to hazardous substances through inhalation or dermal exposure 3. Scrape knuckles/hand 4. Strain write/bruise palm	1. Remove cap slowly to relieve pressure / Do not place face over well when opening / Wear proper PPE (safety glasses) 2. Use direct air monitoring/reading instrument (i.e. PID) / Be familiar with and follow actions prescribed in the HASP / Wear proper PPE (nitrile gloves) 3. Wear proper PPE (leather gloves) 4. Using hammer, tap the end of the wrench to loosen grip
4. Measure head-space vapor levels	1. Exposure to hazardous substances through inhalation	1. Do not place face over well when collecting measurement
5. Remove dedicated tubing (if necessary)	1. Exposure to hazardous substances through inhalation or dermal exposure 2. Tubing swings around after removal	1. Wear proper PPE (nitrile gloves, Tyvek sleeves) 2. Wear proper PPE (safety glasses)
6. Set-up plastic sheeting for work site around the well	1. Lacerations when cutting plastic sheeting	1. Use scissors to cut plastic sheeting / Cut motions should always be away from body and body parts

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
7. Measure depth to water	1. Exposure to hazardous substances through inhalation or dermal exposure 2. Pinch fingers or hand in water level instrument	1. Wear proper PPE (nitrile gloves) 2. Wear proper PPE (leather gloves)
8. Measure depth to DNAPL	1. Exposure to hazardous substances through inhalation or dermal exposure 2. Pinch fingers or hand in water level instrument	1. Wear proper PPE (nitrile gloves) 2. Wear proper PPE (leather gloves)
9. Recover DNAPL	1. Slips/ Trips/ Falls 2. Exposure to hazardous substances through dermal exposure 3. Lacerations/ Pinch Hazard	1. Be aware of potential trip hazards / Follow good housekeeping procedures 2. Wear proper PPE (nitrile gloves, Tyvek sleeves) 3. Wear proper PPE (leather gloves)
10. Pump out and drum one well of volume of groundwater from the well.	1. Slips/ Trips/ Falls 2. Exposure to hazardous substances 3. Lacerations / Pinch Hazard 4. Electrical Shock	1. Be aware of potential trip hazards / Follow good housekeeping procedures 2. Wear proper PPE (nitrile gloves) 3. Wear proper PPE (leather gloves) 4. Properly disconnect pump to battery / Do not let pump or battery come into contact with water

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
11. Measure depth to water	1. Contact with potentially contaminated groundwater through dermal exposure 2. Tripping potential on sample discharge lines and pump electric line 3. Lacerations from broken sample bottles	1. Wear proper PPE (safety glasses, nitrile gloves) 2. Organize line to keep out of the way as much as possible / Mark potential tripping hazards with caution tape or safety cones 3. Do not over-tighten bottle caps / Handle bottles safely to prevent breakage / Wrap glass bottles in bubble wrap, if possible
12. Measure depth to DNAPL	1. Contact with potentially contaminated groundwater through dermal exposure 2. Tripping potential on sample discharge lines and pump electric line 3. Lacerations from broken sample bottles	1. Wear proper PPE (safety glasses, nitrile gloves) 2. Organize line to keep out of the way as much as possible / Mark potential tripping hazards with caution tape or safety cones 3. Do not over-tighten bottle caps / Handle bottles safely to prevent breakage / Wrap glass bottles in bubble wrap, if possible
13. Replace well cap and lock	1. Scrape fingers/hand 2. Strain wrist/bruise palm	1. Wear proper PPE (leather gloves) 2. Using hammer, tap the end of the well cap to tighten grip
14. Replace well cover	1. Scrape knuckles/hand 2. Strain write/bruise palm 3. Pinch fingers or hand	1. Wear proper PPE (leather gloves) 2. Using hammer, tap the end of the wrench to tighten the grip of the bolts 3. Wear proper PPE (leather gloves)
15. Transport drums to disposal staging location	1. Back, arm or shoulder strain from moving drums 2. Pinch hazard 3. Contact with potentially contaminated groundwater when moving improperly sealed drums 4. Slips/ Trips/ Falls when moving drum 5. Drop drum on feet/toes	1. Use drum cart for moving drums / Use proper lifting techniques / Obtain assistance, if needed 2. Wear proper PPE (leather gloves) 3. Wear proper PPE (nitrile gloves under leather gloves) / Properly seal drum to prevent leak 4. Ensure route to move drum to storage space is dry and free from obstructions 5. Wear proper PP (safety shoes)
16. Place used PPE in designated dispoal drum	1. Pressure build-up inside drum 2. Pinch hazard	1. Remove cap from bung hole in drum to relieve pressure 2. Wear proper PPE (leather gloves)
17. Decontaminate equipment	1. Splashing water/soap from decontamination 2. Contact with potentially contaminated groundwater through dermal exposure 3. Electrical shock from broken electric cords	1. Wear proper PPE (safety glasses) 2. Wear proper PPE (safety glasses, dermal protection) 3. Properly plug in pump to generator / Do not allow the pump or generator to contact water / Check for breaks in the cord
18. All activities 18. All activities (cont'd)	1. Slips/ Trips/ Falls 2. Hand injuries, cuts or lacerations during manual handling of materials 3. Foot injuries 4. Back injuries 5. Traffic 6. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 7. High Noise levels 8. Overhead hazards 9. Heat Stress/ Cold Stress 10. Eye Injuries	1. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 2. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 3. Wear Langan approved safety shoes 4. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 5. Wear high visibility clothing & vest / Use cones or signs to designate work area 6. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 7. Wear hearing protection 8. Wear hard hat / Avoid areas were overhead hazards exist.

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
		9. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 10. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Environmental Sampling**
JSA Number: **JSA021-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions. Prior to the start of any work "TAKE 5" and conduct a Last Minute Risk Assessment.

S – ***Stop****, what has changed?*

T – ***Think*** *about the task*

E – ***Evaluate*** *potential hazards*

P – ***Plan*** *safe approach*

S - ***Start*** *task /* ***Stop*** *& regroup*

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☐ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☐ Leather Gloves	☐ Cut Resist. Gloves	☐ Fall Protection	☒ Fire Resistant Clothing	☐ Rubber Boots
☒ Insect/Animal Repellent	☒ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	

☒ Other: Tyvek Sleeves

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
11. Drive to sample location	1. Rough/Off Road terrain	1. Pay attention to road conditions such as road erosion, unprotected embankments, and soft road conditions.
12. Sample Collection (Walking)	1. Slip/Trips/Falls 2. Back strains 3. Wildlife (Insects, Stray animals, rodents) 4. Poisonous vegetation	1. Minimize distance to sample area/ Plan route and check surface prior to carrying heavy equipment/ Locate safest access point/ Follow good housekeeping procedures/ Mark significant below grade hazards (holes, trenches) with spray paint or cones/ Wear foot protection with ankle support and gripping soles. 2. Use proper lifting techniques/ Use wheeled transport/ Obtain assistance where and when needed/ Consider load weight when evaluating what is safe and unsafe to carry. 3. Be aware of surroundings for the presence of wildlife. Do not approach stray animals. Carry and use animal repellant when needed/ Use bug spray when needed. 4. Keep skin covered/ Identify and avoid poisonous vegetation/ Clean areas after contact with suspected vegetation.
13. Sample Collection (Water)	5. Drowning Hazards 6. Chemical burns (when adding acid preservative to sample) 7. Back Strains 8. Ergonomic issues 9. Slip/Trips/Falls	1. Use buddy system/ Wear flotation vest if water is deeper than 2 feet or swift moving/ Select working area with stable footing. Do not attempt to cross or stand in swift moving water. 2. Wear proper PPE (Nitrile gloves, Tyvek Sleeves)

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
		3. Use proper lifting techniques/ Use wheeled transport/ Obtain assistance where and when needed/ Consider load weight when evaluating what is safe or unsafe to carry. 4. When possible avoid bending over for long periods of time/ Use a small stool for sitting or knee pad for kneeling. 5. Minimize distance to sample area/ Plan route and check surface prior to carrying heavy equipment/ Locate safest access point/ Follow good housekeeping procedures/ Mark significant below grade hazards (holes, trenches) with spray paint or cones/ Wear foot protection with ankle support and gripping soles/ Avoid standing water or slippery terrain.
14. All activities	1. Slips/ Trips/ Falls 2. Hand injuries, cuts or lacerations during manual handling of materials 3. Foot injuries 4. Back injuries 5. Traffic 6. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 7. High Noise levels 8. Overhead hazards 9. Heat Stress/ Cold Stress 10. Eye Injuries	1. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 2. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 3. Wear Langan approved safety shoes 4. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 5. Wear high visibility clothing & vest / Use cones or signs to designate work area 6. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 7. Wear hearing protection 8. Wear hard hat / Avoid areas were overhead hazards exist. 9. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 10. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		

Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Subsurface Investigation**

JSA Number: **JSA030-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☒ Safety Goggles	☐ Face Shield	☐ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☒ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	

☒ Other: Dielectric Overshoes, Sun Block

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
15.Transport equipment to work area	2. Back/strain 3. Slip/Trip/Falls 4. Traffic 5. Cuts/abrasions/contusions from equipment 6. Accidents due to vehicle operations	1. Use proper lifting techniques/Use wheeled transport 2. Minimize distance to work area/unobstructed path to work area/follow good housekeeping procedures 3. Wear proper PPE (high visibility vest or clothing) 4. Wear proper PPE (leather gloves, long sleeves, Langan approved safety shoes) 5. Observe posted speed limits/ Wear seat belts at all times
16.Traffic	1. Hit by moving vehicle	1. Use traffic cones and signage/ Use High visibility traffic vests and clothing/ Caution tape when working near active roadways.
17. Field Work (drilling, resistivity testing, and inspection)	1. Biological Hazards: insects, rats, snakes, poisonous plants, and other animals 2. Heat stress/injuries 3. Cold Stress/injuries 4. High Energy Transmission Lines 5. Underground Utilities 6. Electrical (soil resistivity testing)	11. Inspect work area to identify biological hazards. Wear light colored long sleeve shirt and long pants/ Use insect repellant as necessary/ Beware of tall grass, bushes, woods and other areas where ticks may live/ Avoid leaving garbage on site to prevent attracting animals/ Identify and avoid contact with poisonous plants/Beware of rats, snakes, or stray animals. 12. Wear proper clothing (light colored)/ drink plenty of water/ take regular breaks/use sun block 13. Wear proper clothing/ dress in layers/ take regular breaks. 14. Avoid direct contact with high energy transmission lines/ position equipment at least 15 feet or as required by PSE&G from the transmission lines/ wear proper PPE (dielectric overshoes 15 kV minimum rating). 15. Call one-call service before performing intrusive field work/ Review utility mark-outs and available utility drawings (with respect to proposed work locations)/ Follow Underground Utility Guidelines

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
		16. See AGI Sting R1 operating manual for specific concerns during operating instrument
18. All activities	11. Slips/ Trips/ Falls 12. Hand injuries, cuts or lacerations during manual handling of materials 13. Foot injuries 14. Back injuries 15. Traffic 16. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 17. High Noise levels 18. Overhead hazards 19. Heat Stress/ Cold Stress 20. Eye Injuries	17. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 18. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 19. Wear Langan approved safety shoes 20. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 21. Wear high visibility clothing & vest / Use cones or signs to designate work area 22. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 23. Wear proper hearing protection 24. Wear hard hat / Avoid areas were overhead hazards exist. 25. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 26. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Field Sampling**

JSA Number: **JSA022-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☐ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☐ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☒ Traffic Cones/Signs	☐ Life Vest/Jacket	
☐ Other:				

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
19.Unpack/Transport equipment to work area.	7. Back Strains 8. Slip/Trips/Falls 9. Cuts/Abrasions from equipment 10.Contusions from dropped equipment	6. Use proper lifting techniques/Use wheeled transport 7. Minimize distance to work area/Unobstructed path to work area/follow good housekeeping procedures. Mark slip/trip/fall hazards with orange safety cones. 8. Wear proper PPE (leather gloves, long sleeves). 9. Wear proper PPE (Langan approved safety shoes).
20.Initial Site Arrival-Site Assessment	5. Traffic	5. Situational awareness (be alert of your surroundings). Secure area from through traffic.
21.Surface Water Sampling	10. Contaminated media. Skin/eye contact with biological agents and/or chemicals.	6. Wear appropriate PPE (Safety glasses, appropriate gloves). Review MSDS for all chemicals being.
22.Sampling from bridges	1. Struck by vehicles	1. Wear appropriate PPE (Safety Vest). Use buddy system and orange safety cones.
23. Icing of Samples/ Transporting coolers/equipment from work area.	21. Back Strains 22. Slips/Trips/Falls 23. Cuts/Abrasions from equipment 24. Pinch/Crushing Hazards.	27. Drain coolers of water. Use proper lifting techniques. Use wheeled transport. 28. Have unobstructed path from work area. Aware of surroundings. 29. Wear proper PPE (Leather gloves, long sleeves) 30. Wear proper PPE (Leather gloves, long sleeves)
24. Site Departure	1. Contaminated PPE/Vehicle	1. Contaminated PPE should be disposed of on-site. Remove boots and soiled clothing for secure storage in trunk. Wash hands promptly.
25. All activities	1. Slips/ Trips/ Falls 2. Hand injuries, cuts or lacerations during manual handling of materials	1. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
	3. Foot injuries 4. Back injuries 25. Traffic 26. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 27. High Noise levels 28. Overhead hazards 29. Heat Stress/ Cold Stress 30. Eye Injuries	2. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 3. Wear Langan approved safety shoes 4. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 31. Wear high visibility clothing & vest / Use cones or signs to designate work area 32. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 33. Wear hearing protection 34. Wear hard hat / Avoid areas were overhead hazards exist. 35. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 36. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Equipment Transportation and Set-Up**

JSA Number: **JSA012-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☐ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☐ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	
☐ Other:				

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
26. Transport equipment to work area	11. Back Strain 12. Slips/ Trips/ Falls 13. Traffic 14. Cuts/abrasions from equipment 15. Contusions from dropped equipment	1. Use proper lifting techniques / Use wheeled transport 2. Minimize distance to work area / Have unobstructed path to work area / Follow good housekeeping procedures 3. Wear proper PPE (high visibility vest or clothing) 4. Wear proper PPE (leather gloves, long sleeves) 5. Wear proper PPE (safety shoes)
27. Moving equipment to its planned location	6. Pinch Hazard 7. Slips/ Trips/ Falls	4. Wear proper PPE (leather gloves) 5. Be aware of potential trip hazards / Practice good housekeeping procedures / Mark significant below-grade hazards (i.e. holes, trenches) with safety cones or spray paint
28. Equipment Set-up	11. Pinch Hazard 12. Cuts/abrasions to knuckles/hands 13. Back Strain	5. Wear proper PPE (leather gloves) 6. Wear proper PPE (leather gloves) 7. Use proper lifting techniques / Use wheeled transport
29. All activities	31. Slips/ Trips/ Falls 32. Hand injuries, cuts or lacerations during manual handling of materials 33. Foot injuries 34. Back injuries 35. Traffic 36. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 37. High Noise levels 38. Overhead hazards 39. Heat Stress/ Cold Stress 40. Eye Injuries	37. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 38. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 39. Wear Langan approved safety shoes 40. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 41. Wear high visibility clothing & vest / Use cones or signs to designate work area

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
8. All activities (cont'd)		42. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 43. Wear hearing protection 44. Wear hard hat / Avoid areas were overhead hazards exist. 45. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 46. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **55-gallon Drum Sampling**

JSA Number: **JSA043-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☐ Hearing Protection
☒ Safety Glasses	☒ Safety Goggles	☒ Face Shield	☒ Nitrile Gloves	☒ PVC Gloves
☒ Leather Gloves	☐ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	

☒ Other: All Drums are required to be labeled. Langan employees do not open or move undocumented drums or unlabeled drums without proper project manager authorization.

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
30.Unpack/Transport equipment to work area.	16.Back Strains 17.Slip/Trips/Falls 18.Cuts/Abrasions from equipment 4. Contusions from dropped equipment	10. Use proper lifting techniques/Use wheeled transport 11. Minimize distance to work area/Unobstructed path to work area/follow good housekeeping procedures. Mark slip/trip/fall hazards with orange safety cones. 12. Wear proper PPE (leather gloves, long sleeves). 4. Wear proper PPE (Langan approved safety shoes).
31.Open Drums	1. Hand Injuries, cuts or lacerations when untightening drum locking bolt, removing drum lid strap, or removing lid. 2. Pressure from drums.	1. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves. Use non-metallic mallet and non-sparking tools/wrenches. 2. Open drum slowly to relieve pressure. Wear proper PPE: face shield and goggles; correct gloves; and over garments.
32.Collecting Soil/Fluid Sample	8. Irritation to eye from vapor, soil dust, or splashing 9. Irritation to exposed skin	6. Wear proper eye protection including safety glasses/ face shield/googles and when necessary, splash guard. If dust or vapor phase is present, wear appropriate safety breathing gear (1/2 mask or full face mask with correct filter) 7. Wear proper skin protection including nitrile gloves.
33.Closing Drums	1. Hand Injuries, cuts or lacerations when untightening drum locking bolt, removing drum lid strap, or removing lid.	7. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves. Use non-metallic mallet and non-sparking tools/wrenches.
34.Moving Drums	2. Hand Injuries, cuts or lacerations when untightening drum locking bolt, removing drum lid strap, or removing lid. 3. Back Strains	2. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves. Use non-metallic mallet and non-sparking tools/wrenches. 3. Use proper lifting techniques/Use wheeled transport

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
35. All activities	41. Slips/ Trips/ Falls 42. Hand injuries, cuts or lacerations during manual handling of materials 43. Foot injuries 44. Back injuries 45. Traffic 46. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 47. High Noise levels 48. Overhead hazards 49. Heat Stress/ Cold Stress 50. Eye Injuries	47. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 48. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 49. Wear Langan approved safety shoes 50. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 51. Wear high visibility clothing & vest / Use cones or signs to designate work area 52. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 53. Wear hearing protection 54. Wear hard hat / Avoid areas were overhead hazards exist. 55. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 56. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Direct-Push Soil Borings**
JSA Number: **JSA004-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT REQUIRED:				
☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☒ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	
☒ Other: Half-face respirator, dust cartridges, PID (if applicable)				

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
36. Move equipment to work site	19. Back strain when lifting equipment 20. Slips/ Trips/ Falls while moving equipment 21. Traffic (if applicable) 22. Pinched fingers or running over toes during geoprobe set-up 23. Overturn drilling rig while transporting to loading dock on flat-bed tow truck	13. Use proper lifting technique (use legs for bending and lifting and not the back)/ Use wheeled transport for heavy equipment / Get assistance when handling loads greater than 50 lbs. / Minimize distance to vehicle 14. Use proper lifting technique (use legs for bending and lifting and not the back) / Use wheeled transport for heavy equipment / Get assistance when handling loads greater than 50 lbs. / Minimize distance to vehicle / Have unobstructed path to vehicle or collection point / Do not lift/walk with boxes that are heavy/difficult to lift 15. Wear high visibility safety vests or clothing / Exercise caution 16. Wear proper PPE (cut-resistant gloves) / Stay alert, be aware of geoprobe rig at all times 17. Drill rig should be parked in center of flat-bed tow truck / Emergency brake shall be used at all times during transport on the flat-bed truck/ All unnecessary personnel should stay away from the flat-bed truck during moving activities
37. Calibration of monitoring equipment	10. Skin or eye contact with calibration chemicals 11. Pinch fingers in monitoring equipment	8. Wear proper PPE (safety glasses/ goggles) 9. Wear proper PPE (leather gloves)
38. Set-up geoprobe rig	14. Geoprobe rig movement	8. All field personnel should stay clear of the geoprobe rig while moving / Use a spotter when backing up the geoprobe
39. Advance geoprobe rods below ground surface to desired depth	4. Underground utilities 5. High noise levels	4. Clean all subsurface soil borings to a minimum of 5 feet below grade 5. Wear proper PPE (hearing protection)
40. Remove and open acetate liner	51. Pinched fingers while removing macrocore 52. Cuts/lacerations when cutting acetate liner open 53. Exposure to hazardous vapors	1. Wear proper PPE (nitrile gloves, cut-resistant or leather gloves 2. Wear proper PPE (cut-resistant or leather gloves) 3. Do not place face over acetate liner when opening / Monitor hazardous vapors in air with PID / Upgrade PPE as necessary based on levels contained in the Health and Safety Plan

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
5. Remove and open acetate liner (cont'd)	54. Skin contact with contaminated soil	4. Wear proper PPE (nitrile gloves)
41. Sample Collections a) Monitor parameters b) Prepare sample containers and labels	1. Contact with potentially contaminated soil 2. Lacerations from broken sample bottles 3. Back strain while transporting full coolers 4. Internal exposure to contaminants and metals through inhalation of dust 5. Slips/ Trips/ Falls	1. Use monitoring devices / Wear proper PPE (safety glasses, nitrile gloves) 2. Do not over-tighten bottle caps / Handle bottles safely to prevent breakage 6. Use proper lifting techniques / Do not lift heavy loads without assistance 7. Avoid creating dust / If necessary, wear a half mask respirator with applicable dust cartridge / Inspect respirator for damage and cleanliness prior to use / Clean respirator after each use and store in a clean, secure location 8. Be alert / Follow good housekeeping procedures
42. Remove excess soil from acetate liner and place in 55-gallon drum (IF NOT PERFORMED BY LANGAN, REMOVE!)	1. Cuts/lacerations from acetate liner 2. Pinched fingers/hand while opening/closing drum 3. Skin contact with contaminated soil 4. Soil debris in eyes	1. Wear proper PPE (cut-resistant or leather gloves) 2. Wear proper PPE (cut-resistant or leather gloves) 3. Wear proper PPE (nitrile gloves) 4. Wear proper PPE (safety glasses)
8. Transport drums to central staging location (IF NOT PERFORMED BY LANGAN, REMOVE!)	1. Back, arm or shoulder strain from moving drums 2. Pinch fingers/hand in drum cart when moving drums 3. Pinch fingers/hand when operating lift-gate on vehicle 4. Contact with potentially contaminated groundwater when moving improperly sealed drums 5. Slips when moving drums 6. Drop drum on feet/toes	57. Use drum cart for moving drums / Use proper lifting techniques / Do not lift heavy loads without assistance 58. Wear proper PPE (cut-resistant or leather gloves) 59. Wear proper PPE (cut-resistant or leather gloves) 60. Wear proper PPE (nitrile gloves underneath work gloves) 61. Follow good housekeeping procedures / Ensure route to move drum and storage space is free from obstructions 62. Wear proper PPE (safety shoes) / Work in a safe manner to prevent dropped drum
9. All activities	1. Slips/ Trips/ Falls 2. Hand injuries, cuts or lacerations during manual handling of materials 3. Foot injuries 4. Back injuries 5. Traffic 6. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 7. High Noise levels 8. Overhead hazards 9. Heat Stress/ Cold Stress	1. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 2. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 3. Wear Langan approved safety shoes 4. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 5. Wear high visibility clothing & vest / Use cones or signs to designate work area 6. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 7. Wear hearing protection 8. Wear hard hat / Avoid areas were overhead hazards exist. 9. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
9. All activities (cont'd)	10. Eye Injuries	10. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Monitoring Well Development**

JSA Number: **JSA026-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☐ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☒ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☒ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	

☒ Other: Tyvek Sleeves

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
43. Transport equipment to work area	24. Back Strains 25. Slips/Trips/Falls 26. Traffic 27. Cuts/Abrasions/Contusions from equipment	18. Use proper lifting techniques/ Use wheeled transport/ use buddy system when lifting equipment. 19. Minimize distance from work area/ unobstructed path to collection points and vehicle/ Follow good housekeeping procedures. 20. Wear high-visibility vest or clothing/Exercise caution/ Use traffic cones or signage if needed. 21. Wear proper PPE (leather gloves, long sleeves, and Langan approved safety shoes).
44. Measure depth of water	12. Exposure to hazardous substances 13. Pinched fingers	10. Wear proper PPE (Nitrile gloves, Safety glasses/Face shield). 11. Wear proper PPE (cut-resistant gloves).
45. Install Tremie pipe in the monitoring well and connect to water source.	15. Hand injuries during installation (pinched fingers/hands). 16. Back strain from holding Tremie pipe. 17. High pressure water spray.	9. Wear proper PPE (Nitrile gloves/cut-resistant gloves). 10. Use proper lifting techniques/ Use two personnel when lowering pump greater than 80 feet. 11. Ensure all hose connections are tight and secure/ Use proper PPE (face shield and safety glasses).
46. Install pump in to well a. Connect pump to sample tubing. b. Lower pump to desired depth in well. c. Connect sample tubing to flow cell d. Connect pump to power source (generator)	6. Hand injuries during pump installation and sample tubing cutting. 7. Back strain 8. Electric shock 9. Exhaust gases from generator 10. Burns from hot equipment	9. Wear proper PPE when installing pump and cutting sample tubing (Nitrile and cut-resistant gloves)/ Use tubing cutter. 10. Proper lifting techniques/ Two personnel when installing pump at depths greater than 80 feet/ Use buddy when lifting heavy loads (pump, generator)/Use wheeled transport. 11. Ensure equipment is (LO/TO: locked out/tagged out) prior to preforming any electrical connections/ Inspect wires for frays or cuts/Ensure generator is properly grounded prior to starting. 12. Position generator so that exhaust is flowing away from work area.

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
e. Turn on power source (generator)		13. Do not touch exhaust or any hot part of generator/ Allow equipment time to cool down prior to carrying/ Use proper PPE (long sleeves, leather gloves)
47. Develop monitoring well a. Jet water into well using Tremie pipe b. Turn pump on and adjust to desired flow rate. c. Surge pump up and down well to remove sediment from screen d. Containerize all purge water from well.	55. Hand injuries 56. Face injuries 57. Contaminated spray from water	63. Wear proper PPE (cut-resistant gloves and nitrile gloves). 64. Wear proper PPE (face shield and safety glasses)/do not stand over well opening. 65. Wear proper PPE (Face shield and safety goggles)/Tyvek over garments/ Ensure all connections are secure and tight/ Tubing outlet is contained in an overflow container.
48. Drum staging area.	1. Back, Arm, and shoulder strain. 2. Pinch points 3. Cross contamination 4. Slip/Trips/Falls	1. Use proper lifting techniques/ Use drum carts when moving drums/ use buddy system for moving of drums if needed/Move drums shortest distance needed. 2. Keep fingers and feet away from pinch points/ Use proper PPE (cut-resistant gloves, Langan approved safety shoes) 3. Use proper PPE (Nitrile gloves, Tyvek sleeves) 4. Ensure pathway is clear prior to moving equipment/ Mark all hazards/ Use additional person as a spotter if needed.
49. Equipment pack-up	1. Back Strains 2. Slips/Trips/Falls 3. Traffic 4. Cuts/Abrasions/Contusions from equipment.	1. Use proper lifting techniques/ Use wheeled transport/ use buddy system when lifting equipment. 2. Minimize distance from work area/ Unobstructed path to collection points and vehicle/ Follow good housekeeping procedures. 3. Wear high-visibility vest or clothing/Exercise caution/ Use traffic cones or signage if needed. 66. Wear proper PPE (leather gloves, long sleeves, and Langan approved safety shoes).
50. All activities	1. Slips/ Trips/ Falls 2. Hand injuries, cuts or lacerations during manual handling of materials 3. Foot injuries 58. Back injuries 59. Traffic 60. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 61. High Noise levels 62. Overhead hazards 63. Heat Stress/ Cold Stress 64. Eye Injuries	1. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 2. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 3. Wear Langan approved safety shoes 4. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 5. Wear high visibility clothing & vest / Use cones or signs to designate work area 6. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 7. Wear hearing protection 8. Wear hard hat / Avoid areas were overhead hazards exist.

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
		9. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 10. Wear safety glasses.
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Groundwater Sampling**

JSA Number: **JSA008-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☐ Cut Resist. Gloves	☒ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☐ Traffic Cones/Signs	☐ Life Vest/Jacket	

☒ Other: Tyvek sleeves, Dermal Protection, PID

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
51.Transport equipment to work area	6. Back Strain 7. Slips/ Trips/ Falls 8. Traffic 9. Cuts/abrasions from equipment 10. Contusions from dropped equipment	6. Use proper lifting techniques / Use wheeled transport 7. Minimize distance to work area / Have unobstructed path to work area / Follow good housekeeping procedures 8. Wear proper PPE (high visibility vest or clothing) 9. Wear proper PPE (leather gloves, long sleeves) 10. Wear proper PPE (safety shoes)
52. Remove well cover	14.Scrape knuckles/hand 15.Strain wrist/bruise palm 16.Pinch fingers or hand	6. Wear proper PPE (leather gloves) 7. Using a hammer, tap the end of the wrench to loosen grip of bolts 8. Wear proper PPE (leather gloves)
53. Remove well cap and lock	18. Well can pops from pressure 19. Exposure to hazardous substances through inhalation or dermal exposure 20. Scrape knuckles/hand 21. Strain write/bruise palm	9. Remove cap slowly to relieve pressure / Do not place face over well when opening / Wear proper PPE (safety glasses) 10. Use direct air monitoring/reading instrument (i.e. PID) / Be familiar with and follow actions prescribed in the CHASP/ Wear proper PPE (nitrile gloves) 11. Wear proper PPE (leather gloves) 12. Using hammer, tap the end of the wrench to loosen grip
54. Measure head-space vapor levels	2. Exposure to hazardous substances through inhalation	2. Do not place face over well when collecting measurement
55. Remove dedicated tubing (if necessary)	3. Exposure to hazardous substances through inhalation or dermal exposure 4. Tubing swings around after removal	3. Wear proper PPE (nitrile gloves, Tyvek sleeves) 4. Wear proper PPE (safety glasses)
56. Set-up plastic sheeting for work site around the well	2. Lacerations when cutting plastic sheeting	2. Use scissors to cut plastic sheeting / Cut motions should always be away from body and body parts
57. Measure depth to water	3. Exposure to hazardous substances through inhalation or dermal exposure 4. Pinch fingers or hand in water level instrument	3. Wear proper PPE (nitrile gloves) 4. Wear proper PPE (leather gloves)

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
58. Calibrate monitoring equipment	3. Skin or eye contact with calibration chemicals 4. Pinch fingers or hand in monitoring equipment	3. Wear proper PPE (safety glasses, nitrile gloves) 4. Wear proper PPE (leather gloves) / Avoid pinch points
59. Install sampling pump in well	4. Hand injuries during installation of pump 5. Lacerations when cutting tubing 6. Back strain during installation of pump 7. Physical hazards associated with manual lifting of heavy equipment 8. Back strain from starting generator 9. Burns from hot exhaust from generator 10. Electrical shock from improper use of generator and pump 11. Contaminated water spray from loose connections	4. Wear proper PPE (leather gloves, nitrile gloves) 5. Use safety tubing cutter 6. Use proper lifting techniques 7. Use proper lifting techniques / Use wheeled transport for heavy equipment 8. Use arm when starting generator / Do not over-strain if generator does not start 9. Do not touch generator near exhaust / Use proper handle to carry / Allow generator to cool down before moving 10. Properly plug in pump to generator / Do not allow the pump or generator to contact water / Check for breaks in the cord 11. Check all tubing connections to ensure they are tight and secure
10. Purge water	5. Contact with potentially contaminated groundwater 6. Back strain from lifting buckets of water 7. Tripping potential on sample discharge lines and pump electric line	5. Wear proper PPE (safety glasses, nitrile gloves) 6. Use proper lifting techniques / Use wheeled transport 7. Organize discharge of electric line to keep out of way as much as possible / Mark potential tripping hazards with caution tape or safety cones
11. Sample water collection	4. Contact with potentially contaminated groundwater through dermal exposure 5. Contact with and burns from acid used for sample preservation 6. Tripping potential on sample discharge lines and pump electric line 7. Lacerations from broken sample bottles 8. Back strain when transporting coolers full of collected samples 9. Slips/ Trips/ Falls	4. Wear proper PPE (safety glasses, nitrile gloves) 5. Wear proper PPE (safety glasses, nitrile gloves) / Ensure sample bottle lids are secure before use and after sample collection 6. Organize line to keep out of the way as much as possible / Mark potential tripping hazards with caution tape or safety cones 7. Do not over-tighten bottle caps / Handle bottles safely to prevent breakage / Wrap glass bottles in bubble wrap, if possible 8. Use proper lifting techniques / Use wheeled transport / Seek assistance if coolers weight exceeds 50lbs. / Minimize distance to vehicle 9. Have unobstructed path to vehicle or collection point / Follow good housekeeping procedures / Do not lift/walk with coolers that are too heavy/difficult to lift
12. Remove pump and pack up equipment	1. Back strain when removing pump or lifting heavy equipment	1. Use proper lifting technique / Use wheeled transport for heavy equipment
13. Replace well cap and lock	3. Scrape fingers/hand 4. Strain wrist/bruise palm	3. Wear proper PPE (leather gloves) 4. Using hammer, tap the end of the well cap to tighten grip
14. Replace well cover	4. Scrape knuckles/hand 5. Strain write/bruise palm 6. Pinch fingers or hand	4. Wear proper PPE (leather gloves) 5. Using hammer, tap the end of the wrench to tighten the grip of the bolts 6. Wear proper PPE (leather gloves)
15. Transport drums to disposal staging location	6. Back, arm or shoulder strain from moving drums 7. Pinch hazard 8. Contact with potentially contaminated groundwater when moving improperly sealed drums 9. Slips/ Trips/ Falls when moving drum 10. Drop drum on feet/toes	6. Use drum cart for moving drums / Use proper lifting techniques / Obtain assistance, if needed 7. Wear proper PPE (leather gloves) 8. Wear proper PPE (nitrile gloves under leather gloves) / Properly seal drum to prevent leak 9. Ensure route to move drum to storage space is dry and free from obstructions 10. Wear proper PPE (safety shoes)

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
16. Place used PPE in designated disposal drum	3. Pressure build-up inside drum 4. Pinch hazard	3. Remove cap from bung hole in drum to relieve pressure 4. Wear proper PPE (leather gloves)
17. Decontaminate equipment	4. Splashing water/soap from decontamination 5. Contact with potentially contaminated groundwater through dermal exposure 6. Electrical shock from broken electric cords	4. Wear proper PPE (safety glasses) 5. Wear proper PPE (safety glasses, dermal protection) 6. Properly plug in pump to generator / Do not allow the pump or generator to contact water / Check for breaks in the cord
19. All activities	65. Slips/ Trips/ Falls 66. Hand injuries, cuts or lacerations during manual handling of materials 67. Foot injuries 68. Back injuries 69. Traffic 70. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 71. High Noise levels 72. Overhead hazards 73. Heat Stress/ Cold Stress 74. Eye Injuries	67. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 68. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 69. Wear Langan approved safety shoes 70. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 71. Wear high visibility clothing & vest / Use cones or signs to designate work area 72. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 73. Wear hearing protection 74. Wear hard hat / Avoid areas were overhead hazards exist. 75. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 76. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Site Inspection**

JSA Number: **JSA024-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☐ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☐ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☒ Rubber Boots
☒ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☒ Traffic Cones/Signs	☐ Life Vest/Jacket	
☐ Other:				

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
60.Jobsite Pre-briefing	28.None	22. Review JSA, SOP's, and discuss hazards that may be present and control measures for present hazards while on-site.
2. Working near railroads	1. Passing Trains. 2. Slip/Trips/Falls.	1. Wear reflective vest/ Stay away from tracks/ Do not cross tracks within 10 ft. of train car or when there is a train within view/listen for train horn. 2. Be aware of tripping hazards/ Follow good housekeeping procedures/ Mark significant hazards with spray paint or cones.
3. Walking around site	11. Uneven terrain 12. Wildlife: Stray animals, mice/rats, vectors (i.e. mosquitoes, bees, etc.) 13. Weather: Heat/cold stress 14. Slip/Trips/Falls 15. Foot injuries 16. Eye injuries	14. Pay attention to surrounding area (puddles, wet, frozen, uneven areas); Mark with cones or spray paint. 15. Use bug spray/ Avoid stray animals/Use repellant when needed. 16. Dress for the correct weather situation/ Use sunscreen or protective clothing in sunlight, layers in cold weather/ Drink plenty of fluids/ Take breaks when needed. 4. Be aware of tripping hazards/ Follow good housekeeping procedures/ Mark significant hazards with spray paint or cones. 5. Wear proper PPE (Langan approved safety shoes)/ Change wet socks during cold weather. 6. Wear proper PPE (safety glasses/goggles).
4. Working near road	1. Passing vehicles 2. Slip/Trips/Falls	1. Wear reflective vest/ Stay away from roadway/ Use buddy system/ Place signage or cones when needed. 2. Be aware of tripping hazards/ Follow good housekeeping procedures/ Mark significant hazards with spray paint or cones.
5. All activities	75. Slips/ Trips/ Falls 76. Hand injuries, cuts or lacerations during manual handling of materials 77. Foot injuries 78. Back injuries 79. Traffic	77. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 78. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves 79. Wear Langan approved safety shoes

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
	80. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 81. High Noise levels 82. Overhead hazards 83. Heat Stress/ Cold Stress 84. Eye Injuries	80. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 81. Wear high visibility clothing & vest / Use cones or signs to designate work area 82. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 83. Wear hearing protection 84. Wear hard hat / Avoid areas were overhead hazards exist. 85. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 86. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

LANGAN

Job Safety Analysis (JSA)
Health and Safety

JSA Title: **Building Construction Oversight**

JSA Number: **JSA006-01**

A Job Safety Analysis (JSA) must identify all job steps required to complete the task, the potential hazards employees could be exposed to while performing the job step and the preventative/corrective actions required to reduce/mitigate the identified potential hazards. Employees must certify that they have either prepared the JSA or have reviewed the JSA and are aware of the potential hazards associated with this task and will follow the provided preventive/corrective actions.

PERSONAL PROTECTIVE EQUIPMENT (Required or to be worn as needed):

☒ Safety Shoes	☒ Long Sleeves	☒ Safety Vest (Class 2)	☒ Hard Hat	☒ Hearing Protection
☒ Safety Glasses	☐ Safety Goggles	☒ Face Shield	☒ Nitrile Gloves	☐ PVC Gloves
☒ Leather Gloves	☐ Cut Resist. Gloves	☐ Fall Protection	☐ Fire Resistant Clothing	☐ Rubber Boots
☐ Insect/Animal Repellent	☐ Ivy Blocker/Cleaner	☒ Traffic Cones/Signs	☐ Life Vest/Jacket	
☐ Other:				

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
61.Transport equipment to work area	29.Back Strain 30.Slips/ Trips/ Falls 31.Traffic 32.Cuts/abrasions from equipment 33.Contusions from dropped equipment	6. Use proper lifting techniques / Use wheeled transport 7. Minimize distance to work area / Have unobstructed path to work area / Follow good housekeeping procedures 8. Wear proper PPE (high visibility vest or clothing) 9. Wear proper PPE (leather gloves, long sleeves) 10. Wear proper PPE (safety shoes)
62.Drilling/anchor bolt installation	17. Hazards associated with drilling, flying objects, heavy equipment, ground level hazards and dust 18.Slips/ Trips/ Falls 19.Hazards associated with concrete work	9. Maintain a safe distance from drilling operation / Wear proper PPE (hard hat, safety glasses, safety shoes, safety vest) 10. Be aware of potential trip hazards / Follow good housekeeping procedures / Mark significant below-grade hazards (i.e. holes, trenches) with safety cones or spray paint / Wear the proper PPE (safety shoes) 11. Maintain a safe distance from pouring operation
63.Steel building erection	22. Overhead hazards, falling objects 23. Pinching/crushing hazards	13. Wear proper PPE (hard had, safety glasses, safety vest) / Be aware of overhead hazards and maintain a safe distance of at least 10 ft. 14. All personnel should make others aware of moving objects or their inten to move objects / Avoid areas where pinching and crushing hazards are possible
64. All activities	85. Slips/ Trips/ Falls 86. Hand injuries, cuts or lacerations during manual handling of materials 87. Foot injuries 88. Back injuries	87. Be aware of potential trip hazards / Follow good housekeeping procedures/ Mark significant hazards 88. Inspect for jagged/sharp edges, and rough or slippery surfaces / Keep fingers away from pinch points / Wipe off greasy, wet, slippery or dirty objects before handling / Wear leather/ cut-resistant gloves

JOB STEPS	POTENTIAL HAZARDS	PREVENTATIVE / CORRECTIVE ACTION
4. All activities (cont'd)	89. Traffic 90. Wildlife: Stray dogs, Mice/rats, Vectors (i.e. mosquitoes, bees, etc.) 91. High Noise levels 92. Overhead hazards 93. Heat Stress/ Cold Stress 94. Eye Injuries	89. Wear Langan approved safety shoes 90. Use proper lifting techniques / Consider load location, task repetition, and load weigh when evaluating what is safe or unsafe to lift / Obtain assistance when possible 91. Wear high visibility clothing & vest / Use cones or signs to designate work area 92. Be aware of surroundings at all times, including the presence of wildlife/ Do not approach stray dogs / Carry/use dog/animal repellant / Use bug spray when needed 93. Wear hearing protection 94. Wear hard hat / Avoid areas were overhead hazards exist. 95. Wear proper attire for weather conditions (sunscreen or protective clothing in sunlight, layers for cold weather) / Drink plenty of fluids to avoid dehydration / Takes breaks as necessary to avoid heat/cold stress 96. Wear safety glasses
Additional items.		
Additional Items identified while in the field. (Delete row if not needed.)		

Print Name	**Sign Name**	**Date**
Prepared by:		
Reviewed by:		

ATTACHMENT H

TAILGATE SAFETY BRIEFING FORM

LANGAN TAILGATE SAFETY BRIEFING

Date:________________________ Time: ___________________________________

Leader:____________________________ Location:_________________________________

Work Task:

____

____

SAFETY TOPICS (*provide some detail of discussion points*)

Chemical Exposure Hazards and Control:____

____

Physical Hazards and Control: ____

Air Monitoring: ____

PPE: ____

______

Communications:____

Safe Work Practices: ____

____

Emergency Response: ____

Hospital/Medical Center Location: ____

Phone Nos.: ____

Other: ____

FOR FOLLOW-UP (the issues, responsibilities, due dates, etc.)

____

____

____

ATTENDEES

PRINT NAME	COMPANY	SIGNATURE

Appendix F

Community Air Monitoring Plan

COMMUNITY AIR MONITORING PLAN

for

450 UNION STREET
BROOKLYN, NEW YORK
NYSDEC BCP NO.: C224219

Prepared For

450 Union LLC and 450 Union Developer LLC
c/o Pilot Real Estate Group LLC
10 Glenville Street, 1st Floor
Greenwich, Connecticut 06831

Prepared By:

Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001

August 2020
Langan Project No. 170301202

LANGAN

1.0 Introduction

This site-specific community air monitoring plan (CAMP) was prepared in general compliance with the New York State Department of Health (NYSDOH) Generic CAMP and is intended to mitigate potential exposures of sensitive receptors to nuisance odors and dust resulting from the remedial action and potential coal-tar impacted materials. Based on environmental and geotechnical investigations performed to date, coal-tar impacts were documented in soil beginning at depths between about 23 feet and 54 below grade surface (bgs) in the eastern portion of the site. This CAMP is intended for implementation during future site management work performed under the Site Management Plan (SMP).

2.0 Community Air Monitoring

Monitoring for dust and odors will be conducted during all ground intrusive activities by the Field Team Leader (FTL). Continuous monitoring at the perimeter of the work zones for odor, volatile organic compounds (VOCs), and dust may be required for all ground intrusive activities such as drilling. The work zone is defined as the general area in which machinery is operating in support of remediation activities. A portable photoionization detector (PID) will be used to monitor the work zone and for periodic monitoring for VOCs during activities such as soil and groundwater sampling and well drilling. The site perimeter will be monitored for fugitive dust emissions by visual observations as well as instrumentation measurements (if required). When required, particulate or dust will be monitored continuously with real-time field instrumentation that will meet, at a minimum, the performance standards from DER-10 Appendix 1B.

If VOC monitoring is required, the following actions will be taken based on VOC levels measured:

- If total VOC levels exceed 5 parts per million (ppm) above background for the 15-minute average at the perimeter, work activities will be temporarily halted and monitoring continued. If levels readily decrease (per instantaneous readings) below 5 parts per million (ppm) above background, work activities will resume with continued monitoring.
- If total VOC levels at the downwind perimeter of the hot zone persist at levels in excess of 5 ppm above background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps work activities will resume provided that the total organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less – but in no case less than 20 feet, is below 5 ppm above background for the 15-minute average.
- If the total VOC level is above 25 ppm at the perimeter of the hot zone, activities will be shutdown.

If dust monitoring with field instrumentation is required, the following actions will be taken based on instrumentation measurements:

- If the downwind particulate level is 100 micrograms per cubic meter (μg/m³) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression must be employed. Work may continue with dust suppression techniques provided that downwind PM10 levels do not exceed 150 μg/m³ above the background level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM10 levels are greater than 150 μg/m³ above the background level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM10 concentration to within 150 μg/m³ of the upwind level and in preventing visible dust migration.

3.0 Vapor Emission Response Plan

If the ambient air concentration of organic vapors exceeds 5 ppm above background at the perimeter of the hot zone, boring and well installation activities will be halted or odor controls will be employed, and monitoring continued. When work shut-down occurs, downwind air monitoring as directed by the Health and Safety Officer (HSO) or FTL will be implemented to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the Major Vapor Emission section.

If the organic vapor level decreases below 5 ppm above background, sampling and boring and well installation can resume, provided:

- The organic vapor level 200 feet downwind of the hot zone or half the distance to the nearest residential or commercial structure, whichever is less, is below 1 ppm over background, and
- More frequent intervals of monitoring, as directed by the HSO or FTL, are conducted.

4.0 Vapor and Dust Suppression Techniques

Preventative measures for dust generation may include wetting site fill and soil, construction of an engineered construction entrance with gravel pad, use of a truck wash area, covering soils with tarps, and limiting vehicle speeds to five miles per hour.

Work practices to minimize odors and vapors include minimizing open storage of contaminated-source soil and handling of contaminated material. Offending odor and organic vapor controls may include the application of foam suppressants, including Rusmar odor-control foam (RusFoam® OC AC645 or approved equivalent) or placing polyethylene sheeting or non-odorous soil over the odor or VOC source areas for short-term control of the odor and VOCs.

If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances will include: direct load-out of soils to trucks for off-site disposal; use of chemical odorants in spray or misting systems; and, use of staff to monitor odors in surrounding neighborhoods.

5.0 Monitoring of Nearby Occupied Structures

This section applies where structures within about 20 feet of the ground-intrusive work may be occupied during the planned remedial action. Where this condition exists, the following will be considered for incorporation into the CAMP:

- One of the CAMP monitoring stations will be placed between the remedial work area and nearest outside wall of the occupied structure. If site conditions warrant, a third station may be used to accomplish this task.
    - If 15-minute-average total VOC concentrations exceed 1 ppm above background near the outside wall or next to intake vents of the occupied structure, periodic VOC monitoring will be performed within the occupied structure.
    - If 15-minute-average total PM10 concentrations exceed 150 µg/m^3 above background near the outside wall or next to intake vents of the occupied structure, work activities will be temporarily suspended until suppression techniques are implemented and concentrations return to background.
- Where nuisances have developed during remedial work and cannot be corrected using the techniques described in Section 6, use of additional engineering controls may be considered, such as vapor/dust barriers or ventilation devices.
- Consideration should be given to scheduling or sequencing ground-intrusive activities during periods when potentially exposed populations may not be occupying the structure.

6.0 Reporting

A summary of CAMP findings, including triggered action levels, will be provided daily to the NYSDEC and NYSDOH project managers as part of daily reporting. In addition to a summary of CAMP findings, daily reports will include:

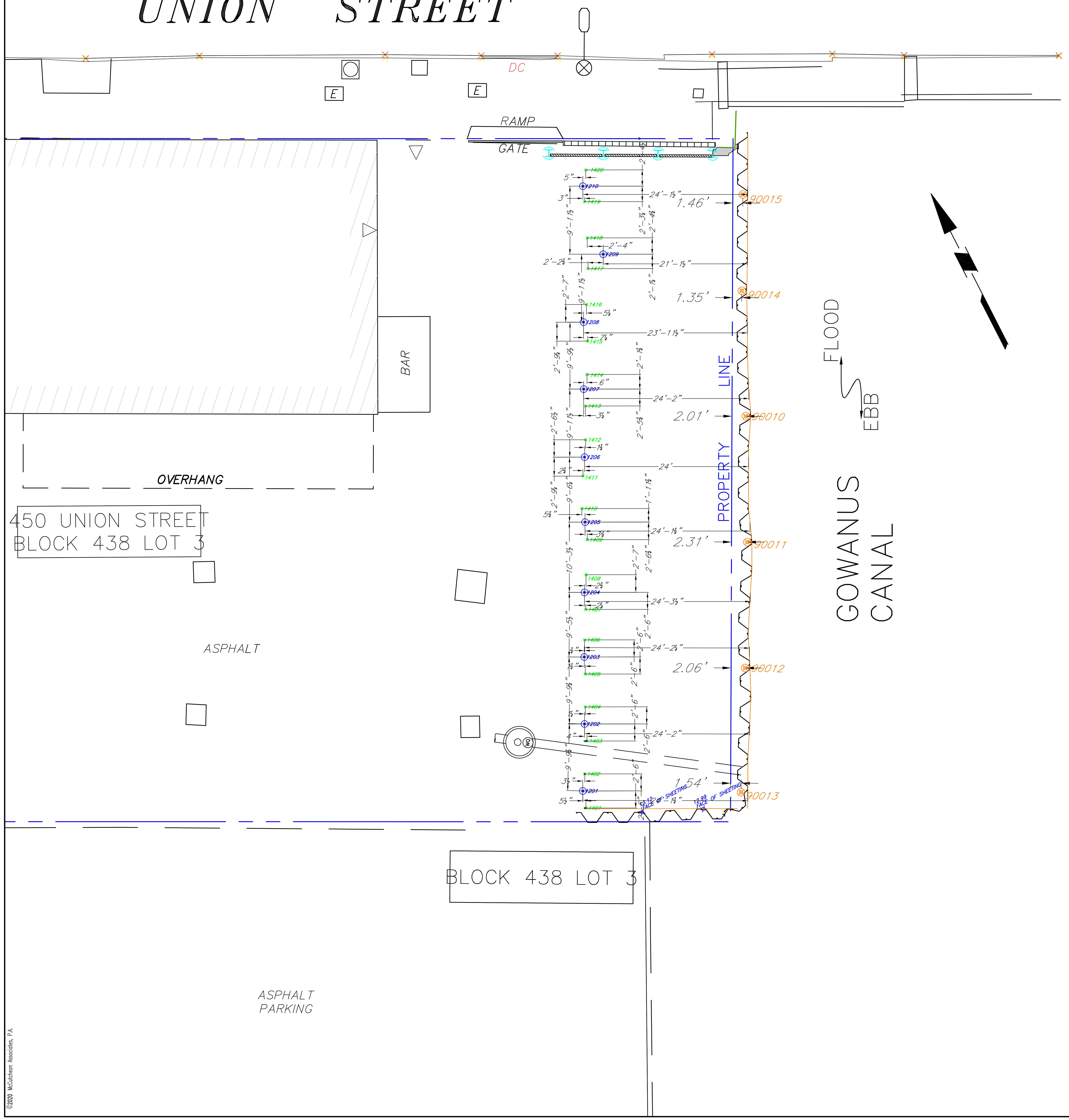
- An update of progress made during the reporting day;
- Locations of work and quantities of material imported and exported from the site;
- Locations of CAMP monitoring stations, soil stockpiles, and decontamination stations;
- References to map for site activities;
- A summary of any and all complaints with relevant details (names, phone numbers);

- An explanation of notable site conditions;
- Actions anticipated for the next reporting day; and
- Site photographs from the day’s remedial activities.

Daily reports are not intended to be the mode of communication for notification to the NYSDEC or the NYSDOH of emergencies (accident, spill), requests for changes to the CAMP or the SMP scope of work, or other sensitive or time critical information; however, such conditions will also be included in the daily reports. Emergency conditions and changes to the CAMP or the SMP scope of work will be addressed directly to the NYSDEC and NYSDOH project managers via personal communication. If site conditions warrant, the remedial engineer may request to change from daily to weekly reports that include the above information.

Appendix G

As-Built Drawings for Bulkhead/Contaminant Barrier and Cover System Survey



SHEETING PILES

Pile No.	Northing	Easting	AB Elev.
90010	186787.39	987404.82	4.49
90011	186770.88	987396.65	6.85
90012	186754.60	987387.99	4.43
90013	186738.66	987379.19	3.73
90014	186804.03	987412.65	4.35
90015	186816.49	987419.19	6.84

BATTERED PILES

Pile No.	Northing	Easting	AB Elev.
1201	186749.4	987358.64	4.52
1202	186757.99	987363.32	4.48
1203	186766.74	987367.74	4.54
1204	186775.15	987372.07	4.60
1205	186784.27	987376.82	4.35
1206	186792.78	987381.09	4.42
1207	186801.71	987385.49	4.48
1208	186810.44	987389.94	4.39
1209	186818.00	987397.02	4.56
1210	186828.22	987398.89	4.56

TIE BACKS

Tie No.	Northing	Easting	AB Elev.
1401	186746.9	987357.92	4.01
1402	186751.46	987360.04	3.99
1403	186755.60	987362.49	4.02
1404	186760.16	987364.56	4.05
1405	186764.45	987366.74	3.99
1406	186768.94	987368.93	3.95
1407	186772.84	987371.10	4.03
1408	186777.35	987373.45	4.06
1409	186781.84	987375.94	3.81
1410	186786.26	987377.30	4.10
1411	186790.41	987379.62	3.90
1412	186794.97	987382.38	3.89
1413	186799.39	987384.61	3.99
1414	186803.40	987386.90	4.00
1415	186807.70	987389.22	4.03
1416	186812.55	987391.49	4.04
1417	186817.13	987394.08	3.91
1418	186821.19	987396.02	3.95
1419	186826.09	987398.09	4.06
1420	186830.15	987400.35	3.90

NOTES

THIS PILE ASBUILT SURVEY IS BASED ON THE FOLLOWING DOCUMENT:
BOUNDARY & TOPOGRAPHIC SURVEY BY LANGAN
DATED: 06-13-17

CONTRACTORS SHALL VERIFY ALL LAYOUT AS SET WITH THE INFORMATION AS SHOWN HEREON AND THE LATEST CONSTRUCTION DOCUMENTS. ANY AND ALL DISCREPANCIES SHALL BE REPORTED TO McCUTCHEON ASSOCIATES, P.A. PRIOR TO CONSTRUCTION.

IF THIS DOCUMENT DOES NOT CONTAIN A RAISED IMPRESSION SEAL OF THE PROFESSIONAL, IT IS NOT AN AUTHORIZED ORIGINAL DOCUMENT AND MAY HAVE BEEN ALTERED.

THE COPYING OF THIS DOCUMENT, OR PORTIONS THEREOF, FOR OTHER THAN THE ORIGINAL PROJECT OR THE PURPOSE ORIGINALLY INTENDED, WITHOUT THE WRITTEN PERMISSION OF McCUTCHEON ASSOCIATES,P.A. IS PROHIBITED.

REVISIONS

DOB

DOB BSCAN

McCUTCHEON ASSOCIATES, P.A.
SURVEYING + PLANNING
700 PLAZA DRIVE
SECAUCUS, NJ 07094
201–864–9100

PROJECT:

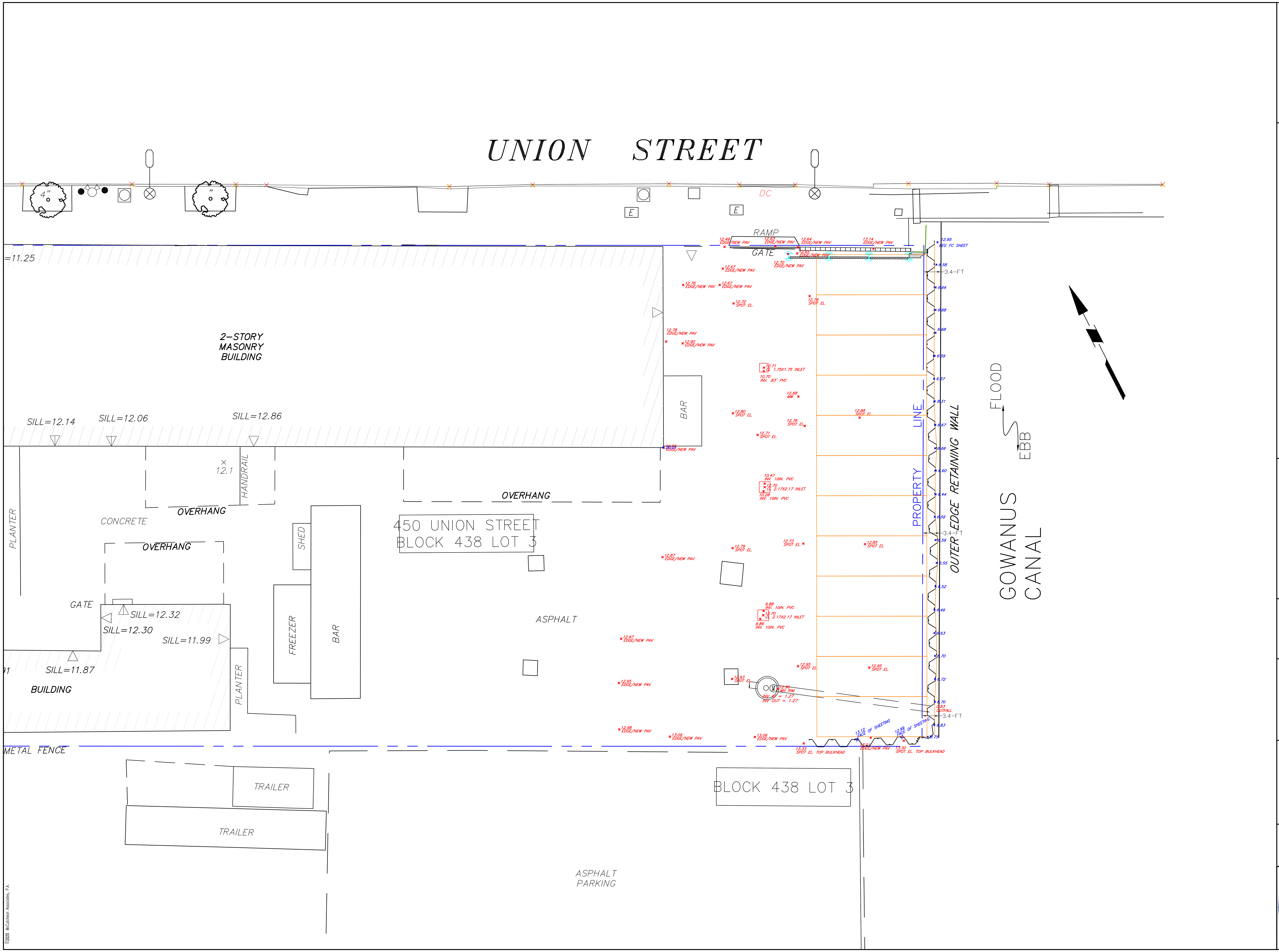
450 UNION STREET
BROOKLYN, NEW YORK

RECORD SURVEY

PAUL BARYLSKI
050782

DATE: 12–10–20
DRAWN BY: LR
CHECKED BY: DM
DWG No.

1 OF 2



REVISIONS

DOB

DOB BSCAN

McCUTCHEON ASSOCIATES, P.A.
SURVEYING + PLANNING
700 PLAZA DRIVE
SECAUCUS, NJ 07094
201–864–9100

PROJECT:

450 UNION STREET

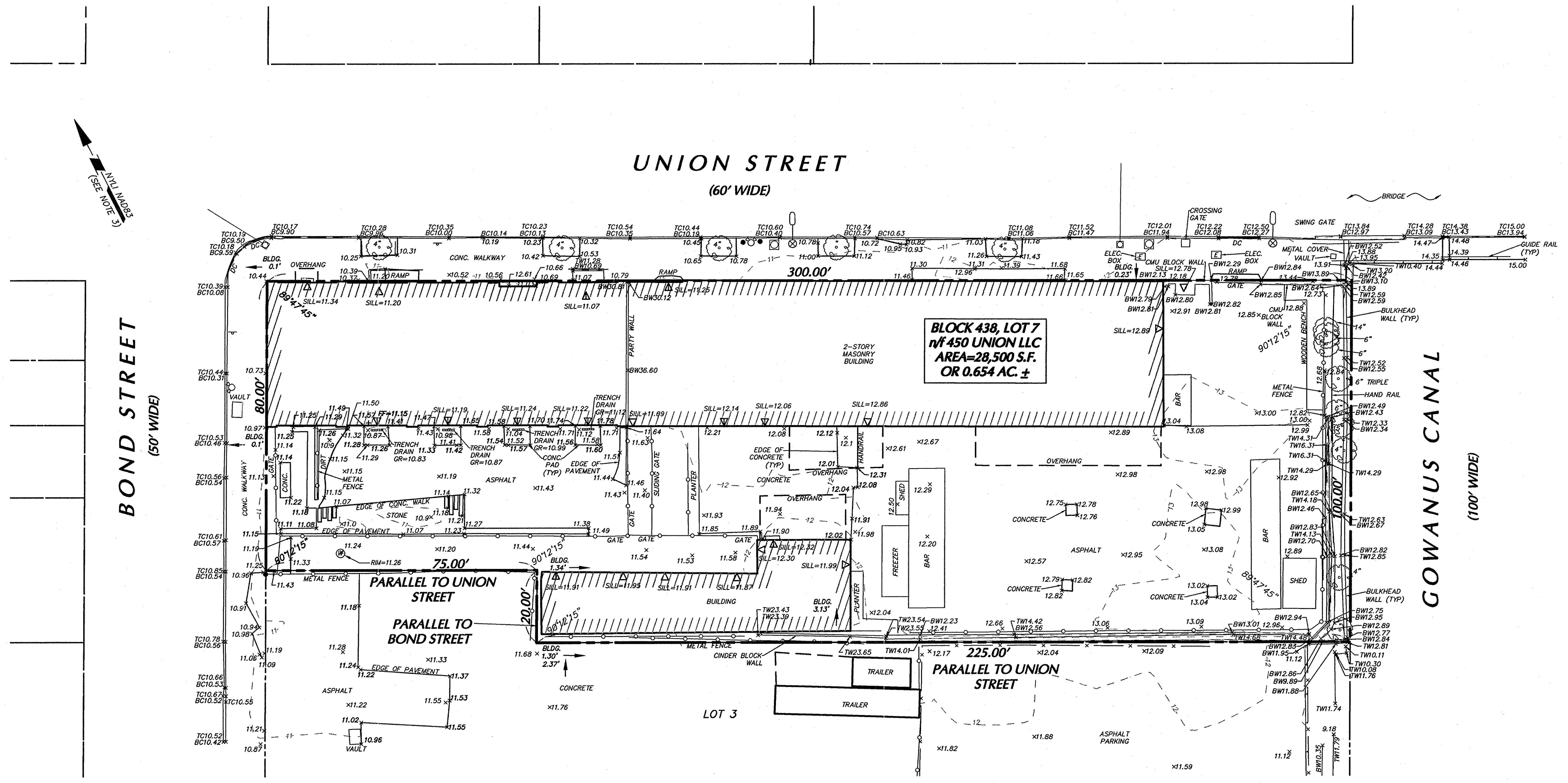
BROOKLYN, NEW YORK

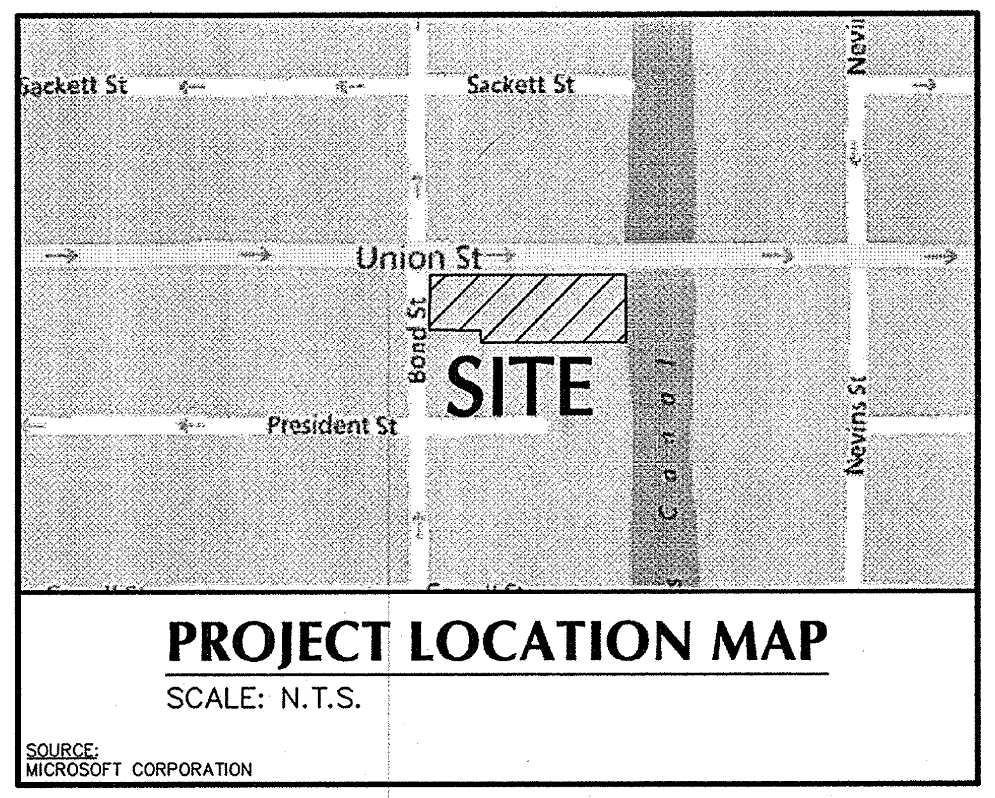
RECORD SURVEY

PAUL BARYLSKI
050782

DATE: 12–15–20
DRAWN BY: LR
CHECKED BY: DM
DWG No.

2 OF 2





PROJECT LOCATION MAP

NOTES

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:

A. MAP TITLED "AS-BUILT SURVEY" BY BORO LAND SURVEYING, P.C., DATED AUGUST 5, 2015 AND LAST REVISED NOVEMBER 24, 2015.

B. CURRENT NEW YORK CITY TAX MAP.

C. NEW YORK CITY, BOROUGH OF BROOKLYN SECTIONAL MAPS #23 & #24.

D. TITLE REPORT:
BY: OLD REPUBLIC TITLE INSURANCE COMPANY
DATED: MAY 26, 2014
TITLE NO.: KIN-246501-L

2. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE FOLLOWING FACTS AS REVEALED BY THE HEREON REFERENCED INFORMATION. THE INFORMATION SHOWN HEREON DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT.

3. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW YORK LONG ISLAND COORDINATE SYSTEM, NYLI NAD 83 (2011) DERIVED USING LEICA GS-15 AND CS-15 GPS EQUIPMENT AND THE LEICA SMARTNET NETWORK.

4. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) DERIVED USING LEICA GS-15 AND CS-15 GPS EQUIPMENT AND THE LEICA SMARTNET NETWORK.

5. STREET NAMES AND R.O.W. WIDTHS AS PER MAPS REFERENCED IN NOTE 1C, BLOCK AND LOT NUMBERS AS PER MAP REFERENCED IN NOTE 1B.

6. PLANIMETRIC INFORMATION SHOWN HEREON HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING AND LANDSCAPE ARCHITECTURE, D.P.C. DURING FEBRUARY, APRIL AND MAY 2017.

7. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.

8. WETLANDS, ENVIRONMENTAL AND/OR HAZARDOUS MATERIALS LOCATION, IF ANY, NOT COVERED UNDER THIS CONTRACT.

9. UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES/CATCH BASINS, ETC). CONDITIONS CAN VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND THE LOCATIONS WHERE DATA WAS OBTAINED. DESPITE MEETING THE REQUIRED STANDARD OF CARE THE SURVEYOR CANNOT AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES.

ADDITIONAL UTILITY (WATER, GAS, ELECTRIC ETC.) DATA MAY BE SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING STRUCTURES, AND/OR FROM EXISTING DRAWINGS,

UNLESS SPECIFICALLY NOTED HEREON THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEES THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON.

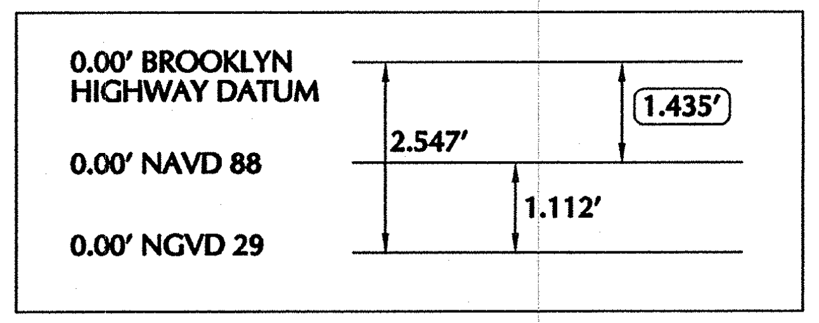
PRIOR TO ANY DESIGN OR CONSTRUCTION THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS

UNLESS NOTED BELOW SUPPLEMENTAL DOCUMENTS WERE NOT USED TO COMPILE THE SUBSURFACE UTILITY INFORMATION SHOWN HEREON.

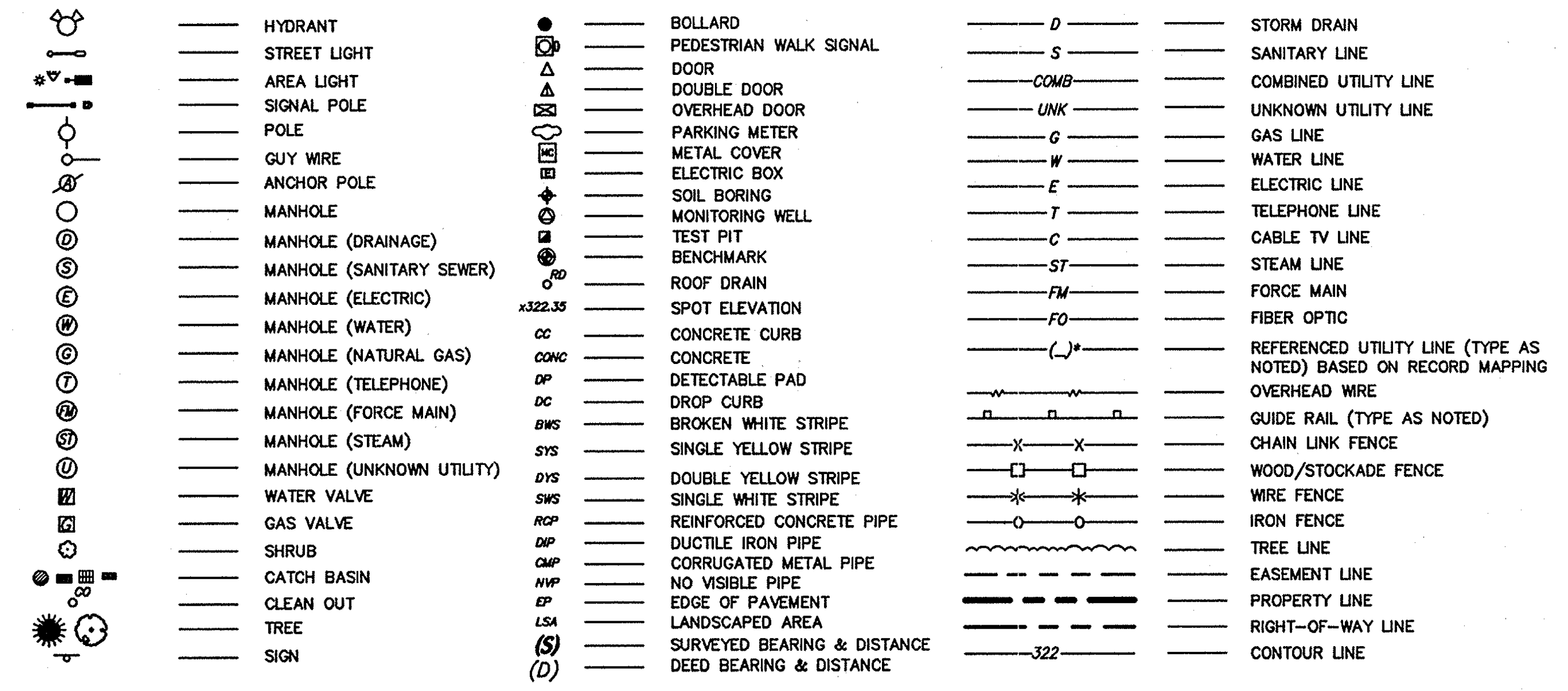
10. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.

11. THIS PLAN NOT VALID UNLESS EMBOSSED OR BLUE INK STAMPED WITH THE SEAL OF THE PROFESSIONAL.

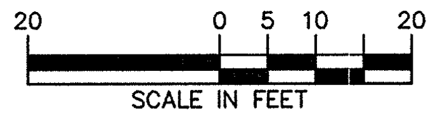
DATUM CONVERSION CHART



LEGEND (NOT SHOWN TO SCALE)



CERTIFIED TO:
450 UNION LLC
M&T BANK, ITS SUCCESSORS AND /OR ASSIGNS
MADISON TITLE AGENCY, LLC
OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY



SCALE IN FEET

Date	Description	No.
12/04/19	Added Certifications Only	1

REVISIONS

"I hereby state that this plan is based on a field survey made by me or under my immediate supervision in accordance with NYSPLS Code of Practice for Land Surveys, and to the best of my professional knowledge, information and belief, and in my professional opinion, correctly represents the conditions found on the date of the field survey at the subject property".

SIGNATURE ... 4.2019
DATE SIGNED
PAUL D. WISHER
PROFESSIONAL LAND SURVEYOR NY Lic. No. 050784-1

050784-1

LANGAN
21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan Engineering and Environmental Services, Inc.
Langan CT, Inc.
Langan International LLC
Collectively known as Langan

Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BOROUGH OF BROOKLYN
CITY OF NEW YORK
KINGS COUNTY NEW YORK

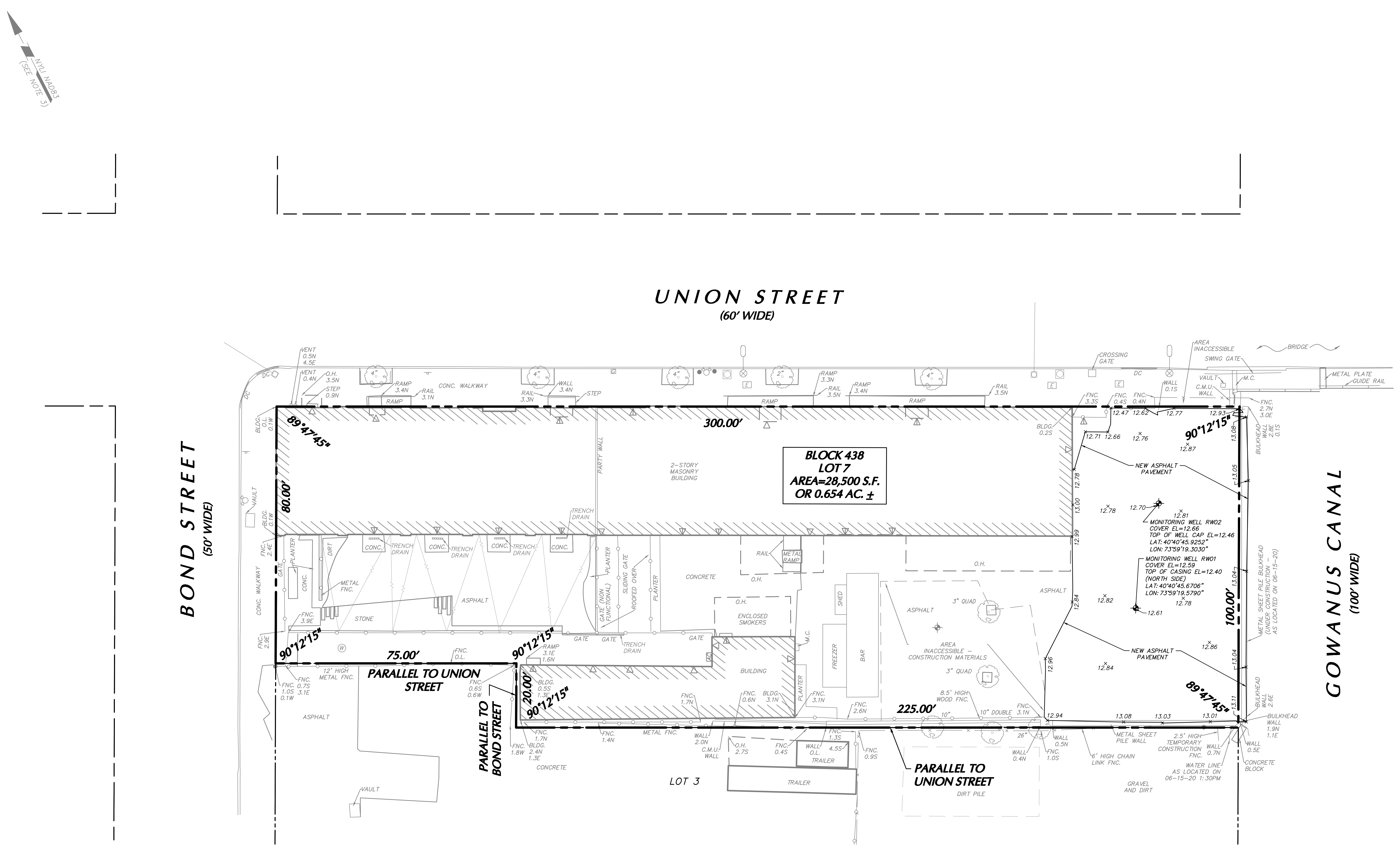
Drawing Title
BOUNDARY & TOPOGRAPHIC SURVEY

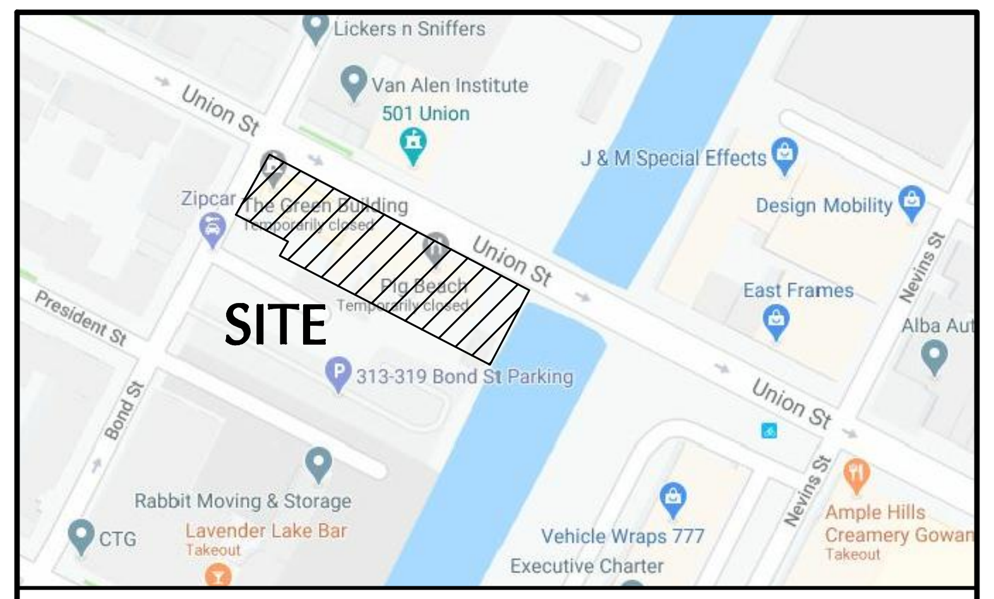
Project No. 170301202
Date 6/13/2017
Scale 1" = 20'
Drawn By KEC
Checked By PDF
Drawing No. VT-101
Sheet 1 of 1

Filename: \\langan.com\data\NY\data2\170301202\Survey Data - 170301202\Carlson\Sheet Files\170301202 VT-0101.dwg Date: 12/4/2019 Time: 13:27 User: lberliner Style Table: Langan.stb Layout: VT-101

PROJECT NO. 170301202

LANGAN



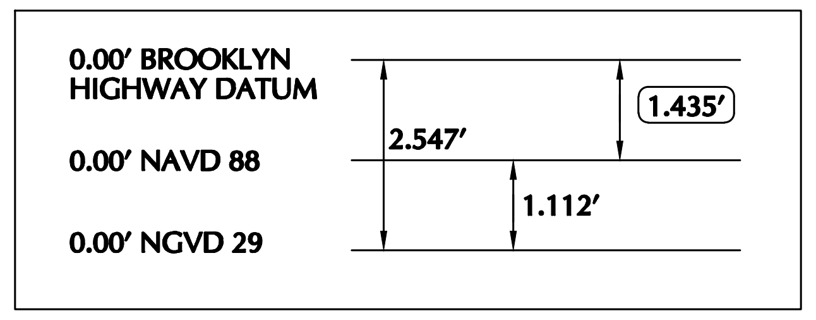


PROJECT LOCATION MAP

SCALE: NOT TO SCALE

SOURCE:
GOOGLE MAPS

DATUM CONVERSION CHART



LEGEND (NOT SHOWN TO SCALE)

♉	HYDRANT
▾	STAND PIPE
•	ROOF DRAIN
○-	FLAG POLE
☼	PEDESTAL LIGHT
○━	STREET LIGHT
☼ ▽ ■	AREA LIGHT
━■	SIGNAL POLE
-○-	POWER POLE
○—	GUY WIRE
Ⓐ	ANCHOR POLE
Ⓓ Ⓔ Ⓢ Ⓣ Ⓦ ○	MANHOLE (TYPE AS LABELED)
W	WATER VALVE
G	GAS VALVE
U UV	UNKNOWN VALVE
▨ ▥ ▦ ▥	CATCH BASIN
CO	CLEAN OUT
✹	TREE
-○-	SIGN
●	BOLLARD
E	ELECTRIC BOX
EM	ELECTRIC METER
GM	GAS METER
WM	WATER METER
T	TELEPHONE BOX
◙	TRAFFIC SIGNAL POLE
⊕	MONITOR WELL
▭	BENCH
△	DOOR
△	DOUBLE DOOR
⊠	ROLL UP DOOR
▥	YARD DRAIN
M	MAILBOX
DC	DROP CURB
P.O.B.	POINT OF BEGINNING
C.M.U.	CONCRETE MASONRY UNIT
BLDG.	BUILDING
TYP.	TYPICAL
FNC.	FENCE
O.H.	OVERHANG
M.C.	METAL COVER
S.F.	SQUARE FEET
AC.	ACRES
O.L.	ON LINE
N	NORTH
S	SOUTH
W	WEST
E	EAST
—^—	OVERHEAD WIRE
—□—	GUIDE RAIL WOOD
—'—	GUIDE RAIL METAL
⌒⌒⌒	TREE LINE
—×—	CHAINLINK FENCE
—□—	STOCKADE FENCE
—○—	IRON FENCE
— - - —	EASEMENT LINE
━ ▬ ▬ ━	PROPERTY LINE
━ - - ━	RIGHT-OF-WAY LINE

NOTES

1. THIS SURVEY IS BASED UPON EXISTING PHYSICAL CONDITIONS FOUND AT THE SUBJECT SITE, AND THE FOLLOWING REFERENCES:
   - A. BOROUGH OF BROOKLYN SECTION MAP NO. 23 AND 24.
   - B. CURRENT NEW YORK CITY TAX MAP OF BROOKLYN.
   - C. "BOUNDARY AND TOPOGRAPHIC SURVEY, 450 UNION STREET", BY LANGAN, PROJECT NO. 170301202, DRAWING NO. VT-101, DATED 06/13/17, LAST REVISED 12/04/19.
   - D. "DEC EASEMENT SURVEY, 450 UNION STREET", BY LANGAN, PROJECT NO. 170301202, DRAWING NO. DEC101, DATED 06/25/20.
   - E. "ENGINEERING CONTROLS MAP, 450 UNION STREET", BY LANGAN, PROJECT NO. 170301202, FIGURE NO. 7, DATED 08/03/20.
2. THE SURVEYED PROPERTY IS SUBJECT BUT NOT LIMITED TO THE FOLLOWING FACTS AS REVEALED BY THE HEREON REFERENCED INFORMATION. THE INFORMATION SHOWN HEREON DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR. ALL INFORMATION THAT MAY AFFECT THE QUALITY OF TITLE TO BOTH THE SUBJECT AND ADJOINING PARCELS SHOULD BE VERIFIED BY AN ACCURATE AND CURRENT TITLE REPORT.
3. THE MERIDIAN OF THIS SURVEY IS REFERENCED TO THE NEW YORK LONG ISLAND COORDINATE SYSTEM, NYLI NAD 83 (2011) DERIVED USING LEICA GS-15 AND CS-15 GPS EQUIPMENT AND THE LEICA SMARTNET NETWORK.
4. ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) DERIVED USING LEICA GS-15 AND CS-15 GPS EQUIPMENT AND THE LEICA SMARTNET NETWORK.
5. STREET NAMES, R.O.W. WIDTHS, BLOCK, AND LOT NUMBERS AS PER MAP REFERENCED IN NOTE 1D.
6. PLANIMETRIC INFORMATION SHOWN HEREON AS SCREENED HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DURING JUNE OF 2020, AND IS FOR REFERENCE PURPOSES ONLY.

   INFORMATION SHOWN HEREON IN BOLD HAS BEEN OBTAINED FROM GROUND SURVEYS BY LANGAN ENGINEERING, ENVIRONMENTAL, SURVEYING, LANDSCAPE ARCHITECTURE AND GEOLOGY, D.P.C. DURING DECEMBER OF 2020.
7. OFFSETS (IF SHOWN) ARE FOR SURVEY REFERENCES ONLY AND ARE NOT TO BE USED IN CONSTRUCTION OF ANY TYPE.
8. WETLANDS, ENVIRONMENTAL AND/OR HAZARDOUS MATERIALS LOCATION, IF ANY, NOT COVERED UNDER THIS CONTRACT.
9. UNLESS SPECIFICALLY NOTED HEREON, STORM AND SANITARY SEWER INFORMATION (INCLUDING PIPE INVERT, PIPE MATERIAL, AND PIPE SIZE) WAS OBSERVED AND MEASURED AT FIELD LOCATED STRUCTURES (MANHOLES/CATCH BASINS, ETC). CONDITIONS CAN VARY FROM THOSE ENCOUNTERED AT THE TIMES WHEN AND THE LOCATIONS WHERE DATA WAS OBTAINED. DESPITE MEETING THE REQUIRED STANDARD OF CARE THE SURVEYOR CANNOT AND DOES NOT WARRANT THAT PIPE MATERIAL AND/OR PIPE SIZE THROUGHOUT THE PIPE RUN ARE THE SAME AS THOSE OBSERVED AT EACH STRUCTURE, OR THAT THE PIPE RUN IS STRAIGHT BETWEEN THE LOCATED STRUCTURES.

   ADDITIONAL UTILITY (WATER, GAS, ELECTRIC ETC...) DATA MAY BE SHOWN FROM FIELD LOCATED SURFACE MARKINGS (BY OTHERS), EXISTING STRUCTURES, AND/OR FROM EXISTING DRAWINGS.

   UNLESS SPECIFICALLY NOTED HEREON THE SURVEYOR HAS NOT EXCAVATED TO PHYSICALLY LOCATE THE UNDERGROUND UTILITIES. THE SURVEYOR MAKES NO GUARANTEES THAT THE SHOWN UNDERGROUND UTILITIES ARE EITHER IN SERVICE, ABANDONED OR SUITABLE FOR USE, NOR ARE IN THE EXACT LOCATION OR CONFIGURATION INDICATED HEREON.

   PRIOR TO ANY DESIGN OR CONSTRUCTION THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.

   UNLESS NOTED BELOW SUPPLEMENTAL DOCUMENTS WERE NOT USED TO COMPILE THE SUBSURFACE UTILITY INFORMATION SHOWN HEREON.
10. LATITUDE AND LONGITUDE INFORMATION SHOWN HEREON HAS BEEN ESTABLISHED BY GPS METHODS.
11. BOUNDARY INFORMATION SHOWN HEREON PER DRAWING CITED IN NOTE 1C, AND IS FOR INFORMATION PURPOSES ONLY.
12. UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY MAP BEARING A LICENSED LAND SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW.
13. THIS PLAN NOT VALID UNLESS EMBOSSED OR BLUE INK STAMPED WITH THE SEAL OF THE PROFESSIONAL.

20 0 5 10 20
SCALE: 1 INCH = 20 FEET

LANGAN

PROJECT NO. 170301202

Date	Description	No.
REVISIONS		

"I hereby state that this plan is based on a field survey made by me or under my immediate supervision in accordance with NYSPLS Code of Practice for Land Surveys, and to the best of my professional knowledge, information and belief, and in my professional opinion, correctly represents the conditions found on the date of the field survey at the subject property".

050784-1
LICENSED LAND SURVEYOR

SIGNATURE 12-09-2020 DATE SIGNED
PAUL FISHER
PROFESSIONAL LAND SURVEYOR NY Lic. No. 050784-1

LANGAN
Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor
New York, NY 10001
T: 212.479.5400 F: 212.479.5444 www.langan.com

Project
450 UNION STREET
BLOCK No. 438, LOT No. 7
BOROUGH OF BROOKLYN
CITY OF NEW YORK
KINGS COUNTY NEW YORK

Drawing Title
PARTIAL TOPOGRAPHIC SURVEY

Project No. 170301202
Date 12/04/20
Scale 1"=20'
Drawn By LB
Checked By PDF

Drawing No.
VT-102
Sheet 001 of 001

Appendix H

Recovery and Monitoring Well Construction Logs

WELL CONSTRUCTION SUMMARY

Well No. RW01

PROJECT		**PROJECT NO.**	
450 Union Street		170301202	
LOCATION		**ELEVATION AND DATUM**	
Brooklyn, NY		About el. 12.4 NAVD88	
DRILLING AGENCY		**DATE STARTED**	**DATE FINISHED**
Aquifer Drilling and Testing, Inc.		8/1/2016	8/2/2016
DRILLING EQUIPMENT		**DRILLER**	
CME Truck-Mounted Drill Rig		Matt	
SIZE AND TYPE OF BIT		**INSPECTOR**	
3 7/8-inch Roller Bit		Woo Kim/Kelvin Liu	
BOREHOLE DIAMETER		**TYPE OF WELL (OVERBURDEN / BEDROCK)**	
4-inch		Overburden	
RISER MATERIAL	**DIAMETER**	**TYPE OF BACKFILL MATERIAL**	
PVC	2-inch	No. 2 Sand	
TYPE OF SCREEN	**DIAMETER**	**TYPE OF WELL PACK**	**TYPE OF SEAL MATERIAL**
PVC No. 20 Slot	2-inch	No. 2 Sand	Grout w/ 5% Bentonite

METHOD OF INSTALLATION

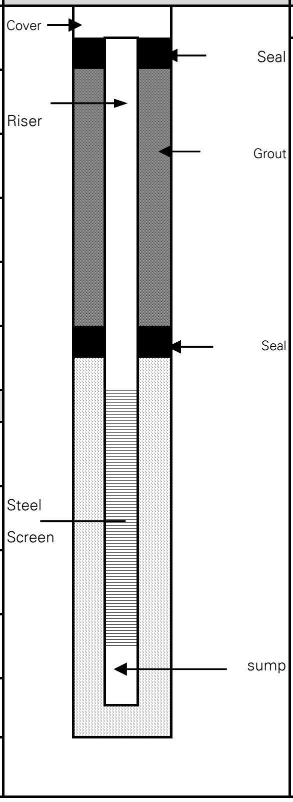
Advanced 4-inch ID casing to 52 feet and cleaned borehole. Well was set at 52 feet with a 2-foot sump, 10 feet of screen (40-50 feet bgs), and 40 feet of PVC riser pipe. No. 3 silica sand was placed in annulus to about 2 feet above screen, followed by 2 feet of bentonite pellets. The bentonite pellets were allowed to hydrate before backfilling with grout above the bentonite seal to 6 inches below the surface. Steel casing was pulled and a permanent flush-mounted, bolt-down manhole was installed. A minimum of three well-volumes was purged, until the effluent contained a limited amount of sediment. Purge water was containerized into UN/DOT-approved 55-gallon drums and staged on site for removal.

WELL DEVELOPMENT DATA

SURGE BLOCK DIAMETER	N/A	**TYPE PUMP**	Submersible	**DEVELOPMENT CONFIRMATION**
DRILLER OR LANGAN	Driller	**MAX PUMP RATE**	1 LPM	Well flushed and excess water containerized by ADT
NUMBER OF SURGE CYCLES	N/A	**TOTAL VOLUME**	20 gallons	

	ELEVATION	**DEPTH (ft)**
TOP OF CASING	12.4	0
TOP OF SEAL	-23.6	36
TOP OF FILTER	-25.6	38
TOP OF SCREEN	-27.6	40
BOTTOM OF BORING	60	52
SCREEN LENGTH		10 ft
SLOT SIZE		No. 20 Slot; 0.020 Inches

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	**DEPTH (FT)**
	0
	36
	38
	40
	50
	52

GROUNDWATER ELEVATIONS

ELEVATION	**DATE**	**DEPTH TO WATER**

LANGAN Engineering, Environmental, Surveying, Landscape Architecture, and Geology D.P.C.
21 Penn Plaza, 360 West 31st Street, 8th Floor, New York

WELL CONSTRUCTION SUMMARY

Well No. RW02

PROJECT		**PROJECT NO.**	
450 Union Street		170301202	
LOCATION		**ELEVATION AND DATUM**	
Brooklyn, NY		About el. 12.46 NAVD88	
DRILLING AGENCY		**DATE STARTED**	**DATE FINISHED**
AARCO Environmental Services Corp.		11/23/2020	11/24/2020
DRILLING EQUIPMENT		**DRILLER**	
Sonic Rig		Tom Seickel	
SIZE AND TYPE OF BIT		**INSPECTOR**	
4-inch Direct Push		Jack Donelan	
BOREHOLE DIAMETER		**TYPE OF WELL (OVERBURDEN / BEDROCK)**	
10-inch		Overburden	
RISER MATERIAL	**DIAMETER**	**TYPE OF BACKFILL MATERIAL**	
Steel	6-inch	No. 3 Sand	
TYPE OF SCREEN	**DIAMETER**	**TYPE OF WELL PACK**	**TYPE OF SEAL MATERIAL**
Steel No. 30 Slot	6-inch	No. 3 Sand	Grout w/ 5% Bentonite

METHOD OF INSTALLATION

Geoprobe 8140LC sonic drill rig was used to advance the boring to about 65 feet below ground surface (bgs). The boring was backfilled with hydrated bentonite to 60 feet bgs. Temporary 10-inch-diameter casing was advanced to a depth of 60 feet bgs. A 6-inch-diameter stainless steel monitoring well was installed consisting of a 15-foot long sump (60 and 45 feet bgs); 20 feet of 30 slot (0.030-inch) well screen (45 and 25 feet bgs); and 6-inch stainless steel riser from 25 feet bgs to grade. The annulus of the borehole was backfilled with hydrated bentonite from 60 to 45 feet bgs, No. 3 silica sand from 45 to 23 feet bgs, hydrated bentonite seal from 23 to 21 feet bgs, grout from 21 to 4 feet bgs, hydrated bentonite seal from 4 to 2 feet bgs, sand to from 2 to 1 feet bgs. After the annulus was set, the temporary 10-inch-diameter casing was extracted to complete installation. The well was finished with a flush mounted road box and set in asphalt.

WELL DEVELOPMENT DATA

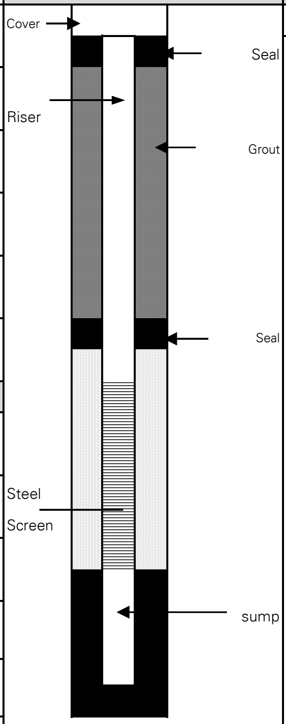
SURGE BLOCK DIAMETER	N/A	**TYPE PUMP**	Submersible	**DEVELOPMENT CONFIRMATION**
DRILLER OR LANGAN	Driller	**MAX PUMP RATE**	1 LPM	Well developed from 7-9 AM until well installed.
NUMBER OF SURGE CYCLES	N/A	**TOTAL VOLUME**	50 gallons	

	ELEVATION	DEPTH (ft)
TOP OF CASING	12.46	0
TOP OF SEAL	-8.54	21
TOP OF FILTER	-10.54	23
TOP OF SCREEN	-12.54	25
BOTTOM OF BORING	60	60
SCREEN LENGTH		20 ft
SLOT SIZE		No. 30 Slot; 0.030 Inches

GROUNDWATER ELEVATIONS

ELEVATION	DATE	DEPTH TO WATER

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
	0
	21
	23
	25
	45
	60

LANGAN Engineering, Environmental, Surveying, Landscape Architecture, and Geology D.P.C.

21 Penn Plaza, 360 West 31st Street, 8th Floor, New York

WELL CONSTRUCTION SUMMARY

Well No. MW-11

PROJECT 450 Union Street	**PROJECT NO.** 170301202
LOCATION Brooklyn, New York	**ELEVATION AND DATUM** 10.74 (NAVD 88)
DRILLING AGENCY Eastern Environmental	**DATE STARTED** 2/11/2016 **DATE FINISHED** 2/11/2016
DRILLING EQUIPMENT Geoprobe® 7822DT Track-Mounted Drill Rig	**DRILLER** Eddie Gallo
SIZE AND TYPE OF BIT 4-inch OD, 4-foot long steel macrocore	**INSPECTOR** Adam Goldberg

METHOD OF INSTALLATION

Eastern Environmental drilled through an approx. 6" asphalt slab at boring location. Two-inch diameter boring SB11 was continuously sampled to 16 feet below grade. Eastern then advanced a four-inch anchored macrocore to 14 feet bgs to install 2-inch I.D. schedule 40 PVC well. The annulus above the well screen was filled with #2 filter sand to approx 3 feet below surface grade and hydrated bentonite was installed from 3 feet to 1 feet below grade surface. Soil cuttings and clean sand were then used as backfill to 1 foot bgs and grout was installed from 0.5 to 1 foot bgs. The well was completed with a flush-mounted 4-inch diameter road box and set in cement.

METHOD OF WELL DEVELOPMENT

Monsoon pump with dedicated tubing was used to develop the well.

TYPE OF CASING PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF BACKFILL MATERIAL** Soil Cuttings/Clean Sand
TYPE OF SCREEN 0.020-inch slotted PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF SEAL MATERIAL** Hydrated 30-50 mesh bentonite chip
BOREHOLE DIAMETER 4 inches		**TYPE OF FILTER MATERIAL** #2 Sand

	ELEVATION	DEPTH (ft)
TOP OF CASING	~10.24	~0.5
TOP OF SEAL	9.74	1
TOP OF FILTER	7.74	3
TOP OF SCREEN	6.74	4
BOTTOM OF BORING	-3.26	14

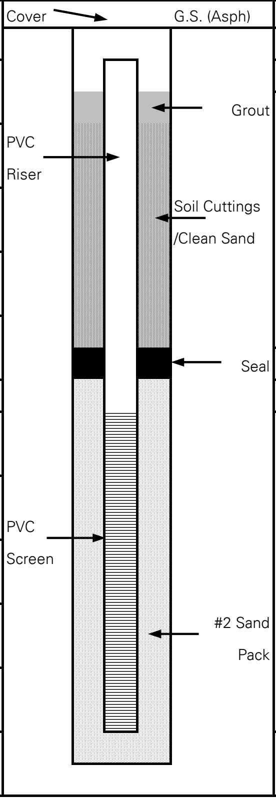
SCREEN LENGTH 10 ft

SLOT SIZE 0.02 Inches

GROUNDWATER ELEVATIONS

ELEVATION	DATE	DEPTH TO WATER
3.59	3/9/2016	7.15

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
Concrete to about 0.2 ft	0.5
	1.0
Historic fill to about 15 ft	1.0
	3.0
	4.0
Native soil below about 15 ft	14.0

LANGAN Engineering and Environmental Services, Inc.
21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, New York 10001-2727

WELL CONSTRUCTION SUMMARY

Well No. MW12

PROJECT 450 Union Street	**PROJECT NO.** 170301202
LOCATION Brooklyn, New York	**ELEVATION AND DATUM** 11.77 (NAVD 88)
DRILLING AGENCY Eastern Environmental	**DATE STARTED** 2/16/2016 **DATE FINISHED** 2/16/2016
DRILLING EQUIPMENT Geoprobe® 540B Portable Dingo Rig	**DRILLER** Eddie Gallo
SIZE AND TYPE OF BIT 4-inch OD, 4-foot long steel macrocore	**INSPECTOR** Adam Goldberg

METHOD OF INSTALLATION

Eastern Environmental drilled through an approx. 6" concrete slab at boring location. Two-inch diameter boring SB12 was continuously sampled to 16 feet below grade. Eastern then advanced a four-inch anchored macrocore to 15 feet bgs to install 1-inch I.D. schedule 40 PVC well. The annulus above the well screen was filled with #2 filter sand to approx 4 feet below surface grade and hydrated bentonite was installed from 4 feet to 2 feet below grade surface. Soil cuttings and clean sand were then used as backfill to 1 foot bgs and grout was installed from 0.5 to 1 foot bgs. The well was completed with a flush-mounted 4-inch diameter road box and set in cement.

METHOD OF WELL DEVELOPMENT

Monsoon pump with dedicated tubing was used to develop the well.

TYPE OF CASING PVC Sch 40	**DIAMETER** 1-in ID	**TYPE OF BACKFILL MATERIAL** Soil Cuttings/Clean Sand
TYPE OF SCREEN 0.020-inch slotted PVC Sch 40	**DIAMETER** 1-in ID	**TYPE OF SEAL MATERIAL** Hydrated 30-50 mesh bentonite chip
BOREHOLE DIAMETER 4 inches		**TYPE OF FILTER MATERIAL** #2 Sand

	ELEVATION	DEPTH (ft)
TOP OF CASING	11.27	~0.5
TOP OF SEAL	9.77	2
TOP OF FILTER	7.77	4
TOP OF SCREEN	6.77	5
BOTTOM OF BORING	-3.23	15

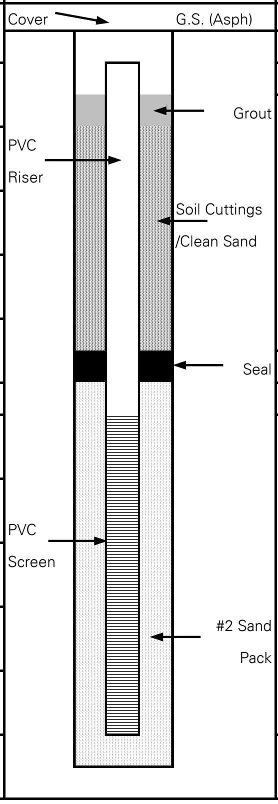
SCREEN LENGTH 10 ft

SLOT SIZE 0.02 Inches

GROUNDWATER ELEVATIONS

ELEVATION	DATE	DEPTH TO WATER
3.82	3/9/2016	7.95

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
Concrete to about 0.2 ft	0.5
	1.0
Historic fill to about 15 ft	2.0
	4.0
	5.0
Native soil below about 15 ft	15.0

LANGAN Engineering and Environmental Services, Inc.

21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, New York 10001-2727

WELL CONSTRUCTION SUMMARY

Well No. MW14

PROJECT 450 Union Street	**PROJECT NO.** 170301202
LOCATION Brooklyn, New York	**ELEVATION AND DATUM** 12.10 (NAVD 88)
DRILLING AGENCY Eastern Environmental	**DATE STARTED** 2/11/2016 **DATE FINISHED** 2/11/2016
DRILLING EQUIPMENT Geoprobe® 7822DT Track-Mounted Drill Rig	**DRILLER** Eddie Gallo
SIZE AND TYPE OF BIT 4-inch OD, 4-foot long steel macrocore	**INSPECTOR** Adam Goldberg

METHOD OF INSTALLATION

Eastern Environmental drilled through an approx. 6" asphalt slab at boring location. Two-inch diameter boring SB14 was continuously sampled to 16 feet below grade. Eastern then advanced a four-inch anchored macrocore to 14 feet bgs to install 2-inch I.D. schedule 40 PVC well. The annulus above the well screen was filled with #2 filter sand to approx 5 feet below surface grade and hydrated bentonite was installed from 5 feet to 3 feet below grade surface. Soil cuttings and clean sand were then used as backfill to 1 foot bgs and grout was installed from 0.5 to 1 foot bgs. The well was completed with a flush-mounted 4-inch diameter road box and set in cement.

METHOD OF WELL DEVELOPMENT

Monsoon pump with dedicated tubing was used to develop the well.

TYPE OF CASING PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF BACKFILL MATERIAL** Soil Cuttings/Clean Sand
TYPE OF SCREEN 0.020-inch slotted PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF SEAL MATERIAL** Hydrated 30-50 mesh bentonite chip
BOREHOLE DIAMETER 4 inches		**TYPE OF FILTER MATERIAL** #2 Sand

	ELEVATION	DEPTH (ft)
TOP OF CASING	12.05	~0.5
TOP OF SEAL	9.1	3
TOP OF FILTER	7.1	5
TOP OF SCREEN	6.1	6
BOTTOM OF BORING	-3.9	16

SCREEN LENGTH

10 ft

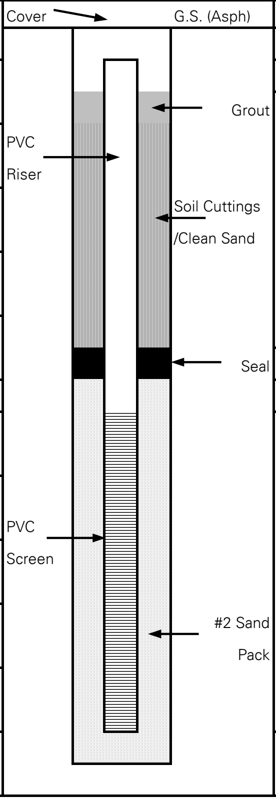
SLOT SIZE

0.02 Inches

GROUNDWATER ELEVATIONS

ELEVATION	DATE	DEPTH TO WATER
3.70	3/9/2016	8.40

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
Concrete to about 0.2 ft	0.5
	1.0
Historic fill to about 15 ft	3.0
	5.0
	6.0
Native soil below about 15 ft	16.0

LANGAN Engineering and Environmental Services, Inc.
21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, New York 10001-2727

WELL CONSTRUCTION SUMMARY

Well No. MW15

PROJECT 450 Union Street	**PROJECT NO.** 170301202
LOCATION Brooklyn, New York	**ELEVATION AND DATUM** 12.18 (NAVD 88)
DRILLING AGENCY Eastern Environmental	**DATE STARTED** 2/11/2016 **DATE FINISHED** 2/12/2016
DRILLING EQUIPMENT Geoprobe® 7822DT Track-Mounted Drill Rig	**DRILLER** Eddie Gallo
SIZE AND TYPE OF BIT 4-inch OD, 4-foot long steel macrocore	**INSPECTOR** Adam Goldberg

METHOD OF INSTALLATION

Eastern Environmental drilled through an approx. 6" asphalt slab at boring location. Two-inch diameter boring SB15 was continuously sampled to 16 feet below grade. Eastern then advanced a four-inch anchored macrocore to 14 feet bgs to install 2-inch I.D. schedule 40 PVC well. The annulus above the well screen was filled with #2 filter sand to approx 3 feet below surface grade and hydrated bentonite was installed from 3 feet to 1 feet below grade surface. Soil cuttings and clean sand were then used as backfill to 1 foot bgs and grout was installed from 0.5 to 1 foot bgs. The well was completed with a flush-mounted 4-inch diameter road box and set in cement.

METHOD OF WELL DEVELOPMENT

Monsoon pump with dedicated tubing was used to develop the well.

TYPE OF CASING PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF BACKFILL MATERIAL** Soil Cuttings/Clean Sand
TYPE OF SCREEN 0.020-inch slotted PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF SEAL MATERIAL** Hydrated 30-50 mesh bentonite chip
BOREHOLE DIAMETER 4 inches		**TYPE OF FILTER MATERIAL** #2 Sand

	ELEVATION	DEPTH (ft)
TOP OF CASING	11.68	~0.5
TOP OF SEAL	11.18	1
TOP OF FILTER	9.18	3
TOP OF SCREEN	8.18	4
BOTTOM OF BORING	1.82	14

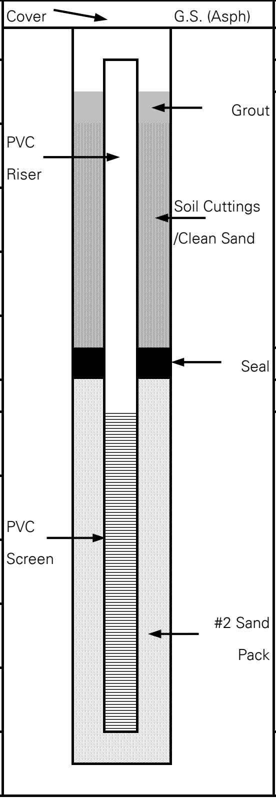
SCREEN LENGTH 10 ft

SLOT SIZE 0.02 Inches

GROUNDWATER ELEVATIONS

ELEVATION	DATE	DEPTH TO WATER
3.63	3/9/2016	8.55

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
Concrete to about 0.2 ft	0.5
	1.0
Historic fill to about 15 ft	1.0
	3.0
	4.0
Native soil below about 15 ft	14.0

LANGAN Engineering and Environmental Services, Inc.

21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, New York 10001-2727

WELL CONSTRUCTION SUMMARY

Well No. MW16

PROJECT 450 Union Street	**PROJECT NO.** 170301202
LOCATION Brooklyn, New York	**ELEVATION AND DATUM** 12.04 (NAVD 88)
DRILLING AGENCY Eastern Environmental	**DATE STARTED** 2/11/2016 **DATE FINISHED** 2/11/2016
DRILLING EQUIPMENT Geoprobe® 7822DT Track-Mounted Drill Rig	**DRILLER** Eddie Gallo
SIZE AND TYPE OF BIT 4-inch OD, 4-foot long steel macrocore	**INSPECTOR** Adam Goldberg

METHOD OF INSTALLATION

Eastern Environmental drilled through an approx. 6" asphalt slab at boring location. Two-inch diameter boring SB16 was continuously sampled to 16 feet below grade. Eastern then advanced a four-inch anchored macrocore to 16 feet bgs to install 2-inch I.D. schedule 40 PVC well. The annulus above the well screen was filled with #2 filter sand to approx 5 feet below surface grade and hydrated bentonite was installed from 5 feet to 3 feet below grade surface. Soil cuttings and clean sand were then used as backfill to 1 foot bgs and grout was installed from 0.5 to 1 foot bgs. The well was completed with a flush-mounted 4-inch diameter road box and set in cement.

METHOD OF WELL DEVELOPMENT

Monsoon pump with dedicated tubing was used to develop the well.

TYPE OF CASING PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF BACKFILL MATERIAL** Soil Cuttings/Clean Sand
TYPE OF SCREEN 0.020-inch slotted PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF SEAL MATERIAL** Hydrated 30-50 mesh bentonite chip
BOREHOLE DIAMETER 4 inches		**TYPE OF FILTER MATERIAL** #2 Sand

	ELEVATION	DEPTH (ft)
TOP OF CASING	11.54	~0.5
TOP OF SEAL	9.04	3
TOP OF FILTER	7.04	5
TOP OF SCREEN	6.04	6
BOTTOM OF BORING	-3.96	16

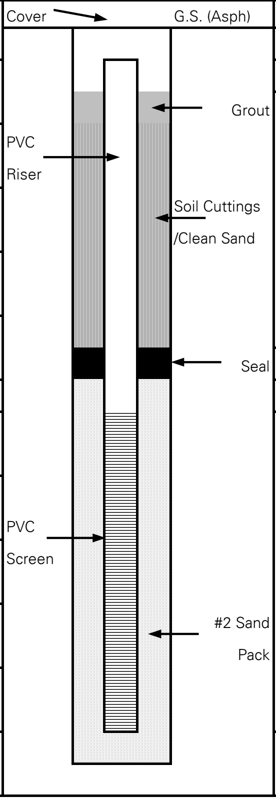
SCREEN LENGTH
10 ft

SLOT SIZE
0.02 Inches

GROUNDWATER ELEVATIONS

ELEVATION	DATE	DEPTH TO WATER
3.84	3/9/2016	8.20

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
Concrete to about 0.2 ft	0.5
	1.0
Historic fill to about 15 ft	
	3.0
	5.0
	6.0
Native soil below about 15 ft	
	16.0

LANGAN Engineering and Environmental Services, Inc.
21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, New York 10001-2727

WELL CONSTRUCTION SUMMARY

Well No. MW17

PROJECT 450 Union Street	**PROJECT NO.** 170301202
LOCATION Brooklyn, New York	**ELEVATION AND DATUM** 11.88 (NAVD 88)
DRILLING AGENCY Eastern Environmental	**DATE STARTED** 2/11/2016 **DATE FINISHED** 2/11/2016
DRILLING EQUIPMENT Geoprobe® 7822DT Track-Mounted Drill Rig	**DRILLER** Eddie Gallo
SIZE AND TYPE OF BIT 4-inch OD, 4-foot long steel macrocore	**INSPECTOR** Adam Goldberg

METHOD OF INSTALLATION

Eastern Environmental drilled through an approx. 6" concrete slab at boring location. Two-inch diameter boring SB17 was continuously sampled to 16 feet below grade. Eastern then advanced a four-inch anchored macrocore to 17 feet bgs to install 2-inch I.D. schedule 40 PVC well. The annulus above the well screen was filled with #2 filter sand to approx 6 feet below surface grade and hydrated bentonite was installed from 6 feet to 4 feet below grade surface. Soil cuttings and clean sand were then used as backfill to 1 foot bgs and grout was installed from 0.5 to 1 foot bgs. The well was completed with a flush-mounted 4-inch diameter road box and set in cement.

METHOD OF WELL DEVELOPMENT

Monsoon pump with dedicated tubing was used to develop the well.

TYPE OF CASING PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF BACKFILL MATERIAL** Soil Cuttings/Clean Sand
TYPE OF SCREEN 0.020-inch slotted PVC Sch 40	**DIAMETER** 2-in ID	**TYPE OF SEAL MATERIAL** Hydrated 30-50 mesh bentonite chip
BOREHOLE DIAMETER 4 inches		**TYPE OF FILTER MATERIAL** #2 Sand

	ELEVATION	DEPTH (ft)
TOP OF CASING	11.38	~0.5
TOP OF SEAL	7.88	4
TOP OF FILTER	5.88	6
TOP OF SCREEN	4.88	7
BOTTOM OF BORING	-5.12	17

SCREEN LENGTH

10 ft

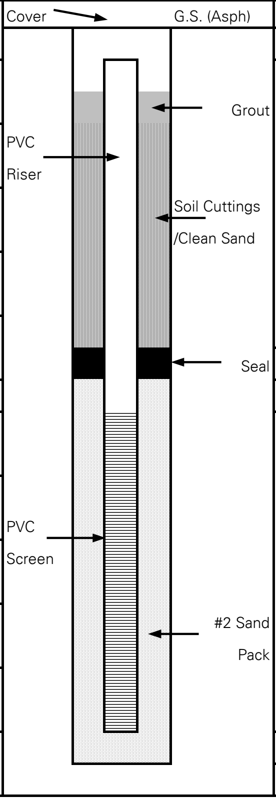
SLOT SIZE

0.02 Inches

GROUNDWATER ELEVATIONS

ELEVATION	DATE	DEPTH TO WATER
3.93	3/9/2016	7.95

WELL DETAILS



SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
Concrete to about 0.2 ft	0.5
Historic fill to about 15 ft	1.0
	4.0
	6.0
	7.0
Native soil below about 15 ft	17.0

LANGAN Engineering and Environmental Services, Inc.

21 Penn Plaza, 360 West 31st Street, 8th Floor, New York, New York 10001-2727

Appendix I

Quality Assurance Project Plan

QUALITY ASSURANCE PROJECT PLAN

for

450 UNION STREET
Brooklyn, New York

NYSDEC BCP Site No. C224219

Prepared for:

450 Union LLC and 450 Union Developer LLC
c/o Pilot Real Estate Group LLC
10 Glenville Street, 1st Floor
Greenwich, Connecticut 06831

Prepared By:

Langan Engineering, Environmental, Surveying,
Landscape Architecture and Geology, D.P.C.
21 Penn Plaza
360 West 31st Street, 8th Floor
New York, New York 10001

December 2020
Langan Project No: 170301202

LANGAN

TABLE OF CONTENTS

FIGURES

ATTACHMENTS

1.0 PROJECT DESCRIPTION

This Quality Assurance Project Plan (QAPP) was prepared on behalf of 450 Union LLC and 450 Union Developer LLC c/o Pilot Real Estate Group LLC (the Volunteer), for 450 Union Street (the Site) in Brooklyn, New York. A Site Location map is provided as Attachment A. The Volunteer entered into the New York State Brownfield Cleanup Program (BCP Site ID. C224219) under the Brownfield Cleanup Agreement (BCA) dated September 1, 2015 and amended on March 13, 2020. A Site Location Map is provided in Attachment A. Additional site information and data collected previously by Langan and others is provided in the Site Management Plan (SMP).

This QAPP accompanies the SMP and specifies analytical methods to be used to ensure that data collected during site management activities are precise, accurate, representative, comparable, complete and meet the sensitivity requirements of the project.

1.1 Project Objectives

Sampling is not anticipated during implementation of the SMP. Future building renovations and improvements or new construction requiring the disturbance, excavation, and/or off-site removal of soil may warrant the collection and analysis of soil samples in accordance with the Excavation Work Plan (EWP) of the SMP, and NYSDEC Division of Environmental Remediation (DER)-10: Technical Guidance for Site Investigation and Remediation. Any future environmental sampling may only take place after an updated version of the QAPP is submitted for approval by the NYSDEC. The updated QAPP will include any changes to the site since the QAPP was last approved.

2.0 DATA QUALITY OBJECTIVES AND PROCESSES

Data Quality Objectives (DQOs) are qualitative and quantitative statements to help ensure that data of known and appropriate quality are obtained during the project. The overall project objective is to implement remedial action for well installation. The sampling program includes collection of soil and/or groundwater samples to obtain approval for disposal at a permitted facility(s). DQOs for sampling activities are determined by evaluating five factors:

- Data needs and uses: The types of data required and how the data will be used after it is obtained.
- Parameters of Interest: The types of chemical or physical parameters required for the intended use.
- Level of Concern: Levels of constituents, which may require remedial actions or further investigations.
- Required Analytical Level: The level of data quality, data precision, and QA/QC documentation required for chemical analysis.
- Required Detection Limits: The detection limits necessary based on the above information.

The quality assurance and quality control objectives for all measurement data include:

- **Precision** – an expression of the reproducibility of measurements of the same parameter under a given set of conditions. Field sampling precision will be determined by analyzing coded duplicate samples and analytical precision will be determined by analyzing internal QC duplicates and/or matrix spike duplicates.
- **Accuracy** – a measure of the degree of agreement of a measured value with the true or expected value of the quantity of concern. For soil and groundwater samples, accuracy will be determined through the assessment of the analytical results of field blanks and trip blanks for each sample set. Analytical accuracy will be assessed by examining the percent recoveries of surrogate compounds that are added to each sample (organic analyses only), internal standards, laboratory method blanks, instrument calibration, and the percent recoveries of matrix spike compounds added to selected samples and laboratory blanks. For soil vapor or air samples, analytical accuracy will be assessed by examining the percent recoveries that are added to each sample, internal standards, laboratory method blanks, and instrument calibration.
- **Representativeness** – expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is dependent upon the adequate design of the sampling program and will be satisfied by ensuring that the scope of work is followed and that specified sampling and analysis techniques are used. Representativeness in the laboratory is ensured by compliance to nationally-recognized analytical methods, meeting sample holding times, and maintaining sample integrity

while the samples are in the laboratory’s possession. This is accomplished by following all applicable methods, laboratory-issued standard operating procedures (SOPs), the laboratory’s Quality Assurance Manual, and this QAPP. The laboratory is required to be properly certified and accredited.

- **Completeness** – the percentage of measurements made which are judged to be valid. Completeness will be assessed through data validation. The QC objective for completeness is generation of valid data for at least 90 percent of the analyses requested.
- **Comparability** – expresses the degree of confidence with which one data set can be compared to another. The comparability of all data collected for this project will be ensured using several procedures, including standard methods for sampling and analysis as documented in the QAPP, using standard reporting units and reporting formats, and data validation.
- **Sensitivity** – the ability of the instrument or method to detect target analytes at the levels of interest. The project manager will select, with input from the laboratory and QA personnel, sampling and analytical procedures that achieve the required levels of detection.

3.0 PROJECT ORGANIZATION

Remedial activities and investigations will be overseen by Langan or another environmental consultant for the Volunteer. The environmental consultant will also arrange data analysis and reporting tasks. The analytical services will be performed by an ELAP-certified laboratory. Data validation services will be performed by approved data validation personnel.

Sampling is not anticipated during implementation of the SMP. Soil samples may be collected during future invasive/excavation activities to assess potential impacts from contaminant source, waste characterization sampling, and health and safety monitoring.

Analytical services will be performed by York Analytical Laboratories, Inc., in Stratford, TC (NYSDOH ELAP certification numbers 10854 and 12058), or an approved alternate ELAP-certified laboratory. Data validation will not be performed on waste characterization samples. If other remedial performance samples are collected, data validation services will be performed by Joe Conboy; resume attached (Attachment B).

Key contacts for this project are as follows:

Langan Technical Manager:	Mr. Albert Tashji, P.E. Telephone: (212) 479-5508 Fax: (212) 479-5444
Langan Project Manager:	Mrs. Mimi Raygorodetsky Telephone: (212) 479-5441
Langan Quality Assurance Officer (QAO):	Mr. Michael D. Burke, CHMM Telephone: (212) 479-5413
Data Validator and Program Quality Assurance Monitor:	Mr. Joe Conboy Telephone: (215) 845-8985 Fax: (212) 479-5444
Laboratory Representative:	York Analytical Laboratories, Inc. Patty Els Telephone: (203) 325-1371 ext. 853

4.0 QUALITY ASSURANCE/QUALITY CONTROL OBJECTIVES FOR MEASUREMENT OF DATA

The overall quality assurance objective is to develop and implement procedures for sampling, laboratory analysis, field measurements, and reporting that will provide data of sufficient quality for the remedial investigation at the site. The sample set, chemical analysis results, and interpretations must be based on data that meet or exceed quality assurance objectives established for the site. Quality assurance objectives are usually expressed in terms of accuracy or bias, sensitivity, completeness, representativeness, comparability, and sensitivity of analysis. Variances from the quality assurance objectives at any stage of the investigation will result in the implementation of appropriate corrective measures and an assessment of the impact of corrective measures on the usability of the data.

4.1 Precision

Precision is a measure of the degree to which two or more measurements are in agreement. Field precision is assessed through the collection and measurement of field duplicates. Laboratory precision and sample heterogeneity also contribute to the uncertainty of field duplicate measurements. This uncertainty is taken into account during the data assessment process. For field duplicates, results less than 2x the reporting limit (RL) meet the precision criteria if the absolute difference is less than ±2x the RL and acceptable based on professional judgement. For results greater than 2x the RL, the acceptance criteria is a relative percent difference (RPD) of ≤50% (soil and air), <30% (water). RLs and method detection limits (MDL) are provided in Attachment C.

4.2 Accuracy

Accuracy is the measurement of the reproducibility of the sampling and analytical methodology. It should be noted that precise data may not be accurate data. For the purpose of this QAPP, bias is defined as the constant or systematic distortion of a measurement process, which manifests itself as a persistent positive or negative deviation from the known or true value. This may be due to (but not limited to) improper sample collection, sample matrix, poorly calibrated analytical or sampling equipment, or limitations or errors in analytical methods and techniques.

Accuracy in the field is assessed through the use of field blanks and through compliance to all sample handling, preservation, and holding time requirements. All field blanks should be non-detect when analyzed by the laboratory. Any contaminant detected in an associated field blank will be evaluated against laboratory blanks (preparation or method) and evaluated against field samples collected on the same day to determine potential for bias. Trip blanks are not required for non-aqueous matrices but are planned for non-aqueous matrices where high concentrations of VOCs are anticipated.

Laboratory accuracy is assessed by evaluating the percent recoveries of matrix spike/matrix spike duplicate (MS/MSD) samples, laboratory control samples (LCS), surrogate compound recoveries, and the results of method preparation blanks. MS/MSD, LCS, and surrogate percent recoveries will be compared to either method-specific control limits or laboratory-derived control limits. Sample volume permitting, samples displaying outliers should be reanalyzed. All associated method blanks should be non-detect when analyzed by the laboratory.

4.3 Representativeness

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition within a defined spatial and/or temporal boundary. Representativeness is dependent upon the adequate design of the sampling program and will be satisfied by ensuring that the scope of work is followed and that specified sampling and analysis techniques are used. This is performed by following applicable standard operating procedures (SOPs) and this QAPP. All field technicians will be given copies of appropriate documents prior to sampling events and are required to read, understand, and follow each document as it pertains to the tasks at hand.

Representativeness in the laboratory is ensured by compliance to nationally-recognized analytical methods, meeting sample holding times, and maintaining sample integrity while the samples are in the laboratory's possession. This is performed by following all applicable EPA methods, laboratory-issued SOPs, the laboratory’s Quality Assurance Manual, and this QAPP. The laboratory is required to be properly certified and accredited.

4.4 Completeness

Laboratory completeness is the ratio of total number of samples analyzed and verified as acceptable compared to the number of samples submitted to the fixed-base laboratory for analysis, expressed as a percent. Three measures of completeness are defined:

- Sampling completeness, defined as the number of valid samples collected relative to the number of samples planned for collection;
- Analytical completeness, defined as the number of valid sample measurements relative to the number of valid samples collected; and
- Overall completeness, defined as the number of valid sample measurements relative to the number of samples planned for collection.

Air, soil vapor, soil, and groundwater data will meet a 90% completeness criterion. If the criterion is not met, sample results will be evaluated for trends in rejected and unusable data. The effect of unusable data required for a determination of compliance will also be evaluated.

4.5 Comparability

Comparability is an expression of the confidence with which one data set can be compared to another. Comparability is dependent upon the proper design of the sampling program and will be satisfied by ensuring that the sampling plan is followed and that sampling is performed according to the SOPs or other project-specific procedures. Analytical data will be comparable when similar sampling and analytical methods are used as documented in the QAPP. Comparability will be controlled by requiring the use of specific nationally-recognized analytical methods and requiring consistent method performance criteria. Comparability is also dependent on similar quality assurance objectives. Previously collected data will be evaluated to determine whether they may be combined with contemporary data sets.

4.6 Sensitivity

Sensitivity is the ability of the instrument or method to detect target analytes at the levels of interest. The project director will select, with input from the laboratory and QA personnel, sampling and analytical procedures that achieve the required levels of detection and QC acceptance limits that meet established performance criteria. Concurrently, the project director will select the level of data assessment to ensure that only data meeting the project DQOs are used in decision-making.

Field equipment will be used that can achieve the required levels of detection for analytical measurements in the field. In addition, the field sampling staff will collect and submit full volumes of samples as required by the laboratory for analysis, whenever possible. Full volume aliquots will help ensure achievement of the required limits of detection and allow for reanalysis if necessary. The concentration of the lowest level check standard in a multi-point calibration curve will represent the reporting limit.

Analytical methods and quality assurance parameters associated with the sampling program are presented in Attachment D. The frequency of associated field blanks and duplicate samples will be based on the recommendations listed in DER-10, and as described in Section 5.3.

Site-specific MS and MSD samples will be prepared and analyzed by the analytical laboratory by spiking an aliquot of submitted sample volume with analytes of interest. Additional sample volume is not required by the laboratory for this purpose. An MS/MSD analysis will be analyzed at a rate of 1 out of every 20 samples, or one per analytical batch. MS/MSD samples are only required for soil and groundwater samples.

5.0 SAMPLE COLLECTION AND FIELD DATA ACQUISITION PROCEDURES

Soil sampling will be conducted in accordance with the established NYSDEC protocols contained in DER-10/Technical Guidance for Site Investigation and Remediation (May 2010). The following sections describe procedures to be followed for specific tasks.

5.1 Field Documentation Procedures

Field documentation procedures will include summarizing field observations in field books, tracking contractor progress of the remedial action, logging soil and/or water samples collected, and proper sample labeling. These procedures are described in the following sections.

5.1.1 Field Data and Notes

Field notebooks contain the documentary evidence regarding procedures conducted by field personnel. Hard cover, bound field notebooks will be used because of their compact size, durability, and secure page binding. The pages of the notebook will not be removed.

Entries will be made in waterproof, permanent blue or black ink. No erasures will be allowed. If an incorrect entry is made, the information will be crossed out with a single strike mark and the change initialed and dated by the team member making the change. Each entry will be dated. Entries will be legible and contain accurate and complete documentation of the individual or sampling team's activities or observations made. The level of detail will be sufficient to explain and reconstruct the activity conducted. Each entry will be signed by the person(s) making the entry.

The following types of information will be provided for each sampling task, as appropriate:

- Project name and number
- Reasons for being on-site or taking the sample
- Date and time of activity
- Sample identification numbers
- Geographical location of sampling points with references to the site, other facilities or a map coordinate system. Sketches will be made in the field logbook when appropriate
- Physical location of sampling locations such as depth below ground surface
- Description of the method of sampling including procedures followed, equipment used and any departure from the specified procedures
- Description of the sample including physical characteristics, odor, etc.
- Readings obtained from health and safety equipment
- Weather conditions at the time of sampling and previous meteorological events that may affect the representative nature of a sample

- Photographic information including a brief description of what was photographed, the date and time, the compass direction of the picture and the number of the picture on the camera
- Other pertinent observations such as the presence of other persons on the site, actions by others that may affect performance of site tasks, etc.
- Names of sampling personnel and signature of persons making entries

5.1.2 Sample Labeling

Each sample collected will be assigned a unique identification number in accordance with the sample nomenclature guidance included in Attachment E, and placed in an appropriate sample container. Each sample container will have a sample label affixed to the outside with the date and time of sample collection and project name. In addition, the label will contain the sample identification number, analysis required and chemical preservatives added, if any. All documentation will be completed in waterproof ink.

5.2 Equipment Calibration and Preventative Maintenance

A photoionization detector (PID) will be used during the sampling activities to evaluate work zone action levels and screen soil during well installation and before collecting waste characterization samples. Field calibration and/or field checking of the PID will be the responsibility of the field team leader and the site HSO, and will be accomplished by following the procedures outlined in the operating manual for the instrument. An air monitor capable of measuring particulate matter up to 10 micrometers (µm) in diameter will be used to evaluate perimeter air quality resulting from the work. At a minimum, field calibration and/or field equipment checking will be performed once daily, prior to use. Field calibration will be documented in the field notebook. Entries made into the logbook regarding the status of field equipment will include the following information:

- Date and time of calibration
- Type of equipment serviced and identification number (such as serial number)
- Reference standard used for calibration
- Calibration and/or maintenance procedure used
- Other pertinent information

Equipment that fails calibration or becomes inoperable during use will be removed from service and segregated to prevent inadvertent utilization. The equipment will be properly tagged to indicate that it is out of calibration. Such equipment will be repaired and recalibrated to the manufacturer's specifications by qualified personnel. Equipment that cannot be repaired will be replaced.

Off-site calibration and maintenance of field instruments will be conducted as appropriate throughout the duration of project activities. All field instrumentation, sampling equipment and accessories will be maintained in accordance with the manufacturer's recommendations and specifications and established field equipment practice. Off-site calibration and maintenance will be performed by qualified personnel. A logbook will be kept to document that established calibration and maintenance procedures have been followed. Documentation will include both scheduled and unscheduled maintenance.

5.3 Sample Collection

Soil Samples

Soil samples will be visually classified and field screened using a PID to assess potential impacts from VOCs and for health and safety monitoring. Soil samples collected for analysis of VOCs will be collected using either EnCore® or Terra Core® sampling equipment. For analysis of non-volatile parameters, samples will be homogenized and placed into glass jars. After collection, all sample jars will be capped and securely tightened, and placed in iced coolers and maintained at 4°C ±2°C until they are transferred to the laboratory for analysis, in accordance with the procedures outlined in Section 5.4. Analysis and/or extraction and digestion of collected soil samples will meet the holding times required for each analyte as specified in Attachment D. In addition, analysis of collected soil sample will meet all quality assurance criteria set forth by this QAPP and DER-10.

Sample Field Blanks and Duplicates for Remedial Performance Sampling

Field blanks will be collected for quality assurance purposes at a rate of one per 20 investigative samples per matrix (soil and groundwater only). Field blanks will be obtained by pouring laboratory-demonstrated analyte-free water on or through a decontaminated sampling device following use and implementation of decontamination protocols. The water will be collected off of the sampling device into a laboratory-provided sample container for analysis. Field blank samples will be analyzed for the complete list of analytes on the day of sampling. Trip blanks will be collected for each sample shipment that includes VOC analysis.

Duplicate soil samples will be collected and analyzed for quality assurance purposes. Duplicate samples will be collected at a frequency of 1 per 20 samples and will be submitted to the laboratory as “blind” samples. If less than 20 samples are collected during a particular sampling event, one duplicate sample will be collected.

5.4 Sample Containers and Handling

Certified, commercially clean sample containers will be obtained from the analytical laboratory. For soil and groundwater samples, the laboratory will also prepare and supply the required trip blanks and field blank sample containers and reagent preservatives. Sample bottle containers, including the field blank containers, will be placed into plastic coolers by the laboratory. These coolers will be received by the field sampling team within 24 hours of their preparation in the laboratory. Prior to the commencement of field work, Langan field personnel will fill the plastic coolers with ice in Ziploc® bags (or equivalent) to maintain a temperature of 4° ±2° C.

Soil samples collected in the field for laboratory analysis will be placed directly into the laboratory-supplied sample containers. Samples will then be placed and stored on-ice in laboratory provided coolers until shipment to the laboratory. The temperature in the coolers containing samples and associated field blanks will be maintained at a temperature of 4°±2°C while on-site and during sample shipment to the analytical laboratory.

Possession of samples collected in the field will be traceable from the time of collection until they are analyzed by the analytical laboratory or are properly disposed. Chain-of-custody procedures, described in Section 5.9, will be followed to maintain and document sample possession. Samples will be packaged and shipped as described in Section 5.6.

5.5 Sample Preservation

Sample preservation measures will be used in an attempt to prevent sample decomposition by contamination, degradation, biological transformation, chemical interactions and other factors during the time between sample collection and analysis. Preservation will commence at the time of sample collection and will continue until analyses are performed. Should chemical preservation be required, the analytical laboratory will add the preservatives to the appropriate sample containers before shipment to the office or field. Samples will be preserved according to the requirements of the specific analytical method selected, as shown in Attachment D.

5.6 Sample Shipment

5.6.1 Packaging

Soil sample containers will be placed in plastic coolers. Ice in Ziploc® bags (or equivalent) will be placed around sample containers. Cushioning material will be added around the sample containers if necessary. Chains-of-custody and other paperwork will be placed in a Ziploc® bag (or equivalent) and placed inside the cooler. The cooler will be taped closed and custody seals will be affixed to one side of the cooler at a minimum. If the samples are being shipped by an express delivery company (e.g. FedEx) then laboratory address labels will be placed on top of the cooler.

5.6.2 Shipping

Standard procedures to be followed for shipping environmental samples to the analytical laboratory are outlined below.

- All efforts will be made to transport environmental samples to the laboratory within 24 hours from the time of collection by a laboratory-provided courier or express delivery company (e.g. FedEx) under the chain-of-custody protocols described in Section 5.9.
- Prior notice will be provided to the laboratory regarding when to expect shipped samples. If the number, type or date of shipment changes due to site constraints or program changes, the laboratory will be informed.

5.7 Decontamination Procedures

Decontamination procedures will be used for non-dedicated sampling equipment. Decontamination of field personnel is discussed in the site-specific sample Health and Safety Plan (HASP) included in Appendix B of the RIWP. Field sampling equipment that is to be reused will be decontaminated in the field in accordance with the following procedures:

1. Laboratory-grade glassware detergent and tap water scrub to remove visual contamination
2. Generous tap water rinse
3. Distilled/de-ionized water rinse

5.8 Residuals Management

Debris (e.g., paper, plastic and disposable PPE) will be collected in plastic garbage bags and disposed of as non-hazardous industrial waste. Debris is expected to be transported to a local municipal landfill for disposal.

Residual fluids (such as dewatering fluids) will be collected by pumping into a dedicated DOT-approved (or equivalent) vehicle for transport and off-site disposal. The residual fluids will be disposed of off-site in accordance with applicable federal and state regulations. Residual fluids such as decontamination water may be discharged to the ground surface, however, if gross contamination is observed, the residual fluids will be collected, stored, and transported similar purge water or other residual fluids.

5.9 Chain of Custody Procedures

A chain-of-custody protocol has been established for collected samples that will be followed during sample handling activities in both field and laboratory operations. The primary purpose of the chain-of-custody procedures is to document the possession of the samples from collection through shipping, storage and analysis to data reporting and disposal. Chain-of-custody refers to actual possession of the samples. Samples are considered to be in custody if they are within sight of the individual responsible for their security or locked in a secure location. Each person who takes possession of the samples, except the shipping courier, is responsible for sample integrity and safe keeping. Chain-of-custody procedures are provided below:

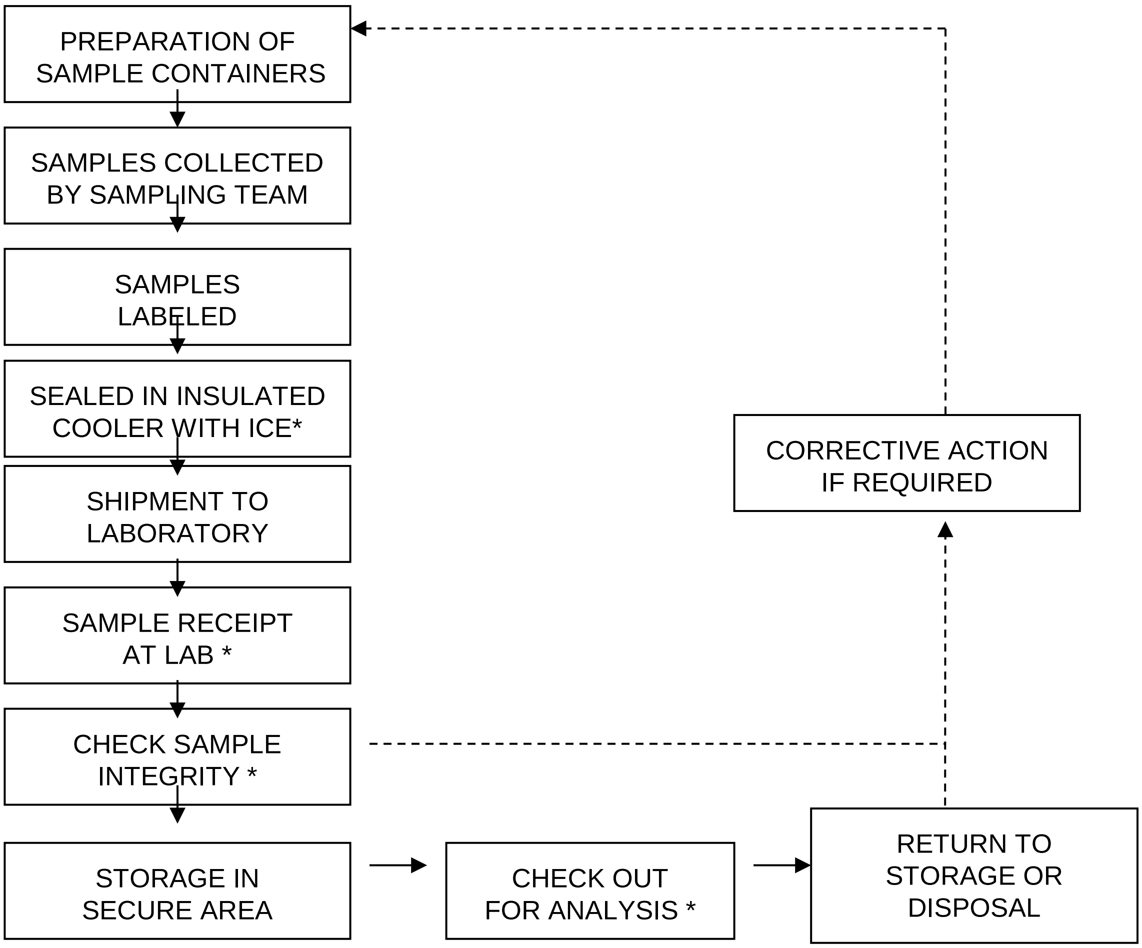
- Chain-of-custody will be initiated by the laboratory supplying the pre-cleaned and prepared sample containers. Chain-of-custody forms will accompany the sample containers.
- Following sample collection, the chain-of-custody form will be completed for the sample collected. The sample identification number, date and time of sample collection, analysis requested and other pertinent information (e.g., preservatives) will be recorded on the form. All entries will be made in waterproof, permanent blue or black ink.
- Langan field personnel will be responsible for the care and custody of the samples collected until the samples are transferred to another party, dispatched to the laboratory, or disposed. The sampling team leader will be responsible for enforcing chain-of-custody procedures during field work.
- When the form is full or when all samples have been collected that will fit in a single cooler, the sampling team leader will check the form for possible errors and sign the

chain-of-custody form. Any necessary corrections will be made to the record with a single strike mark, dated, and initialed.

Sample coolers will be accompanied by the chain-of-custody form, sealed in a Ziploc® bag (or equivalent) and placed on top of the samples or taped to the inside of the cooler lid. If applicable, a shipping bill will be completed for each cooler and the shipping bill number recorded on the chain-of-custody form.

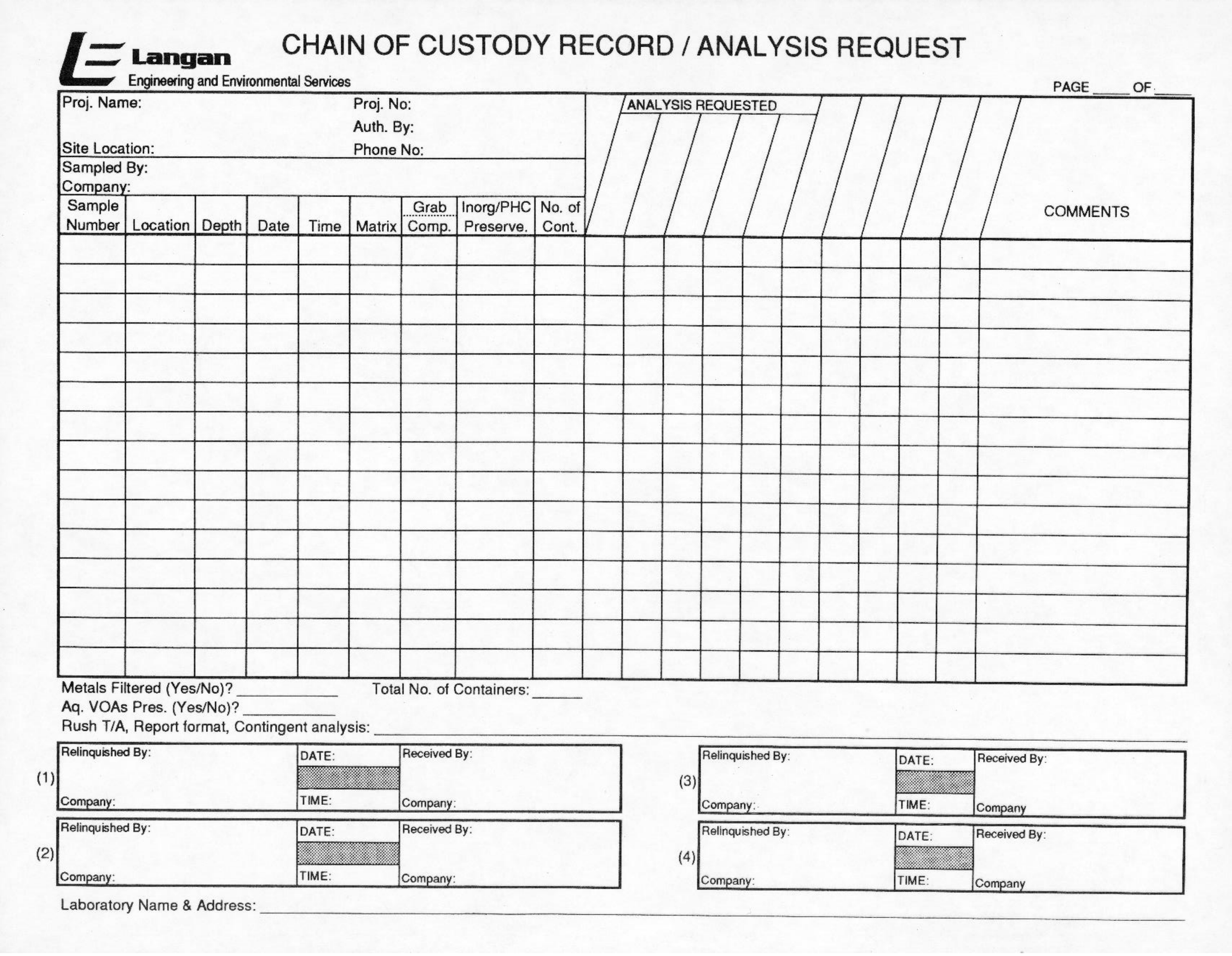
Samples will be packaged for shipment to the laboratory with the appropriate chain-of-custody form. A copy of the form will be retained by the sampling team for the project file and the original will be sent to the laboratory with the samples. Bills of lading will also be retained as part of the documentation for the chain-of-custody records, if applicable. When transferring custody of the samples, the individuals relinquishing and receiving custody of the samples will verify sample numbers and condition and will document the sample acquisition and transfer by signing and dating the chain-of-custody form. This process documents sample custody transfer from the sampler to the analytical laboratory. A flow chart showing a sample custody process is included as Figure 5.1, and a chain-of-custody form is included as Figure 5.2.

Figure 5.1 Sample Custody



* REQUIRES SIGN-OFF ON CHAIN-OF-CUSTODY FORM

Figure 5.2 Sample Chain-of-Custody Form



Langan
Engineering and Environmental Services

CHAIN OF CUSTODY RECORD / ANALYSIS REQUEST

PAGE _____ OF _____

Proj. Name:
Proj. No:
Auth. By:
Site Location:
Phone No:
Sampled By:
Company:

Sample Number	Location	Depth	Date	Time	Matrix	Grab Comp.	Inorg/PHC Preserve.	No. of Cont.	ANALYSIS REQUESTED										COMMENTS

Metals Filtered (Yes/No)? ___________ Total No. of Containers: ______
Aq. VOAs Pres. (Yes/No)? ___________
Rush T/A, Report format, Contingent analysis: ___________

	Relinquished By: / Company:	DATE: / TIME:	Received By: / Company:
(1)	Relinquished By: Company:	DATE: ▨ TIME:	Received By: Company:
(2)	Relinquished By: Company:	DATE: ▨ TIME:	Received By: Company:
(3)	Relinquished By: Company:	DATE: ▨ TIME:	Received By: Company
(4)	Relinquished By: Company:	DATE: ▨ TIME:	Received By: Company

Laboratory Name & Address: ___________

Laboratory chain-of-custody will be maintained throughout the analytical processes as described in the laboratory's Quality Assurance Manual. The analytical laboratory will provide a copy of the chain-of-custody in the analytical data deliverable package. The chain-of-custody becomes the permanent record of sample handling and shipment.

5.10 Laboratory Sample Storage Procedures

The subcontracted laboratory will use a laboratory information management system (LIMS) to track and schedule samples upon receipt by the analytical laboratories. Any sample anomalies identified during sample log-in must be evaluated on individual merit for the impact upon the results and the data quality objectives of the project. When irregularities do exist, the environmental consultant must be notified to discuss recommended courses of action and documentation of the issue must be included in the project file.

For samples requiring thermal preservation, the temperature of each cooler will be immediately recorded. Each sample and container will be will be assigned a unique laboratory identification number and secured within the custody room walk-in coolers designated for new samples. Samples will be, as soon as practical, disbursed in a manner that is functional for the operational team. The temperature of all coolers and freezers will be monitored and recorded using a certified temperature sensor. Any temperature excursions outside of acceptance criteria (i.e., below 2°C or above 6°C) will initiate an investigation to determine whether any samples may have been affected. Samples for VOCs will be maintained in satellite storage areas within the VOC laboratory. Following analysis, the laboratory's specific procedures for retention and disposal will be followed as specified in the laboratory's SOPs and/or QA manual.

6.0 DATA REDUCTION, VALIDATION, AND REPORTING

Remedial performance sampling is not proposed; however, if collected, data will be reduced and reviewed by the laboratory QA personnel, and a report on the findings will be tabulated in a standard format. The criteria used to identify and quantify the analytes will be those specified for the applicable methods in the USEPA SW-846 and subsequent updates. The data package provided by the laboratory will contain all items specified in the USEPA SW-846 appropriate for the analyses to be performed, and be reported in standard format.

The completed copies of the chain-of-custody records (both external and internal) accompanying each sample from time of initial bottle preparation to completion of analysis shall be attached to the analytical reports.

6.1 Data Reduction

The Analytical Services Protocol (ASP) Category B data packages and an electronic data deliverable (EDD) will be provided by the laboratory after receipt of a complete sample delivery group. The Project Manager will immediately arrange for archiving the results and preparation of result tables. These tables will form the database for assessment of the site contamination condition.

Each EDD deliverable must be formatted using a Microsoft Windows operating system and the NYSDEC data deliverable format for EQuIS. To avoid transcription errors, data will be loaded directly into the ASCII format from the laboratory information management system (LIMS). If this cannot be accomplished, the consultant should be notified via letter of transmittal indicating that manual entry of data is required for a particular method of analysis. All EDDs must also undergo a QC check by the laboratory before delivery. The original data, tabulations, and electronic media are stored in a secure and retrievable fashion.

The Project Manager or Task Manager will maintain close contact with the QA reviewer to ensure all non-conformance issues are acted upon prior to data manipulation and assessment routines. Once the QA review has been completed, the Project Manager may direct the Team Leaders or others to initiate and finalize the analytical data assessment.

6.2 Data Validation

Data validation will be performed in accordance with the USEPA validation guidelines for organic and inorganic data review. Validation will include the following:

- Verification of the QC sample results,
- Verification of the identification of sample results (both positive hits and non-detects),
- Recalculation of 10% of all investigative sample results, and
- Preparation of Data Usability Summary Reports (DUSR).

A DUSR will be prepared and reviewed by the QAO before issuance. The DUSR will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and COC procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method. A detailed assessment of each SDG will follow. For each of the organic analytical methods, the following will be assessed:

- Holding times;
- Instrument tuning;
- Instrument calibrations;
- Blank results;
- System monitoring compounds or surrogate recovery compounds (as applicable);
- Internal standard recovery results;
- MS and MSD results;
- Target compound identification;
- Chromatogram quality;
- Pesticide cleanup (if applicable);
- Compound quantitation and reported detection limits;
- System performance; and
- Results verification.

For each of the inorganic compounds, the following will be assessed:

- Holding times;
- Calibrations;
- Blank results;
- Interference check sample;
- Laboratory check samples;
- Duplicates;
- Matrix Spike;
- Furnace atomic absorption analysis QC;
- ICP serial dilutions; and
- Results verification and reported detection limits.

Based on the results of data validation, the validated analytical results reported by the laboratory will be assigned one of the following usability flags:

- "U" - Not detected. The associated number indicates the approximate sample concentration necessary to be detected significantly greater than the level of the highest associated blank;

- “UJ” - Not detected. Quantitation limit may be inaccurate or imprecise;
- “J” - Analyte is present. Reported value may be associated with a higher level of uncertainty than is normally expected with the analytical method
- “N” – Tentative identification. Analyte is considered present in the sample;
- “R” – Unreliable result; data is rejected or unusable. Analyte may or may not be present in the sample; and
- No Flag - Result accepted without qualification.

7.0 QUALITY ASSURANCE PERFORMANCE AUDITS AND SYSTEM AUDITS

Quality assurance audits may be performed by the project quality assurance group under the direction and approval of the QAO. These audits will be implemented to evaluate the capability and performance of project and subcontractor personnel, items, activities, and documentation of the measurement system(s). Functioning as an independent body and reporting directly to corporate quality assurance management, the QAO may plan, schedule, and approve system and performance audits based upon procedures customized to the project requirements. At times, the QAO may request additional personnel with specific expertise from company and/or project groups to assist in conducting performance audits. However, these personnel will not have responsibility for the project work associated with the performance audit.

7.1 System Audits

System audits may be performed by the QAO or designated auditors, and encompass a qualitative evaluation of measurement system components to ascertain their appropriate selection and application. In addition, field and laboratory quality control procedures and associated documentation may be system audited. These audits may be performed once during the performance of the project. However, if conditions adverse to quality are detected or if the Project Manager requests, additional audits may be performed.

7.2 Performance Audits

The laboratory may be required to conduct an analysis of Performance Evaluation samples or provide proof that Performance Evaluation samples submitted by USEPA or a state agency have been analyzed within the past twelve months.

7.3 Formal Audits

Formal audits refer to any system or performance audit that is documented and implemented by the QA group. These audits encompass documented activities performed by qualified lead auditors to a written procedure or checklists to objectively verify that quality assurance requirements have been developed, documented, and instituted in accordance with contractual and project criteria. Formal audits may be performed on project and subcontractor work at various locations.

Audit reports will be written by auditors who have performed the site audit after gathering and evaluating all data. Items, activities, and documents determined by lead auditors to be in noncompliance shall be identified at exit interviews conducted with the involved management. Non-compliances will be logged, and documented through audit findings, which are attached to and are a part of the integral audit report. These audit-finding forms are directed to management to satisfactorily resolve the noncompliance in a specified and timely manner.

The Project Manager has overall responsibility to ensure that all corrective actions necessary to resolve audit findings are acted upon promptly and satisfactorily. Audit reports must be submitted to the Project Manager within fifteen days of completion of the audit. Serious deficiencies will be reported to the Project Manager within 24 hours. All audit checklists, audit reports, audit findings, and acceptable resolutions are approved by the QAO prior to issue. Verification of acceptable resolutions may be determined by re-audit or documented surveillance of the item or activity. Upon verification acceptance, the QAO will close out the audit report and findings.

8.0 CORRECTIVE ACTION

8.1 Introduction

The following procedures have been established to ensure that conditions adverse to quality, such as malfunctions, deficiencies, deviations, and errors, are promptly investigated, documented, evaluated, and corrected.

8.2 Procedure Description

When a significant condition adverse to quality is noted at site, laboratory, or subcontractor location, the cause of the condition will be determined and corrective action will be taken to preclude repetition. Condition identification, cause, reference documents, and corrective action planned to be taken will be documented and reported to the QAO, Project Manager, Field Team Leader and involved contractor management, at a minimum. Implementation of corrective action is verified by documented follow-up action.

All project personnel have the responsibility, as part of the normal work duties, to promptly identify, solicit approved correction, and report conditions adverse to quality. Corrective actions will be initiated as follows:

- When predetermined acceptance standards are not attained;
- When procedure or data compiled are determined to be deficient;
- When equipment or instrumentation is found to be faulty;
- When samples and analytical test results are not clearly traceable;
- When quality assurance requirements have been violated;
- When designated approvals have been circumvented;
- As a result of system and performance audits;
- As a result of a management assessment;
- As a result of laboratory/field comparison studies; and
- As required by USEPA SW-846, and subsequent updates, or by the NYSDEC ASP.

Project management and staff, such as field investigation teams, remedial response planning personnel, and laboratory groups, monitor on-going work performance in the normal course of daily responsibilities. Work may be audited at the sites, laboratories, or contractor locations. Activities, or documents ascertained to be noncompliant with quality assurance requirements will be documented. Corrective actions will be mandated through audit finding sheets attached to the audit report. Audit findings are logged, maintained, and controlled by the Task Manager.

Personnel assigned to quality assurance functions will have the responsibility to issue and control Corrective Action Request (CAR) Forms (Figure 12.1 or similar). The CAR identifies the out-of-compliance condition, reference document(s), and recommended corrective action(s) to be administered. The CAR is issued to the personnel responsible for the affected item or activity. A copy is also submitted to the Project Manager. The individual to whom the CAR is addressed returns the requested response promptly to the QA personnel, affixing his/her signature and date to the corrective action block, after stating the cause of the conditions and corrective action to be taken. The QA personnel maintain the log for status of CARs, confirms the adequacy of the intended corrective action, and verifies its implementation. CARs will be retained in the project file for the records.

Any project personnel may identify noncompliance issues; however, the designated QA personnel are responsible for documenting, numbering, logging, and verifying the close out action. The Project Manager will be responsible for ensuring that all recommended corrective actions are implemented, documented, and approved.

Figure 8.1

CORRECTIVE ACTION REQUEST

Number: ____________________________ Date: ____________

TO: ____

You are hereby requested to take corrective actions indicated below and as otherwise determined by you to (a) resolve the noted condition and (b) to prevent it from recurring. Your written response is to be returned to the project quality assurance manager by ________________

CONDITION:

REFERENCE DOCUMENTS:

RECOMMENDED CORRECTIVE ACTIONS:

__________	______	__________	________	___________	________
Originator	Date	Approval	Date	Approval	Date

RESPONSE

CAUSE OF CONDITION

CORRECTIVE ACTION

(A) RESOLUTION

(B) PREVENTION

(C) AFFECTED DOCUMENTS

C.A. FOLLOWUP:

CORRECTIVE ACTION VERIFIED BY: ______________________________ DATE:_____________

9.0 REFERENCES

NYSDEC. Division of Environmental Remediation. DER-10/Technical Guidance for Site Investigation and Remediation, dated May 3, 2010.

NYSDOH. Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006.

Taylor, J. K., 1987. Quality Assurance of Chemical Measurements. Lewis Publishers, Inc., Chelsea, Michigan

USEPA, 1986. SW-846 "Test Method for Evaluating Solid Waste," dated November 1986. U.S. Environmental Protection Agency, Washington, D.C.

USEPA, 1987. Data Quality Objectives for Remedial Response Actions Activities: Development Process, EPA/540/G-87/003, OSWER Directive 9355.0-7- U.S. Environmental Protection Agency, Washington, D.C.

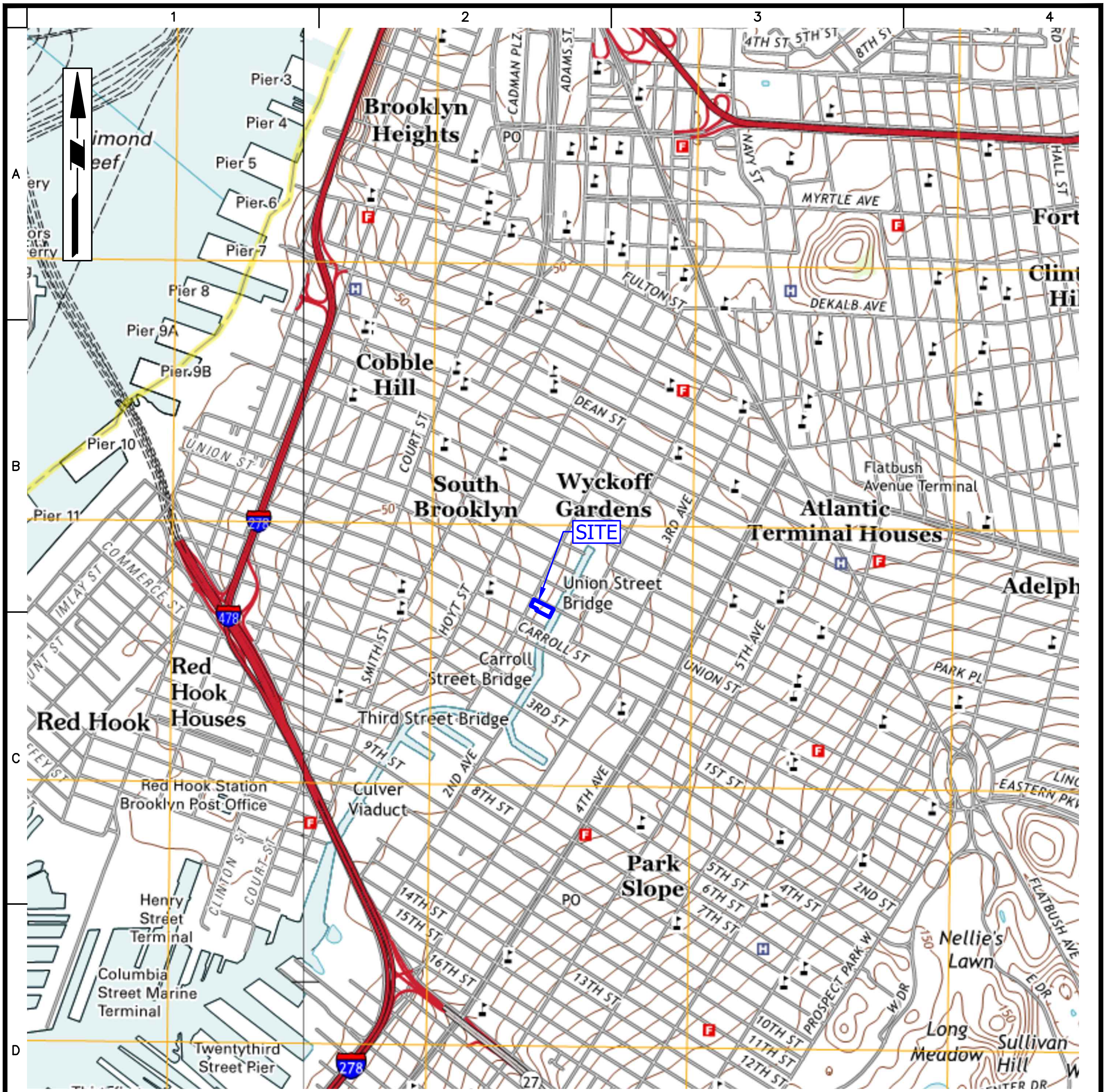
USEPA, 2012. ICP-AES Data Validation. SOP No. HW-2a, Revisions 15, dated December 2012, USEPA Region II.

USEPA, 2012. ICP-MS Data Validation. SOP No. HW-2b, Revisions 15, dated December 2012, USEPA Region II.

USEPA, 2012. Mercury and Cyanide Data Validation. SOP No. HW-2c, Revisions 15, dated December 2012, USEPA Region II.USEPA. Hazardous Waste Support Section. Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15. SOP No. HW-31, Revision #6, dated June 2014.

ATTACHMENT A

SITE LOCATION MAP



LEGEND:

▭ SUBJECT PROPERTY LOCATION

NOTE: BASE MAP IS REFERENCED FROM UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5-MINUTE TOPOGRAPHICAL QUADRANGLE MAPS FOR BROOKLYN, NY.

WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 145 FOR ANY PERSON, UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS ITEM IN ANY WAY.

2000 0 1000 2000

SCALE IN FEET

LANGAN Langan Engineering, Environmental, Surveying, Landscape Architecture and Geology, D.P.C. 21 Penn Plaza, 360 West 31st Street, 8th Floor New York, NY 10001 T: 212.479.5400 F: 212.479.5444 www.langan.com	Project **450 UNION STREET** BLOCK No. 438, LOT No. 7 CITY BROOKLYN NEW YORK	Drawing Title **SITE LOCATION MAP**	Project No. 170301202 Date 11/19/2019 Drawn By DC Checked By AT	Drawing No. **1** Sheet 1 of 1

Filename: \\langan.com\data\NYC\data2\170301202\Cadd Data - 170301202\2D-DesignFiles\Environmental\Phase I ESA\Figure 1 - Site Location Map.dwg Date: 8/28/2020 Time: 16:35 User: tschiefer Style Table: Langan.stb Layout: ANSIA-BP

ATTACHMENT B

RESUMES

JOSEPH CONBOY

STAFF CHEMIST

ENVIRONMNETAL

Mr. Conboy has seven years of environmental chemistry, quality assurance, and environmental database management experience, with a current emphasis on validation of laboratory data for submittal to NJDEP via the New Jersey Data of Known Quality Protocols and to NYSDEC. Previous work experience includes performing validation of data for projects in USEPA Regions 2 and 3 while employing appropriate validation guidelines for each region, managing large data sets, updating appropriate regulatory limits, performing statistical evaluations, and preparing electronic data deliverables and report deliverables using the Earthsoft EQuIS database program, and acted as an intermediary between project managers, field staff, and laboratories. Mr. Conboy also has experience in field sampling techniques and maintains current OSHA HAZWOPER certification.

SELECTED PROJECTS

- 1400 Ferris, Bronx, NY – Completed validation of soil and groundwater data and prepared the Data Usability Summary Report for submittal to NYSDEC. USEPA Region II guidelines, with aide from National Functional Guidelines, were employed to perform validation of VOCs and SVOCs including 1,4-dioxane, and tangentially used based on professional judgment to perform validation of PFAS data.
- Broome Street Parking Lot, NY - Completed validation of waste characterization data and prepared the Data Usability Summary Report for submittal to NYSDEC. USEPA Region II guidelines, with aide from National Functional Guidelines, were employed to perform validation of VOCs, SVOCs, herbicides, PCBs, pesticides, metals including mercury, ignitability temperature, pH, reactive cyanide, reactive sulfide, cyanide, and hexavalent chromium. Toxicity characteristic leachate procedure extraction data for VOCs, SVOCs, herbicides, pesticides, metals, and mercury were also validated.
- 215 North 10th Street, Brooklyn, NY - Completed validation of soil and groundwater data and prepared the Data Usability Summary Report for submittal to NYSDEC. USEPA Region II guidelines, with aide from National Functional Guidelines, were employed to perform validation of VOC, SVOC, SVOC SIM, herbicide, PCB, pesticide, metals, mercury, cyanide, hexavalent chromium, trivalent chromium data.
- 35 Commercial Street, Brooklyn, NY - Completed validation of soil data and prepared the Data Usability Summary Report for submittal to NYSDEC. USEPA Region II guidelines, with aide from National Functional Guidelines, were employed to perform validation of VOC, SVOC, SVOC SIM, herbicide, PCB, pesticide, metals, mercury, cyanide, hexavalent chromium, trivalent chromium data, and tangentially used based on professional judgment to perform validation of PFAS data.
- Suffolk Street, Lower East Side, NY- Completed validation of soil, groundwater, and soil vapor data and prepared the Data Usability Summary Report for submittal to NYSDEC. USEPA Region II

EDUCATION

B.Sc., Chemistry with a minor in Mathematics
Rowan University

CERTIFICATIONS & TRAINING

OSHA 40-Hour HAZWOPER 29 CFR 1910.120(e)(4) Certification

NJ Analytical Guidance and Data Usability Training

USEPA Data Validation Training

Earthsoft EQuIS Environmental Database Training guidelines, with aide from National Functional Guidelines, were employed to perform validation of VOC, VOCs by USEPA TO-15, SVOC, SVOC SIM, herbicide, PCB, pesticide, metals, mercury, cyanide, hexavalent chromium, trivalent chromium data, and tangentially used based on professional judgment to perform validation of PFAS data.

- Managed a database for a confidential client containing 10+ years of environmental chemical data from multiple laboratories, requiring select data validation in accordance with New Jersey Data of Known Quality Protocols and identifying areas of delineation from historic field information. Once identified, NJDEP designated groundwater, surface water, soil, sediment, soil vapor, and custom screening criteria were researched and applied to each area, requiring individualized flagging for reporting.*
- Prepared the New Jersey Data of Known Quality Protocol Data Usability Evaluation and managed the database for a confidential client for a data set greater than 20 years old. A DUE or any validation effort was not prepared in the 20 years prior to current. This included data from variations of methods for volatile organic compounds, semivolatile organic compounds, total and dissolved metals, pesticides, herbicides, natural attenuation parameters, and per- and polyfluoroalkyl substances in multiple media.*
- Performed 200+ Stage 2a validations for a combined 87-acre USEPA designated Corrective Action site under the Resource Conservation and Recovery Act, including a quick-turn USEPA required PCB by soxhlet extraction investigation across multiple plants. Once a former train car painting facility, USEPA required a quick-turn PCB by soxhlet extraction soil investigation.
- Preparation of a quality assurance program for a confidential client in West Virginia. A quick turn QAPP was prepared in a service location new to the consultant, resulting in research into state requirements for data usability and auditing newly employed laboratories. The QAPP was understood to be prepared for groundwater only, but the client did not reveal the need for sediment and soil. Two QAPPs were submitted for review to governing agencies.*
- Used statistical software to determine a localized background upper confidence limit of chromium for a confidential client’s sand and gravel site. Validation was used to confirm laboratory procedures, and data was used in ProUCL calculations to compare to researched background chromium levels for Pennsylvania soils. *
- Prepared daily perimeter dust and air monitoring summaries and validation of low level mirex data for a confidential client’s superfund site. Low level mirex data was generated by university laboratories and subject to validation following national functional guidelines to aide in river clean-up, including sediment, surface water, and treatment system water matrices.*

**Project completed prior to employment at LANGAN.*

MIMI RAYGORODETSKY

SENIOR ASSOCIATE / VICE PRESIDENT

ENVIRONMENTAL ENGINEERING

Ms. Raygorodetsky sources and directs large, complex environmental remediation and redevelopment projects from the earliest stages of pre-development diligence, through the remediation/construction phase, to long-term operation and monitoring of remedial systems and engineering controls. She has a comprehensive understanding of federal, state and local regulatory programs and she uses this expertise to guide her clients through a preliminary cost benefit analysis to select the right program(s) given the clients' legal obligations, development desires and risk tolerance. She is particularly strong at integrating the requirements of selected programs and client development needs to develop and design targeted and streamlined diligence programs and remediation strategies. Ms. Raygorodetsky is also highly skilled in integrating remediation with construction on large urban waterfront projects, which tend to more complex than landside projects.

SELECTED PROJECTS

- 25 Kent Avenue, Due Diligence for Purchase of a Brownfields Location, Brooklyn, NY
- Ferry Point Waterfront Park, Redevelopment of a Former Landfill into a Park, Bronx, NY
- Battery Maritime Building (10 South Street), Phase I ESA, New York, NY
- Residential Development at 351-357 Broadway, Phase 1 ESA, New York, NY
- 450 Union Street, Phase I and Phase II Remediation (NYS DEC Brownfield Cleanup Program), New York, NY
- Echo Bay Center, NYS DEC Brownfield Cleanup Program, New York, NY
- 420 Kent Avenue, NYS DEC Brownfield Cleanup Program, Brooklyn, NY
- 416 Kent Avenue, NYS DEC Brownfield Cleanup Program, Brooklyn, NY
- 264 Fifth Avenue, Phase I ESA, New York, NY
- 262 Fifth Avenue, Phase I ESA, New York, NY
- ABC Blocks 25-27 (Mixed-Use Properties), Brownfield Cleanup Program, Long Island City, NY
- Residences at 100 Barrow Street, Phase I ESA, New York, NY
- Residences at 22-12 Jackson Avenue, Due Diligence for Building Sale, Long Island City, NY
- Residences at 2253-2255 Broadway, Phase I and Phase II Services, New York, NY
- Prince Point, Phase I ESA, Staten Island, NY
- 787 Eleventh Avenue (Office Building Renovation), Phase I UST Closure, New York, NY
- 218 Front Street/98 Gold Street, Planning and Brownfield Consulting, Brooklyn, NY
- Mark JCH of Bensonhurst, Phase I and HazMat Renovation, Brooklyn, NY
- 39 West 23rd Street, E-Designation Brownfield, New York, NY

EDUCATION

B.A., Biology and Spanish Literature
Colby College

AFFILIATIONS

New York Women Executives in Real Estate (WX), Member

New York Building Congress, Council of Industry Women, Committee Member

New York City Brownfield Partnership, Founding Member and President

NYC Office of Environmental Remediation Technical Task Force, Committee Member

- 250 Water Street, Phase I and Phase II Property Transaction, New York, NY
- 27-19 44th Drive, Residential Redevelopment, Long Island City, NY
- 515 West 42nd Street, E-Designation, New York, NY
- 310 Meserole Street, Due Diligence Property Purchase, Brooklyn, NY
- Former Georgetown Heating Plant, HazMat and Phase I ESA, Washington D.C.
- 80-110 Flatbush Avenue, Brooklyn, NY
- 132 East 23rd Street, New York, NY
- 846 Sixth Avenue, New York, NY
- Greenpoint Landing, Remediation/Redevelopment, Brooklyn, NY
- 711 Eleventh Avenue, Due Diligence/Owner’s Representative, New York, NY
- Brooklyn Bridge Park, Pier 1, Waste Characterization and Remediation, Brooklyn, NY
- Post-Hurricane Sandy Mold Remediation, Various Private Homes, Far Rockaway, NY
- Brooklyn Bridge Park, One John Street Development, Pre-Construction Due Diligence and Construction Administration, Brooklyn, NY
- 7 West 21st Street, Brownfields Remediation, New York, NY
- 546 West 44th Street, Brownfields Remediation, New York, NY
- Post-Hurricane Sandy Mold Remediation, Various Private Homes, Nassau and Suffolk Counties, Long Island, NY
- 55 West 17th Street, Brownfield Site Support, New York, NY
- Pratt Institute, 550 Myrtle Avenue Renovations, Environmental Remediation, Brooklyn, NY
- 42-02 Crescent Street Redevelopment, Phase I and II Environmental, Long Island City, NY
- IAC Building (555 West 18th Street), New York, NY
- Retirement Communities on100-acre Parcels in ME, NJ, MA, CT, and NJ
- 363-365 Bond Street/400 Carroll Street, Brooklyn, NY
- 160 East 22nd Street, New York, NY
- 110 Third Avenue, New York, NY
- Lycee Francais (East 76th Street & York Avenue), New York, NY
- Winchester Arms Munitions Factory, New Haven, CT

MICHAEL D. BURKE, PG, CHMM, LEED AP

PRINCIPAL/VICE PRESIDENT

ENVIRONMENTAL ENGINEERING AND REMEDIATION

Mr. Burke is a geologist/environmental scientist whose practice involves site investigation and remediation, transactional due diligence, environmental site assessments, in-situ remedial technology, and manufactured gas plant (MGP) site characterization and remediation. His additional services include multi-media compliance audits, sub-slab depressurization system design, non-hazardous and hazardous waste management, emergency response, community air monitoring programs, environmental and geotechnical site investigations, and health and safety monitoring. He has experience with projects in the New York State Department of Environmental Conservation (NYSDEC) and New York State Brownfield Cleanup (NYS BCP) Programs; Inactive Hazardous Waste, and Spill Programs, and New York City Office of Environmental Remediation (OER) e-designated and New York City Voluntary Cleanup Program (NYC VCP) sites.

SELECTED PROJECTS

- 227-14 North Conduit Avenue, Industrial Wastewater Compliance, Jamaica, NY
- 420 Kent Avenue, NYS Brownfield Cleanup Program, Brooklyn, NY
- 572 Eleventh Avenue, NYC VCP, New York, NY
- Monian Site A, OER E-Designated Site, New York, NY
- 537 Sackett Street, Gowanus Canal Due Diligence/MGP Site, Brooklyn, NY
- ABC Blocks 25, 26 and 27, NYS Brownfield Cleanup Program Sites, Long Island City, NY
- 432 Rodney Street, NYS Brownfield Cleanup Program, Petroleum and Chlorinated Volatile Organic Compound Investigation and Remediation, Brooklyn, NY
- 787 Eleventh Avenue, NYS Brownfield Cleanup Program Site, New York, NY
- President Street at Gowanus Canal, NYS Brownfield Cleanup Program Site, Brooklyn, NY
- 22-36 Second Avenue at Gowanus Canal, NYS Brownfield Cleanup Program Site, Brooklyn, NY
- 563 Sacket Street, NYS Brownfield Cleanup Program Site, MGP Investigation, and Remediation, Brooklyn, NY
- 156-162 Perry Street, NYS Brownfield Cleanup Program Site, New York, NY
- Christopher and Weehawken Streets, NYS Brownfield Cleanup Program, New York, NY
- Phelps Dodge Block 2529 (Lots 40, 50, and 45), Inactive Hazardous Waste Disposal Site, Maspeth NY
- 42-50 24th Street, NYS Brownfield Cleanup Program Site, Long Island City, NY
- Storage Deluxe (163 6th Street), OER E-Designation Site, New York, NY

EDUCATION

M.S., Environmental Geology
Rutgers University

B.S., Geological Sciences
Rutgers University

B.S., Environmental Science
Rutgers University

PROFESSIONAL REGISTRATION

Professional Geologist (PG) in NY

Certified Hazardous Materials Manager – CHMM No. 15998

LEED Accredited Professional (LEED AP)

OSHA Certification for Hazardous Waste Site Supervisor

OSHA 29 CFR 1910.120 Certification for Hazardous Waste Operations and Emergency Response

NJDEP Certification for Community Noise Enforcement

Troxler Certification for Nuclear Densometer Training

- Prospect Park Redevelopment, Landfill Reclamation, Prospect Park, NJ
- 431 Carroll Street, Gowanus Canal Due Diligence, Brooklyn, NY
- 76 4th Street Property, Gowanus Due Diligence, Brooklyn, NY
- Foxgate/MREC, Due Diligence and Solid Waste Compliance, Central Islip, NY
- 175-225 3rd Street at Gowanus Canal, NYS Brownfield Cleanup Program, Brooklyn, NY
- New York University Tandon School of Engineering, Spill Investigation/Remediation Dual Phase Recovery, and Laser Fluorescence Investigation, Brooklyn, NY
- 2420-2430 Amsterdam Avenue, NYS Brownfield Cleanup Program/Board of Standards and Appeals Variance, New York, NY
- 170 Amsterdam Avenue, NYC VCP, New York, NY
- 538-540 Hudson Street, NYS Brownfield Cleanup Program (Former Gas Station), New York, NY
- 234 Butler Street, Gowanus Canal Due Diligence, Brooklyn, NY
- 550 Clinton Street, NYS Brownfield Cleanup Program E-Designation, Brooklyn, NY
- 111 Leroy Street, OER E-Designation Site, New York, NY
- 335 Bond Street, NYS Brownfield Cleanup Program, New York, NY
- Gowanus Canal Northside, NYS BCP Former Fuel Oil Terminal, Brooklyn, NY
- Multiple Buildings, Major Oil Storage Facility, Gowanus Canal Location, Brooklyn, NY
- 197-205 Smith Street at Gowanus Canal, MGP Due Diligence, Brooklyn, NY
- 450 Union Street at Gowanus Canal, NYS Brownfield Cleanup Program, Brooklyn, NY
- 86 Fleet Place, NYC VCP E-Designation, Brooklyn, NY
- New York University College of Nursing at 433 1st Avenue, NYS BCP, Bronx, NY
- Retail Building at 225 3rd Street, Brooklyn, NY
- 29-37 41st Avenue, NYS Brownfield Cleanup Program, Long Island City, NY
- 43-01 22nd Street, NYS Brownfield Cleanup Program, Long Island City, NY
- Compliance Audit for NYU at Washington Square Park, New York, NY
- Former Watermark Locations, NYS Brownfield Cleanup Program, Chlorinated Volatile Organic Compound Investigation and Remediation; AS/SVE, Brooklyn, NY
- Former Gas Station (1525 Bedford Avenue), Brooklyn, NY
- NYS Brownfield Cleanup Program at 514 West 24th Street, New York, NY
- Gowanus Canal Due Diligence at 76 4th Street, Brooklyn, NY
- Urban Health Plan, Medical Building, NYS Brownfield Cleanup Program CVOC Investigation and Remediation, Bronx, NY
- 420 East 54th Street, NYS Spill Closure, New York, NY
- Equity Residential at 160 Riverside Boulevard, NYS Spill Closure, New York, NY
- 357-359 West Street and 156 Leroy Street, NYC VCP, New York, NY
- Emergency Spill Response at 322 West 57th Street, Investigation and Closure, New York, NY

- Hurricane Sandy, Emergency Response at 21 West Street, New York, NY
- Hurricane Sandy, Emergency Response at 71 Pine Street, New York, NY
- Greenpoint Landing, NYC E-Designation, Brooklyn, NY
- 23-01 42nd Road, NYS Brownfield Cleanup Program, Long Island City, NY
- Greenpoint Waterfront Development, NYS Brownfield Cleanup Program, Brooklyn, NY
- 125th Street and Lenox Avenue, NYC VCP, New York, NY
- Whitehead Realty Solvent Site, Inactive Hazardous Waste site, CVOC Investigation and Remediation, Brooklyn, NY
- SunCap Property Group Environmental On-Call Consulting, Various Locations, Nationwide
- Consolidated Edison Company of New York, Underground Storage Tank On-Call Contract, Five Boroughs of New York City, NY
- Consolidated Edison Company of New York, Appendix B Spill Sites On-Call Contract, Five Boroughs of New York City, NY
- Meeker Avenue Plume Trackdown Site, Brooklyn, NY
- Distribution Facility, Superfund Redevelopment, Long Island City, NY
- Edison Properties, West 17th Street Development Site (Former MGP Site), New York, NY
- Con Edison on Governors Island, Dielectric Fluid Spill, Investigation and Remediation, New York, NY
- 144-150 Barrow Street, NYS Brownfield Cleanup Program, New York, NY
- West 17th Street Development, NYS Brownfield Cleanup Program, MGP Investigation and Remediation, New York, NY
- Montefiore Medical Center, Emergency Response, PCB Remediation, Bronx, NY
- New York University, 4 Washington Square Village Fuel Oil Remediation, New York, NY
- NYCSCA, Proposed New York City School Construction Sites, Five Boroughs of New York City, NY
- Con Edison, East 60th Street Generating Station, New York, NY
- Residential Building at 82 Irving Place, Environmental Remediation, New York, NY
- 1113 York Avenue, Storage Tank Closures, New York, NY
- Peter Cooper Village/Stuyvesant Town, Phase I ESA, New York, NY
- Superior Ink, Waste Characterization and Remedial Action Plans, New York, NY
- Bronx Mental Health Redevelopment Project, Phase I ESA, Bronx, NY
- 2950 Atlantic Avenue, Site Characterization Investigation, Brooklyn, NY
- Con Edison, East 74th Street Generating Station, Sediment Investigation, New York, NY
- Con Edison, First Avenue Properties, New York, NY
- Queens West Development Corp. Stage II, Long Island City, NY
- Article X Project Environmental Reviews, Various New York State Electrical Generation Sites, NY
- Poletti Generating Station, Astoria, NY
- Arthur Kill Generating Station, Staten Island, NY

- Distribution Facility, Phase I & Phase II ESA and Regulatory Compliance, Bohemia, NY
- Huntington Station Superfund Due Diligence, Huntington Station, NY
- Garvies Point Bulkhead, Glen Cove, NY
- Johnson & Hoffman Metal Stamping Facility, Environmental Compliance, Carle Place, NY
- Floral Park Storage Facility, Phase I and Phase II ESA
- Garden City Phase I ESAs at two sites, including part of a Superfund Site, Garden City, NY
- Huntington Station Storage Facility, Phase I and II ESA, Huntington Station, NY
- Trevor Day School, NYS Spill Site Expert Testimony, New York, NY

SELECTED PUBLICATIONS, REPORTS, AND PRESENTATIONS

Burke, M., Ciambruschini, S., Nicholls, G., Tashji, A., Vaidya, S., “Redeveloping a Remediated MGP Site”, MGP Symposium 2019, Atlantic City, NJ.

ALBERT G. TASHJI, PE, LEED GA

PROJECT ENGINEER

ENVIRONMENTAL ENGINEERING

Mr. Tashji is an engineer with experience working on environmental projects. He has consulting experience conducting New York State Brownfield Cleanup Program (BCP) applications, investigations and remediation; New York City Department of Environmental Protection (NYCDEP) E-designated site investigation and remediation; Phase I and II Environmental Site Assessments; Underground Storage Tank (UST) permitting, removal, closure, and reporting; and soil vapor intrusion investigations. He has supported project design needs including submembrane depressurization systems and remedial site-cover designs. His field experience includes: subsurface investigations; soil, groundwater, and air sampling programs; monitoring well installations; waste characterizations; and subcontractor oversight.

SELECTED PROJECTS

- West 17th Street Development, New York, NY
- 4 Washington Square Village, New York University, New York, NY
- 140 Sixth Avenue, New York, NY
- 1095 Southern Boulevard, Bronx, NY
- Brooklyn Cultural District: Apartments (BCD:A), Brooklyn, NY
- Yonkers H&I Site, Yonkers, NY
- Gotham West Development, New York, NY
- Hudson Yards Development, New York, NY
- 491 Wortman Avenue, Brooklyn, NY
- 627 Smith Street, Brooklyn, NY
- 177 Harrison Avenue Private School Development, Brooklyn, NY
- Hastings-on-Hudson Tank Pull, Westchester, NY
- River Side Park, West 42nd Street, New York, NY
- Pier 57, West 15th Street, New York, NY
- Governor’s Island Transformer Vault, Governor’s Island, NY
- Con Edison, 2950 Atlantic Avenue, Brooklyn, NY
- Brooklyn College, Brooklyn, NY
- Remsen Avenue, Brooklyn, NY
- New York University (NYU) Housing, New York, NY
- South Street, Elizabeth, NJ
- Abraham Joshua Heschel School, New York, NY

SELECTED PUBLICATIONS, REPORTS, AND PRESENTATIONS

Burke, M., Ciambruschini, S., Nicholls, G., Tashji, A., Vaidya, S., “Redeveloping a Remediated MGP Site”, MGP Symposium 2019, Atlantic City, NJ.

EDUCATION

M.E., Environmental Engineering
Manhattan College

B.E., Environmental Engineering
Manhattan College

PROFESSIONAL REGISTRATION

Professional Engineer (PE) in NY

LEED Green Associate (GA)

40-Hour OSHA HAZWOPER

10-Hour OSHA

AFFILIATIONS

American Society of Civil Engineers (ASCE)

US Green Building Council (USGBC)

ATTACHMENT C

LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

APPENDIX C

LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

Method	Matrix	Analyte	RL	MDL	Units
		Volatile Organic Compounds			
EPA 8260C/5035	Soil	1,1,1,2-Tetrachloroethane	0.001	0.000318	mg/kg
EPA 8260C/5035	Soil	1,1,1-Trichloroethane	0.001	0.0001108	mg/kg
EPA 8260C/5035	Soil	1,1,2,2-Tetrachloroethane	0.001	0.0001008	mg/kg
EPA 8260C/5035	Soil	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.02	0.000274	mg/kg
EPA 8260C/5035	Soil	1,1,2-Trichloroethane	0.0015	0.000304	mg/kg
EPA 8260C/5035	Soil	1,1-Dichloroethane	0.0015	0.0000856	mg/kg
EPA 8260C/5035	Soil	1,1-Dichloroethene	0.001	0.000262	mg/kg
EPA 8260C/5035	Soil	1,1-Dichloropropene	0.005	0.0001414	mg/kg
EPA 8260C/5035	Soil	1,2,3-Trichlorobenzene	0.005	0.0001476	mg/kg
EPA 8260C/5035	Soil	1,2,3-Trichloropropane	0.01	0.0001626	mg/kg
EPA 8260C/5035	Soil	1,2,4,5-Tetramethylbenzene	0.004	0.0001302	mg/kg
EPA 8260C/5035	Soil	1,2,4-Trichlorobenzene	0.005	0.0001818	mg/kg
EPA 8260C/5035	Soil	1,2,4-Trimethylbenzene	0.005	0.0001414	mg/kg
EPA 8260C/5035	Soil	1,2-Dibromo-3-chloropropane	0.005	0.000396	mg/kg
EPA 8260C/5035	Soil	1,2-Dibromoethane	0.004	0.0001744	mg/kg
EPA 8260C/5035	Soil	1,2-Dichlorobenzene	0.005	0.0001532	mg/kg
EPA 8260C/5035	Soil	1,2-Dichloroethane	0.001	0.0001134	mg/kg
EPA 8260C/5035	Soil	1,2-Dichloropropane	0.0035	0.000228	mg/kg
EPA 8260C/5035	Soil	1,3,5-Trimethylbenzene	0.005	0.0001434	mg/kg
EPA 8260C/5035	Soil	1,3-Dichlorobenzene	0.005	0.000135	mg/kg
EPA 8260C/5035	Soil	1,3-Dichloropropane	0.005	0.0001452	mg/kg
EPA 8260C/5035	Soil	1,4-Dichlorobenzene	0.005	0.0001384	mg/kg
EPA 8260C/5035	Soil	1,4-Diethylbenzene	0.004	0.0001598	mg/kg
EPA 8260C/5035	Soil	1,4-Dioxane	0.1	0.01442	mg/kg
EPA 8260C/5035	Soil	2,2-Dichloropropane	0.005	0.000226	mg/kg
EPA 8260C/5035	Soil	2-Butanone	0.01	0.000272	mg/kg
EPA 8260C/5035	Soil	2-Hexanone	0.01	0.000666	mg/kg
EPA 8260C/5035	Soil	4-Ethyltoluene	0.004	0.000124	mg/kg
EPA 8260C/5035	Soil	4-Methyl-2-pentanone	0.01	0.000244	mg/kg
EPA 8260C/5035	Soil	Acetone	0.01	0.001036	mg/kg
EPA 8260C/5035	Soil	Acrolein	0.025	0.00806	mg/kg
EPA 8260C/5035	Soil	Acrylonitrile	0.01	0.000514	mg/kg
EPA 8260C/5035	Soil	Benzene	0.001	0.000118	mg/kg
EPA 8260C/5035	Soil	Bromobenzene	0.005	0.000208	mg/kg
EPA 8260C/5035	Soil	Bromochloromethane	0.005	0.000276	mg/kg
EPA 8260C/5035	Soil	Bromodichloromethane	0.001	0.0001732	mg/kg
EPA 8260C/5035	Soil	Bromoform	0.004	0.000236	mg/kg
EPA 8260C/5035	Soil	Bromomethane	0.002	0.000338	mg/kg
EPA 8260C/5035	Soil	Carbon disulfide	0.01	0.001102	mg/kg
EPA 8260C/5035	Soil	Carbon tetrachloride	0.001	0.00021	mg/kg
EPA 8260C/5035	Soil	Chlorobenzene	0.001	0.000348	mg/kg
EPA 8260C/5035	Soil	Chloroethane	0.002	0.000316	mg/kg
EPA 8260C/5035	Soil	Chloroform	0.0015	0.00037	mg/kg
EPA 8260C/5035	Soil	Chloromethane	0.005	0.000294	mg/kg
EPA 8260C/5035	Soil	cis-1,2-Dichloroethene	0.001	0.0001428	mg/kg
EPA 8260C/5035	Soil	cis-1,3-Dichloropropene	0.001	0.0001176	mg/kg
EPA 8260C/5035	Soil	Cyclohexane	0.02	0.000146	mg/kg
EPA 8260C/5035	Soil	Dibromochloromethane	0.001	0.0001536	mg/kg
EPA 8260C/5035	Soil	Dibromomethane	0.01	0.0001636	mg/kg
EPA 8260C/5035	Soil	Dichlorodifluoromethane	0.01	0.0001908	mg/kg
EPA 8260C/5035	Soil	Ethyl ether	0.005	0.00026	mg/kg
EPA 8260C/5035	Soil	Ethylbenzene	0.001	0.0001274	mg/kg
EPA 8260C/5035	Soil	Hexachlorobutadiene	0.005	0.000228	mg/kg
EPA 8260C/5035	Soil	Isopropylbenzene	0.001	0.0001038	mg/kg
EPA 8260C/5035	Soil	Methyl Acetate	0.02	0.00027	mg/kg
EPA 8260C/5035	Soil	Methyl cyclohexane	0.004	0.0001546	mg/kg
EPA 8260C/5035	Soil	Methyl tert butyl ether	0.002	0.0000844	mg/kg
EPA 8260C/5035	Soil	Methylene chloride	0.01	0.001104	mg/kg
EPA 8260C/5035	Soil	Naphthalene	0.005	0.0001384	mg/kg
EPA 8260C/5035	Soil	n-Butylbenzene	0.001	0.0001148	mg/kg
EPA 8260C/5035	Soil	n-Propylbenzene	0.001	0.0001092	mg/kg
EPA 8260C/5035	Soil	o-Chlorotoluene	0.005	0.0001598	mg/kg
EPA 8260C/5035	Soil	o-Xylene	0.002	0.0001718	mg/kg
EPA 8260C/5035	Soil	p/m-Xylene	0.002	0.0001978	mg/kg
EPA 8260C/5035	Soil	p-Chlorotoluene	0.005	0.0001328	mg/kg
EPA 8260C/5035	Soil	p-Isopropyltoluene	0.001	0.000125	mg/kg
EPA 8260C/5035	Soil	sec-Butylbenzene	0.001	0.000122	mg/kg
EPA 8260C/5035	Soil	Styrene	0.002	0.000402	mg/kg
EPA 8260C/5035	Soil	tert-Butyl Alcohol	0.06	0.00292	mg/kg
EPA 8260C/5035	Soil	tert-Butylbenzene	0.005	0.0001354	mg/kg
EPA 8260C/5035	Soil	Tetrachloroethene	0.001	0.0001402	mg/kg
EPA 8260C/5035	Soil	Toluene	0.0015	0.0001948	mg/kg
EPA 8260C/5035	Soil	trans-1,2-Dichloroethene	0.0015	0.000212	mg/kg
EPA 8260C/5035	Soil	trans-1,3-Dichloropropene	0.001	0.0001208	mg/kg
EPA 8260C/5035	Soil	trans-1,4-Dichloro-2-butene	0.005	0.000392	mg/kg
EPA 8260C/5035	Soil	Trichloroethene	0.001	0.000125	mg/kg
EPA 8260C/5035	Soil	Trichlorofluoromethane	0.005	0.000388	mg/kg
EPA 8260C/5035	Soil	Vinyl acetate	0.01	0.0001322	mg/kg
EPA 8260C/5035	Soil	Vinyl chloride	0.002	0.0001174	mg/kg
EPA 8260C/5035	Soil	Xylenes, Total	0.002	0.0001978	mg/kg

APPENDIX C

LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

Method	Matrix	Analyte	RL	MDL	Units
Semivolatile Organic Compounds					
EPA 8270D	Soil	1,2,4,5-Tetrachlorobenzene	0.1665	0.0515817	mg/kg
EPA 8270D	Soil	1,2,4-Trichlorobenzene	0.1665	0.0545787	mg/kg
EPA 8270D	Soil	1,2-Dichlorobenzene	0.1665	0.0546453	mg/kg
EPA 8270D	Soil	1,3-Dichlorobenzene	0.1665	0.0524808	mg/kg
EPA 8270D	Soil	1,4-Dichlorobenzene	0.1665	0.050616	mg/kg
EPA 8270D	Soil	2,3,4,6-Tetrachlorophenol	0.1665	0.028305	mg/kg
EPA 8270D	Soil	2,4,5-Trichlorophenol	0.1665	0.053946	mg/kg
EPA 8270D	Soil	2,4,6-Trichlorophenol	0.0999	0.0314019	mg/kg
EPA 8270D	Soil	2,4-Dichlorophenol	0.14985	0.053946	mg/kg
EPA 8270D	Soil	2,4-Dimethylphenol	0.1665	0.049617	mg/kg
EPA 8270D	Soil	2,4-Dinitrophenol	0.7992	0.227772	mg/kg
EPA 8270D	Soil	2,4-Dinitrotoluene	0.1665	0.0359307	mg/kg
EPA 8270D	Soil	2,6-Dinitrotoluene	0.1665	0.042624	mg/kg
EPA 8270D	Soil	2-Chloronaphthalene	0.1665	0.054279	mg/kg
EPA 8270D	Soil	2-Chlorophenol	0.1665	0.050283	mg/kg
EPA 8270D	Soil	2-Methylnaphthalene	0.1998	0.0531801	mg/kg
EPA 8270D	Soil	2-Methylphenol	0.1665	0.053613	mg/kg
EPA 8270D	Soil	2-Nitroaniline	0.1665	0.046953	mg/kg
EPA 8270D	Soil	2-Nitrophenol	0.35964	0.051948	mg/kg
EPA 8270D	Soil	3,3'-Dichlorobenzidine	0.1665	0.044289	mg/kg
EPA 8270D	Soil	3-Methylphenol/4-Methylphenol	0.23976	0.054612	mg/kg
EPA 8270D	Soil	3-Nitroaniline	0.1665	0.045954	mg/kg
EPA 8270D	Soil	4,6-Dinitro-o-cresol	0.4329	0.060939	mg/kg
EPA 8270D	Soil	4-Bromophenyl phenyl ether	0.1665	0.038295	mg/kg
EPA 8270D	Soil	4-Chloroaniline	0.1665	0.043956	mg/kg
EPA 8270D	Soil	4-Chlorophenyl phenyl ether	0.1665	0.0506493	mg/kg
EPA 8270D	Soil	4-Nitroaniline	0.1665	0.044955	mg/kg
EPA 8270D	Soil	4-Nitrophenol	0.2331	0.053946	mg/kg
EPA 8270D	Soil	Acenaphthene	0.1332	0.034299	mg/kg
EPA 8270D	Soil	Acenaphthylene	0.1332	0.0311355	mg/kg
EPA 8270D	Soil	Acetophenone	0.1665	0.051615	mg/kg
EPA 8270D	Soil	Anthracene	0.0999	0.0277056	mg/kg
EPA 8270D	Soil	Atrazine	0.1332	0.0377289	mg/kg
EPA 8270D	Soil	Azobenzene	0.1665	0.044622	mg/kg
EPA 8270D	Soil	Benzaldehyde	0.21978	0.067266	mg/kg
EPA 8270D	Soil	Benzidine	0.54945	0.130203	mg/kg
EPA 8270D	Soil	Benzo(a)anthracene	0.0999	0.0326007	mg/kg
EPA 8270D	Soil	Benzo(a)pyrene	0.1332	0.0407259	mg/kg
EPA 8270D	Soil	Benzo(b)fluoranthene	0.0999	0.033633	mg/kg
EPA 8270D	Soil	Benzo(ghi)perylene	0.1332	0.034632	mg/kg
EPA 8270D	Soil	Benzo(k)fluoranthene	0.0999	0.0317682	mg/kg
EPA 8270D	Soil	Benzoic Acid	0.53946	0.168498	mg/kg
EPA 8270D	Soil	Benzyl Alcohol	0.1665	0.051282	mg/kg
EPA 8270D	Soil	Biphenyl	0.37962	0.0549117	mg/kg
EPA 8270D	Soil	Bis(2-chloroethoxy)methane	0.17982	0.0504162	mg/kg
EPA 8270D	Soil	Bis(2-chloroethyl)ether	0.14985	0.0466866	mg/kg
EPA 8270D	Soil	Bis(2-chloroisopropyl)ether	0.1998	0.058608	mg/kg
EPA 8270D	Soil	Bis(2-Ethylhexyl)phthalate	0.1665	0.043623	mg/kg
EPA 8270D	Soil	Butyl benzyl phthalate	0.1665	0.0325341	mg/kg
EPA 8270D	Soil	Caprolactam	0.1665	0.045954	mg/kg
EPA 8270D	Soil	Carbazole	0.1665	0.0357975	mg/kg
EPA 8270D	Soil	Chrysene	0.0999	0.0327006	mg/kg
EPA 8270D	Soil	Dibenzo(a,h)anthracene	0.0999	0.0322344	mg/kg
EPA 8270D	Soil	Dibenzofuran	0.1665	0.0555777	mg/kg
EPA 8270D	Soil	Diethyl phthalate	0.1665	0.0351981	mg/kg
EPA 8270D	Soil	Dimethyl phthalate	0.1665	0.042291	mg/kg
EPA 8270D	Soil	Di-n-butylphthalate	0.1665	0.0321345	mg/kg
EPA 8270D	Soil	Di-n-octylphthalate	0.1665	0.040959	mg/kg
EPA 8270D	Soil	Fluoranthene	0.0999	0.0305694	mg/kg
EPA 8270D	Soil	Fluorene	0.1665	0.0477189	mg/kg
EPA 8270D	Soil	Hexachlorobenzene	0.0999	0.0310356	mg/kg
EPA 8270D	Soil	Hexachlorobutadiene	0.1665	0.046953	mg/kg
EPA 8270D	Soil	Hexachlorocyclopentadiene	0.47619	0.106893	mg/kg
EPA 8270D	Soil	Hexachloroethane	0.1332	0.0302697	mg/kg
EPA 8270D	Soil	Indeno(1,2,3-cd)Pyrene	0.1332	0.036963	mg/kg
EPA 8270D	Soil	Isophorone	0.14985	0.044289	mg/kg
EPA 8270D	Soil	Naphthalene	0.1665	0.055278	mg/kg
EPA 8270D	Soil	Nitrobenzene	0.14985	0.039627	mg/kg
EPA 8270D	Soil	NitrosoDiPhenylAmine(NDPA)/DPA	0.1332	0.034965	mg/kg
EPA 8270D	Soil	n-Nitrosodimethylamine	0.333	0.0539127	mg/kg
EPA 8270D	Soil	n-Nitrosodi-n-propylamine	0.1665	0.049617	mg/kg
EPA 8270D	Soil	P-Chloro-M-Cresol	0.1665	0.048285	mg/kg
EPA 8270D	Soil	Pentachlorophenol	0.1332	0.035631	mg/kg
EPA 8270D	Soil	Phenanthrene	0.0999	0.0325674	mg/kg
EPA 8270D	Soil	Phenol	0.1665	0.049284	mg/kg
EPA 8270D	Soil	Pyrene	0.0999	0.0323676	mg/kg

APPENDIX C

LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

Method	Matrix	Analyte	RL	MDL	Units
Pesticides					
EPA 8081B	Soil	4,4'-DDD	0.007992	0.00285048	mg/kg
EPA 8081B	Soil	4,4'-DDE	0.007992	0.00184815	mg/kg
EPA 8081B	Soil	4,4'-DDT	0.014985	0.0064269	mg/kg
EPA 8081B	Soil	Aldrin	0.007992	0.00281385	mg/kg
EPA 8081B	Soil	Alpha-BHC	0.00333	0.00094572	mg/kg
EPA 8081B	Soil	Beta-BHC	0.007992	0.0030303	mg/kg
EPA 8081B	Soil	Chlordane	0.064935	0.0264735	mg/kg
EPA 8081B	Soil	cis-Chlordane	0.00999	0.00278388	mg/kg
EPA 8081B	Soil	Delta-BHC	0.007992	0.0015651	mg/kg
EPA 8081B	Soil	Dieldrin	0.004995	0.0024975	mg/kg
EPA 8081B	Soil	Endosulfan I	0.007992	0.00188811	mg/kg
EPA 8081B	Soil	Endosulfan II	0.007992	0.00267066	mg/kg
EPA 8081B	Soil	Endosulfan sulfate	0.00333	0.00158508	mg/kg
EPA 8081B	Soil	Endrin	0.00333	0.0013653	mg/kg
EPA 8081B	Soil	Endrin aldehyde	0.00999	0.0034965	mg/kg
EPA 8081B	Soil	Endrin ketone	0.007992	0.00205794	mg/kg
EPA 8081B	Soil	Heptachlor	0.003996	0.00179154	mg/kg
EPA 8081B	Soil	Heptachlor epoxide	0.014985	0.0044955	mg/kg
EPA 8081B	Soil	Lindane	0.00333	0.00148851	mg/kg
EPA 8081B	Soil	Methoxychlor	0.014985	0.004662	mg/kg
EPA 8081B	Soil	Toxaphene	0.14985	0.041958	mg/kg
EPA 8081B	Soil	trans-Chlordane	0.00999	0.00263736	mg/kg
Polychlorinated Biphenyls					
EPA 8082A	Soil	Aroclor 1016	0.0335	0.0026465	mg/kg
EPA 8082A	Soil	Aroclor 1221	0.0335	0.0030887	mg/kg
EPA 8082A	Soil	Aroclor 1232	0.0335	0.0039262	mg/kg
EPA 8082A	Soil	Aroclor 1242	0.0335	0.0041004	mg/kg
EPA 8082A	Soil	Aroclor 1248	0.0335	0.0028274	mg/kg
EPA 8082A	Soil	Aroclor 1254	0.0335	0.0027537	mg/kg
EPA 8082A	Soil	Aroclor 1260	0.0335	0.0025527	mg/kg
EPA 8082A	Soil	Aroclor 1262	0.0335	0.0016616	mg/kg
EPA 8082A	Soil	Aroclor 1268	0.0335	0.0048575	mg/kg
EPA 8082A	Soil	Total PCBs	0.0335	0.0016616	mg/kg
Herbicides					
EPA 8151A	Soil	2,4-D	0.1665	0.0051615	mg/kg
EPA 8151A	Soil	2,4,5-TP (Silvex)	0.1665	0.0044289	mg/kg
EPA 8151A	Soil	2,4,5-T	0.1665	0.0104895	mg/kg
Metals					
EPA 6010C	Soil	Aluminum	4	0.8	mg/kg
EPA 6010C	Soil	Antimony	2	0.32	mg/kg
EPA 6010C	Soil	Arsenic	0.4	0.08	mg/kg
EPA 6010C	Soil	Barium	0.4	0.12	mg/kg
EPA 6010C	Soil	Beryllium	0.2	0.04	mg/kg
EPA 6010C	Soil	Cadmium	0.4	0.028	mg/kg
EPA 6010C	Soil	Calcium	4	1.2	mg/kg
EPA 6010C	Soil	Chromium	0.4	0.08	mg/kg
EPA 7196A	Soil	Hexvalent Chromium	0.8	0.16	mg/kg
EPA 6010C	Soil	Cobalt	0.8	0.2	mg/kg
EPA 6010C	Soil	Copper	0.4	0.08	mg/kg
EPA 6010C	Soil	Iron	2	0.8	mg/kg
EPA 6010C	Soil	Lead	2	0.08	mg/kg
EPA 6010C	Soil	Magnesium	4	0.4	mg/kg
EPA 6010C	Soil	Manganese	0.4	0.08	mg/kg
EPA 7473	Soil	Mercury	0.08	0.016896	mg/kg
EPA 6010C	Soil	Nickel	1	0.16	mg/kg
EPA 6010C	Soil	Potassium	100	16	mg/kg
EPA 6010C	Soil	Selenium	0.8	0.12	mg/kg
EPA 6010C	Soil	Silver	0.4	0.08	mg/kg
EPA 6010C	Soil	Sodium	80	12	mg/kg
EPA 6010C	Soil	Thallium	0.8	0.16	mg/kg
EPA 6010C	Soil	Vanadium	0.4	0.04	mg/kg
EPA 6010C	Soil	Zinc	2	0.28	mg/kg

APPENDIX C

LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

Method	Matrix	Analyte	RL	MDL	Units
Volatile Organic Compounds					
EPA 8260C	Groundwater	1,1,1,2-Tetrachloroethane	0.5	0.164	ug/L
EPA 8260C	Groundwater	1,1,1-Trichloroethane	0.5	0.158	ug/L
EPA 8260C	Groundwater	1,1,2,2-Tetrachloroethane	0.5	0.144	ug/L
EPA 8260C	Groundwater	1,1,2-Trichloro-1,2,2-Trifluoroethane	10	0.148	ug/L
EPA 8260C	Groundwater	1,1,2-Trichloroethane	0.75	0.144	ug/L
EPA 8260C	Groundwater	1,1-Dichloroethane	0.75	0.21	ug/L
EPA 8260C	Groundwater	1,1-Dichloroethene	0.5	0.142	ug/L
EPA 8260C	Groundwater	1,1-Dichloropropene	2.5	0.173	ug/L
EPA 8260C	Groundwater	1,2,3-Trichlorobenzene	2.5	0.234	ug/L
EPA 8260C	Groundwater	1,2,3-Trichloropropane	5	0.176	ug/L
EPA 8260C	Groundwater	1,2,4,5-Tetramethylbenzene	2	0.542	ug/L
EPA 8260C	Groundwater	1,2,4-Trichlorobenzene	2.5	0.22	ug/L
EPA 8260C	Groundwater	1,2,4-Trimethylbenzene	2.5	0.191	ug/L
EPA 8260C	Groundwater	1,2-Dibromo-3-chloropropane	2.5	0.327	ug/L
EPA 8260C	Groundwater	1,2-Dibromoethane	2	0.193	ug/L
EPA 8260C	Groundwater	1,2-Dichlorobenzene	2.5	0.184	ug/L
EPA 8260C	Groundwater	1,2-Dichloroethane	0.5	0.132	ug/L
EPA 8260C	Groundwater	1,2-Dichloropropane	1.75	0.133	ug/L
EPA 8260C	Groundwater	1,3,5-Trimethylbenzene	2.5	0.174	ug/L
EPA 8260C	Groundwater	1,3-Dichlorobenzene	2.5	0.186	ug/L
EPA 8260C	Groundwater	1,3-Dichloropropane	2.5	0.212	ug/L
EPA 8260C	Groundwater	1,4-Dichlorobenzene	2.5	0.187	ug/L
EPA 8260C	Groundwater	1,4-Diethylbenzene	2	0.392	ug/L
EPA 8260C	Groundwater	2,2-Dichloropropane	2.5	0.204	ug/L
EPA 8260C	Groundwater	2-Butanone	5	1.94	ug/L
EPA 8260C	Groundwater	2-Hexanone	5	0.515	ug/L
EPA 8260C	Groundwater	4-Ethyltoluene	2	0.34	ug/L
EPA 8260C	Groundwater	4-Methyl-2-pentanone	5	0.416	ug/L
EPA 8260C	Groundwater	Acetone	5	1.46	ug/L
EPA 8260C	Groundwater	Acrolein	5	0.633	ug/L
EPA 8260C	Groundwater	Acrylonitrile	5	0.43	ug/L
EPA 8260C	Groundwater	Benzene	0.5	0.159	ug/L
EPA 8260C	Groundwater	Bromobenzene	2.5	0.152	ug/L
EPA 8260C	Groundwater	Bromochloromethane	2.5	0.138	ug/L
EPA 8260C	Groundwater	Bromodichloromethane	0.5	0.192	ug/L
EPA 8260C	Groundwater	Bromoform	2	0.248	ug/L
EPA 8260C	Groundwater	Bromomethane	1	0.256	ug/L
EPA 8260C	Groundwater	Carbon disulfide	5	0.299	ug/L
EPA 8260C	Groundwater	Carbon tetrachloride	0.5	0.134	ug/L
EPA 8260C	Groundwater	Chlorobenzene	0.5	0.178	ug/L
EPA 8260C	Groundwater	Chloroethane	1	0.134	ug/L
EPA 8260C	Groundwater	Chloroform	0.75	0.162	ug/L
EPA 8260C	Groundwater	Chloromethane	2.5	0.176	ug/L
EPA 8260C	Groundwater	cis-1,2-Dichloroethene	0.5	0.187	ug/L
EPA 8260C	Groundwater	cis-1,3-Dichloropropene	0.5	0.144	ug/L
EPA 8260C	Groundwater	Cyclohexane	10	0.271	ug/L
EPA 8260C	Groundwater	Dibromochloromethane	0.5	0.149	ug/L
EPA 8260C	Groundwater	Dibromomethane	5	0.363	ug/L
EPA 8260C	Groundwater	Dichlorodifluoromethane	5	0.245	ug/L
EPA 8260C	Groundwater	Ethyl ether	2.5	0.15	ug/L
EPA 8260C	Groundwater	Ethylbenzene	0.5	0.168	ug/L
EPA 8260C	Groundwater	Hexachlorobutadiene	0.5	0.217	ug/L
EPA 8260C	Groundwater	Isopropylbenzene	0.5	0.187	ug/L
EPA 8260C	Groundwater	Methyl Acetate	10	0.234	ug/L
EPA 8260C	Groundwater	Methyl cyclohexane	10	0.396	ug/L
EPA 8260C	Groundwater	Methyl tert butyl ether	1	0.16	ug/L
EPA 8260C	Groundwater	Methylene chloride	3	0.289	ug/L
EPA 8260C	Groundwater	Naphthalene	2.5	0.216	ug/L
EPA 8260C	Groundwater	n-Butylbenzene	0.5	0.192	ug/L
EPA 8260C	Groundwater	n-Propylbenzene	0.5	0.173	ug/L
EPA 8260C	Groundwater	o-Chlorotoluene	2.5	0.17	ug/L
EPA 8260C	Groundwater	o-Xylene	1	0.33	ug/L
EPA 8260C	Groundwater	p/m-Xylene	1	0.332	ug/L
EPA 8260C	Groundwater	p-Chlorotoluene	2.5	0.185	ug/L
EPA 8260C	Groundwater	p-Isopropyltoluene	0.5	0.188	ug/L
EPA 8260C	Groundwater	sec-Butylbenzene	0.5	0.181	ug/L
EPA 8260C	Groundwater	Styrene	1	0.359	ug/L
EPA 8260C	Groundwater	tert-Butyl Alcohol	10	0.899	ug/L
EPA 8260C	Groundwater	tert-Butylbenzene	2.5	0.185	ug/L
EPA 8260C	Groundwater	Tetrachloroethene	0.5	0.181	ug/L
EPA 8260C	Groundwater	Toluene	0.75	0.161	ug/L
EPA 8260C	Groundwater	trans-1,2-Dichloroethene	0.75	0.163	ug/L
EPA 8260C	Groundwater	trans-1,3-Dichloropropene	0.5	0.164	ug/L
EPA 8260C	Groundwater	trans-1,4-Dichloro-2-butene	2.5	0.173	ug/L
EPA 8260C	Groundwater	Trichloroethene	0.5	0.175	ug/L
EPA 8260C	Groundwater	Trichlorofluoromethane	2.5	0.161	ug/L
EPA 8260C	Groundwater	Vinyl acetate	5	0.311	ug/L
EPA 8260C	Groundwater	Vinyl chloride	1	0.0699	ug/L
EPA 8260C	Groundwater	Xylenes, Total	1	0.33	ug/L

APPENDIX C

LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

Method	Matrix	Analyte	RL	MDL	Units
Semivolatile Organic Compounds					
EPA 8270D	Groundwater	1,2,4,5-Tetrachlorobenzene	10	0.357	ug/L
EPA 8270D	Groundwater	1,2,4-Trichlorobenzene	5	0.21	ug/L
EPA 8270D	Groundwater	1,2-Dichlorobenzene	2	0.302	ug/L
EPA 8270D	Groundwater	1,3-Dichlorobenzene	2	0.35	ug/L
EPA 8270D	Groundwater	1,4-Dichlorobenzene	2	0.323	ug/L
EPA 8270D	Groundwater	2,3,4,6-Tetrachlorophenol	5	0.59	ug/L
EPA 8270D	Groundwater	2,4,5-Trichlorophenol	5	0.748	ug/L
EPA 8270D	Groundwater	2,4,6-Trichlorophenol	5	0.775	ug/L
EPA 8270D	Groundwater	2,4-Dichlorophenol	5	0.564	ug/L
EPA 8270D	Groundwater	2,4-Dimethylphenol	5	0.578	ug/L
EPA 8270D	Groundwater	2,4-Dinitrophenol	20	1.4081	ug/L
EPA 8270D	Groundwater	2,4-Dinitrotoluene	5	1.05	ug/L
EPA 8270D	Groundwater	2,6-Dinitrotoluene	5	0.89	ug/L
EPA 8270 SIM Isotope Dilution	Groundwater	1,4-Dioxane	0.35	0.075	ug/L
EPA 8270D	Groundwater	2-Chloronaphthalene	2	0.455	ug/L
EPA 8270D	Groundwater	2-Chlorophenol	2	0.58	ug/L
EPA 8270D	Groundwater	2-Methylnaphthalene	2	0.355	ug/L
EPA 8270D	Groundwater	2-Methylphenol	5	0.703	ug/L
EPA 8270D	Groundwater	2-Nitroaniline	5	0.956	ug/L
EPA 8270D	Groundwater	2-Nitrophenol	10	1.05	ug/L
EPA 8270D	Groundwater	3,3'-Dichlorobenzidine	5	0.478	ug/L
EPA 8270D	Groundwater	3-Methylphenol/4-Methylphenol	5	0.72	ug/L
EPA 8270D	Groundwater	3-Nitroaniline	5	0.668	ug/L
EPA 8270D	Groundwater	4,6-Dinitro-o-cresol	10	1.36	ug/L
EPA 8270D	Groundwater	4-Bromophenyl phenyl ether	2	0.428	ug/L
EPA 8270D	Groundwater	4-Chloroaniline	5	0.835	ug/L
EPA 8270D	Groundwater	4-Chlorophenyl phenyl ether	2	0.355	ug/L
EPA 8270D	Groundwater	4-Nitroaniline	5	0.83	ug/L
EPA 8270D	Groundwater	4-Nitrophenol	10	1.09	ug/L
EPA 8270D	Groundwater	Acenaphthene	2	0.284	ug/L
EPA 8270D	Groundwater	Acenaphthylene	2	0.372	ug/L
EPA 8270D	Groundwater	Acetophenone	5	0.428	ug/L
EPA 8270D	Groundwater	Anthracene	2	0.2	ug/L
EPA 8270D	Groundwater	Atrazine	10	0.794	ug/L
EPA 8270D	Groundwater	Azobenzene	2	0.537	ug/L
EPA 8270D	Groundwater	Benzaldehyde	5	0.986	ug/L
EPA 8270D	Groundwater	Benzidine	20	5.24	ug/L
EPA 8270D	Groundwater	Benzo(a)anthracene	2	0.323	ug/L
EPA 8270D	Groundwater	Benzo(a)pyrene	2	0.658	ug/L
EPA 8270D	Groundwater	Benzo(b)fluoranthene	2	0.371	ug/L
EPA 8270D	Groundwater	Benzo(ghi)perylene	2	0.574	ug/L
EPA 8270D	Groundwater	Benzo(k)fluoranthene	2	0.3	ug/L
EPA 8270D	Groundwater	Benzoic Acid	50	1.0104	ug/L
EPA 8270D	Groundwater	Benzyl Alcohol	2	0.677	ug/L
EPA 8270D	Groundwater	Biphenyl	2	0.237	ug/L
EPA 8270D	Groundwater	Bis(2-chloroethoxy)methane	5	0.596	ug/L
EPA 8270D	Groundwater	Bis(2-chloroethyl)ether	2	0.409	ug/L
EPA 8270D	Groundwater	Bis(2-chloroisopropyl)ether	2	0.597	ug/L
EPA 8270D	Groundwater	Bis(2-Ethylhexyl)phthalate	3	0.928	ug/L
EPA 8270D	Groundwater	Butyl benzyl phthalate	5	1.13	ug/L
EPA 8270D	Groundwater	Caprolactam	10	0.3895	ug/L
EPA 8270D	Groundwater	Carbazole	2	0.374	ug/L
EPA 8270D	Groundwater	Chrysene	2	0.304	ug/L
EPA 8270D	Groundwater	Dibenzo(a,h)anthracene	2	0.438	ug/L
EPA 8270D	Groundwater	Dibenzofuran	2	0.218	ug/L
EPA 8270D	Groundwater	Diethyl phthalate	5	0.393	ug/L
EPA 8270D	Groundwater	Dimethyl phthalate	5	0.333	ug/L
EPA 8270D	Groundwater	Di-n-butylphthalate	5	0.768	ug/L
EPA 8270D	Groundwater	Di-n-octylphthalate	5	1.2	ug/L
EPA 8270D	Groundwater	Fluoranthene	2	0.401	ug/L
EPA 8270D	Groundwater	Fluorene	2	0.32	ug/L
EPA 8270D	Groundwater	Hexachlorobenzene	2	0.396	ug/L
EPA 8270D	Groundwater	Hexachlorobutadiene	2	0.417	ug/L
EPA 8270D	Groundwater	Hexachlorocyclopentadiene	20	0.585	ug/L
EPA 8270D	Groundwater	Hexachloroethane	2	0.298	ug/L
EPA 8270D	Groundwater	Indeno(1,2,3-cd)Pyrene	2	0.433	ug/L
EPA 8270D	Groundwater	Isophorone	5	0.787	ug/L
EPA 8270D	Groundwater	Naphthalene	2	0.332	ug/L
EPA 8270D	Groundwater	Nitrobenzene	2	0.401	ug/L
EPA 8270D	Groundwater	NitrosoDiPhenylAmine(NDPA)/DPA	2	0.34	ug/L
EPA 8270D	Groundwater	n-Nitrosodimethylamine	2	0.498	ug/L
EPA 8270D	Groundwater	n-Nitrosodi-n-propylamine	5	0.645	ug/L
EPA 8270D	Groundwater	P-Chloro-M-Cresol	2	0.543	ug/L
EPA 8270D	Groundwater	Pentachlorophenol	10	3.22	ug/L
EPA 8270D	Groundwater	Phenanthrene	2	0.23	ug/L
EPA 8270D	Groundwater	Phenol	5	0.27	ug/L
EPA 8270D	Groundwater	Pyrene	2	0.524	ug/L
EPA 8270D-SIM	Groundwater	2-Chloronaphthalene	0.2	0.035	ug/L
EPA 8270D-SIM	Groundwater	2-Methylnaphthalene	0.2	0.045	ug/L
EPA 8270D-SIM	Groundwater	Acenaphthene	0.2	0.035	ug/L
EPA 8270D-SIM	Groundwater	Acenaphthylene	0.2	0.035	ug/L
EPA 8270D-SIM	Groundwater	Anthracene	0.2	0.035	ug/L
EPA 8270D-SIM	Groundwater	Benzo(a)anthracene	0.2	0.016	ug/L
EPA 8270D-SIM	Groundwater	Benzo(a)pyrene	0.2	0.039	ug/L
EPA 8270D-SIM	Groundwater	Benzo(b)fluoranthene	0.2	0.016	ug/L
EPA 8270D-SIM	Groundwater	Benzo(ghi)perylene	0.2	0.042	ug/L
EPA 8270D-SIM	Groundwater	Benzo(k)fluoranthene	0.2	0.042	ug/L
EPA 8270D-SIM	Groundwater	Chrysene	0.2	0.038	ug/L
EPA 8270D-SIM	Groundwater	Dibenzo(a,h)anthracene	0.2	0.039	ug/L
EPA 8270D-SIM	Groundwater	Fluoranthene	0.2	0.038	ug/L
EPA 8270D-SIM	Groundwater	Fluorene	0.2	0.037	ug/L
EPA 8270D-SIM	Groundwater	Hexachlorobenzene	0.8	0.032	ug/L
EPA 8270D-SIM	Groundwater	Hexachlorobutadiene	0.5	0.036	ug/L
EPA 8270D-SIM	Groundwater	Hexachloroethane	0.8	0.03	ug/L
EPA 8270D-SIM	Groundwater	Indeno(1,2,3-cd)Pyrene	0.2	0.04	ug/L
EPA 8270D-SIM	Groundwater	Naphthalene	0.2	0.043	ug/L
EPA 8270D-SIM	Groundwater	Pentachlorophenol	0.8	0.22	ug/L
EPA 8270D-SIM	Groundwater	Phenanthrene	0.2	0.015	ug/L
EPA 8270D-SIM	Groundwater	Pyrene	0.2	0.04	ug/L

APPENDIX C

LABORATORY REPORTING LIMITS AND METHOD DETECTION LIMITS

Method	Matrix	Analyte	RL	MDL	Units
Pesticides					
EPA 8081B	Groundwater	4,4'-DDD	0.04	0.00464	ug/L
EPA 8081B	Groundwater	4,4'-DDE	0.04	0.00381	ug/L
EPA 8081B	Groundwater	4,4'-DDT	0.04	0.00432	ug/L
EPA 8081B	Groundwater	Aldrin	0.02	0.00216	ug/L
EPA 8081B	Groundwater	Alpha-BHC	0.02	0.00439	ug/L
EPA 8081B	Groundwater	Beta-BHC	0.02	0.0056	ug/L
EPA 8081B	Groundwater	Chlordane	0.2	0.0463	ug/L
EPA 8081B	Groundwater	cis-Chlordane	0.02	0.00666	ug/L
EPA 8081B	Groundwater	Delta-BHC	0.02	0.00467	ug/L
EPA 8081B	Groundwater	Dieldrin	0.04	0.00429	ug/L
EPA 8081B	Groundwater	Endosulfan I	0.02	0.00345	ug/L
EPA 8081B	Groundwater	Endosulfan II	0.04	0.00519	ug/L
EPA 8081B	Groundwater	Endosulfan sulfate	0.04	0.00481	ug/L
EPA 8081B	Groundwater	Endrin	0.04	0.00429	ug/L
EPA 8081B	Groundwater	Endrin aldehyde	0.04	0.0081	ug/L
EPA 8081B	Groundwater	Endrin ketone	0.04	0.00477	ug/L
EPA 8081B	Groundwater	Heptachlor	0.02	0.0031	ug/L
EPA 8081B	Groundwater	Heptachlor epoxide	0.02	0.00415	ug/L
EPA 8081B	Groundwater	Lindane	0.02	0.00434	ug/L
EPA 8081B	Groundwater	Methoxychlor	0.2	0.00684	ug/L
EPA 8081B	Groundwater	Toxaphene	0.2	0.0627	ug/L
EPA 8081B	Groundwater	trans-Chlordane	0.02	0.00627	ug/L
Polychlorinated Biphenyls					
EPA 8082A	Groundwater	Aroclor 1016	0.083	0.05478	ug/L
EPA 8082A	Groundwater	Aroclor 1221	0.083	0.05312	ug/L
EPA 8082A	Groundwater	Aroclor 1232	0.083	0.03071	ug/L
EPA 8082A	Groundwater	Aroclor 1242	0.083	0.05976	ug/L
EPA 8082A	Groundwater	Aroclor 1248	0.083	0.05063	ug/L
EPA 8082A	Groundwater	Aroclor 1254	0.083	0.03403	ug/L
EPA 8082A	Groundwater	Aroclor 1260	0.083	0.03154	ug/L
EPA 8082A	Groundwater	Aroclor 1262	0.083	0.02905	ug/L
EPA 8082A	Groundwater	Aroclor 1268	0.083	0.03735	ug/L
EPA 8082A	Groundwater	PCBs, Total	0.083	0.02905	ug/L
Herbicides					
EPA 8151A	Groundwater	2,4,5-T	2	0.531	ug/L
EPA 8151A	Groundwater	2,4,5-TP (Silvex)	2	0.539	ug/L
EPA 8151A	Groundwater	2,4-D	10	0.498	ug/L
Metals					
EPA 6010A	Groundwater	Aluminum, Dissolved	0.01	0.00169	mg/L
EPA 6010A	Groundwater	Aluminum, Total	0.01	0.00169	mg/L
EPA 6010A	Groundwater	Antimony, Dissolved	0.0005	0.0000699	mg/L
EPA 6010A	Groundwater	Antimony, Total	0.0005	0.0000699	mg/L
EPA 6010A	Groundwater	Arsenic, Dissolved	0.0005	0.000123	mg/L
EPA 6010A	Groundwater	Arsenic, Total	0.0005	0.000123	mg/L
EPA 6010A	Groundwater	Barium, Dissolved	0.0005	0.0000625	mg/L
EPA 6010A	Groundwater	Barium, Total	0.0005	0.0000625	mg/L
EPA 6010A	Groundwater	Beryllium, Dissolved	0.0005	0.00015	mg/L
EPA 6010A	Groundwater	Beryllium, Total	0.0005	0.00015	mg/L
EPA 6010A	Groundwater	Cadmium, Dissolved	0.0002	0.00005	mg/L
EPA 6010A	Groundwater	Cadmium, Total	0.0002	0.00005	mg/L
EPA 6010A	Groundwater	Calcium, Dissolved	0.1	0.032	mg/L
EPA 6010A	Groundwater	Calcium, Total	0.1	0.032	mg/L
EPA 6010A	Groundwater	Chromium, Dissolved	0.001	0.000253	mg/L
EPA 6010A	Groundwater	Chromium, Total	0.001	0.000253	mg/L
EPA 7196A	Groundwater	Chromium, Hexavalent, Dissolved	0.01	0.003	mg/L
EPA 7196A	Groundwater	Chromium, Hexavalent, Total	0.01	0.003	mg/L
EPA 6010A	Groundwater	Cobalt, Dissolved	0.0002	0.0000621	mg/L
EPA 6010A	Groundwater	Cobalt, Total	0.0002	0.0000621	mg/L
EPA 6010A	Groundwater	Copper, Dissolved	0.001	0.000262	mg/L
EPA 6010A	Groundwater	Copper, Total	0.001	0.000262	mg/L
EPA 6010A	Groundwater	Iron, Dissolved	0.05	0.012	mg/L
EPA 6010A	Groundwater	Iron, Total	0.05	0.012	mg/L
EPA 6010A	Groundwater	Lead, Dissolved	0.001	0.000129	mg/L
EPA 6010A	Groundwater	Lead, Total	0.001	0.000129	mg/L
EPA 6010A	Groundwater	Magnesium, Dissolved	0.07	0.0223	mg/L
EPA 6010A	Groundwater	Magnesium, Total	0.07	0.0223	mg/L
EPA 6010A	Groundwater	Manganese, Dissolved	0.001	0.000302	mg/L
EPA 6010A	Groundwater	Manganese, Total	0.001	0.000302	mg/L
EPA 7470A	Groundwater	Mercury, Dissolved	0.0002	0.000066	mg/L
EPA 7470A	Groundwater	Mercury, Total	0.0002	0.000066	mg/L
EPA 6010A	Groundwater	Nickel, Dissolved	0.0005	0.0000865	mg/L
EPA 6010A	Groundwater	Nickel, Total	0.0005	0.0000865	mg/L
EPA 6010A	Groundwater	Potassium, Dissolved	0.1	0.0193	mg/L
EPA 6010A	Groundwater	Potassium, Total	0.1	0.0193	mg/L
EPA 6010A	Groundwater	Selenium, Dissolved	0.005	0.001	mg/L
EPA 6010A	Groundwater	Selenium, Total	0.005	0.001	mg/L
EPA 6010A	Groundwater	Silver, Dissolved	0.00025	0.0000779	mg/L
EPA 6010A	Groundwater	Silver, Total	0.00025	0.0000779	mg/L
EPA 6010A	Groundwater	Sodium, Dissolved	0.1	0.0161	mg/L
EPA 6010A	Groundwater	Sodium, Total	0.1	0.0161	mg/L
EPA 6010A	Groundwater	Thallium, Dissolved	0.0002	0.0000566	mg/L
EPA 6010A	Groundwater	Thallium, Total	0.0002	0.0000566	mg/L
EPA 6010A	Groundwater	Vanadium, Dissolved	0.005	0.000551	mg/L
EPA 6010A	Groundwater	Vanadium, Total	0.005	0.000551	mg/L
EPA 6010A	Groundwater	Zinc, Dissolved	0.01	0.00256	mg/L
EPA 6010A	Groundwater	Zinc, Total	0.01	0.00256	mg/L
PFAS Compounds					
EPA 537 Rev 1.15	Groundwater	Perfluorohexanoic acid (PFHxA)	2	0.1264	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluoroheptanoic acid (PFHpA)	2	0.0924	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorooctanoic acid (PFOA)	2	0.0504	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorononanoic acid (PFNA)	2	0.1008	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorodecanoic acid (PFDA)	2	0.1904	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluoroundecanoic acid (PFUdA)	2	0.1912	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorododecanoic acid (PFDoA)	2	0.0916	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorotridecanoic Acid (PRTrDA)	2	0.0904	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorotetradecanoic acid (PFTA)	2	0.072	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorobutanesulfonic acid (PFBS)	2	0.11	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorohexanesulfonic acid (PFHxS)	2	0.1076	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorooctanesulfonic acid (PFOS)	2	0.1116	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorodecanesulfonic Acid (PFDS)	2	0.2224	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorobutanoic Acid (PFBA)	2	0.1312	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluoropentanoic Acid (PFPeA)	2	0.0856	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluoroheptane Sulfonic Acid (PFHpS)	2	0.1552	ng/L
EPA 537 Rev 1.15	Groundwater	1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2 FTS)	2	0.194	ng/L
EPA 537 Rev 1.15	Groundwater	1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2 FTS)	2	0.2908	ng/L
EPA 537 Rev 1.15	Groundwater	Perfluorooctanesulfonamide (FOSA)	2	0.2268	ng/L
EPA 537 Rev 1.15	Groundwater	N-methyl perfluorooctanesulfonamidoacetic acid (MeFOSAA)	2	0.2504	ng/L
EPA 537 Rev 1.15	Groundwater	N-ethyl perfluorooctanesulfonamidoacetic acid (EtFOSAA)	2	0.3728	ng/L

ATTACHMENT D

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE

ATTACHMENT D

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE

Matrix Type	Field Parameters	Laboratory Parameters	Analytical Methods	Sample Preservation	Sample Container Volume and Type	Sample Hold Time	Field Duplicate Samples	Equipment Blank Samples	Trip Blank Samples	Ambient Air Samples	MS/MSD Samples
Groundwater	Temperature, Turbidity, pH, ORP, Conductivity	Part 375 + TCL VOCs + 10 TICs	EPA 8260C	Cool to 4°C; HCl to pH <2;no headspace	Three 40-mL VOC vials with Teflon®-lined cap	Analyze within 14 days of collection	1 per 20 samples (minimum 1)	1 per 20 samples (minimum 1)	1 per shipment of VOC samples	NA	1 per 20 samples
		Part 375 + TCL SVOCs + 20 TICs	EPA 8270D	Cool to 4°C	Two 1-Liter Amber Glass	7 days to extract, 40 days after extraction to analysis					
		Part 375 + TAL Metals	EPA 6010C, EPA 7470A	HNO_3	250 ml plastic	6 months, except Mercury 28 days					
		Hexavalent Chromium	EPA 7196A	Cool to 4°C	250 ml plastic	24 hours					
		Cyanide	SM 4500 C/E	NaOH plus 0.6g ascorbic acid	250 ml plastic	14 days					
		Part 375 + TCL Herbicides	EPA 8151A	Cool to 4°C	Two 1-Liter Amber Glass	7 days to extract, 40 days after extraction to analysis					
		Part 375 + TCL Pesticides	EPA 8081B	Cool to 4°C	Two 1-Liter Amber Glass for Pesticides/PCB	7 days to extract, 40 days after extraction to analysis					
		PCBs	EPA 8082A	Cool to 4°C		7 days to extract, 40 days after extraction to analysis					
		Total Organic Carbon	EPA 9060, SM5310C	H2SO4, pH <2, Cool to 4°C	Two 40mL VOA vials	28 days	N/A	N/A	N/A	N/A	N/A
		Sulfate (SO_4^{3-})	EPA 300.0, 9038, 9056, SM4500SO_4-E	Cool to 4°C	250mL plastic	28 days	N/A	N/A	N/A	N/A	N/A
		Nitrate (NO_3^{1-})	EPA 353.2, SM4500NO_3-F	H2SO4, pH <2, Cool to 4°C	250mL plastic	28 days	N/A	N/A	N/A	N/A	N/A
		Total Dissolved Solids (TDS)	SM2540C	Cool to 4°C	250mL plastic	7days	N/A	N/A	N/A	N/A	N/A
		Alkalinity	SM2320B	Cool to 4°C	250mL plastic	14 days	N/A	N/A	N/A	N/A	N/A
		Chloride (Cl^{1-})	EPA 300.0, 9056, 9251, SM45000Cl-E	Cool to 4°C	250mL plastic	28 days	N/A	N/A	N/A	N/A	N/A

ATTACHMENT D

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE

Matrix Type	Field Parameters	Laboratory Parameters	Analytical Methods	Sample Preservation	Sample Container Volume and Type	Sample Hold Time	Field Duplicate Samples	Equipment Blank Samples	Trip Blank Samples	Ambient Air Samples	MS/MSD Samples
Soil	Total VOCs via PID	Part 375 + TCL VOCs + 10 TICs	EPA 8260C	Cool to 4°C	Two 40-ml VOC vials with 5ml H_2O, one with MeOH or 3 Encore Samplers (separate container for % solids)	14 days	1 per 20 samples (minimum 1)	1 per 20 samples (minimum 1)	1 per shipment of VOC samples	NA	1 per 20 samples
		Part 375 + TCL SVOCs + 20 TICs	EPA 8270D	Cool to 4°C	4 oz. amber glass jar	14 days extract, 40 days after extraction to analysis					
		Part 375 + TAL Metals	EPA 6010C, EPA 7470A, EPA 7196A, EPA 9014/9010C	Cool to 4°C	2 oz. amber glass jar	6 months, except mercury 28 days					
		Part 375 + TCL Pesticides	EPA 8081B	Cool to 4°C	4 oz. amber glass jar	14 days extract, 40 days after extraction to analysis					
		Part 375 + TCL Herbicides	EPA 8151A	Cool to 4°C	4 oz. amber glass jar	14 days extract					
		Part 375 + TCL PCBs	EPA 8082A	Cool to 4°C	4 oz. amber glass jar	14 days extract, 40 days after extraction to analysis					
		Grain Size	ASTM SM2540G	N/A	Quart Ziplock Bag	N/A	N/A	N/A	N/A	N/A	N/A
		Total Organic Carbon	EPA 9060, Lloyd Kahn (LK) Method	Cool to 4°C	4 oz. glass jar	28 days (EPA 9060); 14 days (LK)	N/A	N/A	N/A	N/A	N/A
		Sulfate (SO_4^{3-})	EPA 9038	Cool to 4°C	4 oz. glass jar	28 days to extract	N/A	N/A	N/A	N/A	N/A
		Nitrate (NO_3^{1-})	SM4500NO_3-F	Cool to 4°C	4 oz. amber glass jar	28 days	N/A	N/A	N/A	N/A	N/A
Product	N/A	Petrleum Hydrocarbon Identification (PHI)	EPA 8015D	Cool to 4°C	4 oz. amber glass jar	14 days extract, 40 days after extraction to analysis	N/A	N/A	N/A	N/A	N/A

Notes:
1. PID - Photoionization Detector
2. VOC - Volatile organic compound
3. PCB - Polychlorinated Biphenyl
4. EPA - Environmental Protection Agency
5. TCL - Target compound list
6. TAL - Target analyte list

ATTACHMENT E

SAMPLE NOMENCLATURE

SOP #01 – Sample Nomenclature

INTRODUCTION

The Langan Environmental Group conducts an assortment of site investigations where samples (Vapor, Solids, and Aqueous) are collected and submitted to analytical laboratories for analysis. The results of which are then evaluated and entered into a data base allowing quick submittal to the state regulatory authority (New York State Division of Environmental Conservation [NYSDEC]). In addition, Langan is linking their data management system to graphic and analytical software to enable efficient evaluation of the data as well as creating client-ready presentational material.

SCOPE AND APPLICATION

This Standard Operating Procedure (SOP) is applicable to the general framework for labeling vapor, solid (soil) and aqueous (groundwater) samples that will be submitted for laboratory analysis. The nomenclature being introduced is designed to meet the NYSDEC EQuIS standard and has been incorporated into Langan software scripts to assist project personnel in processing the data. While this SOP is applicable to all site investigation; unanticipated conditions may arise which may require considerable flexibility in complying with this SOP. Therefore, guidance provided in this SOP is presented in terms of general steps and strategies that should be applied; but deviation from this SOP must be reported to the Project Manager (PM) immediately.

GENERAL SAMPLE IDENTIFICATION CONSIDERATIONS

Sample Labels

All sample ware must have a label. Recall that when you are using the Encore™ samples (see below); they are delivered in plastic lined foil bags. You are to label the bags[1]:

All other samples containers including Terra Cores™ must be labeled with laboratory provided self-adhesive labels.

Quick Breakdown of Sample Format

The general format for sample nomenclature is:

---

[1] Both Alpha and York laboratories permit the combining of the three Encore™ into a single bag. This may not be appropriate for all laboratories so please confirm with the labs themselves

LLNN_ID

Where

_LL_ is a grouping of two (2) to four (4) letters signifying the sample media source. In older nomenclature SOPs this portion of the sample identification is commonly referred to as the *Sample Investigation Code*

_NN_ represents a two digit number identifying the specific sample location or sample sequence number

_ **_(underscore)_** is required between the sample lettering and numeric identification and additional modifying data that determines the date of sampling or the depth of the sample interval

_ID_ is a modifier specific to the sample type media (depth of soil sample or date of groundwater sample)

LL – Sample Investigation Code

Langan has devised a list of two to four letters to insure a quick ability to identify the sample investigation.

Code	Investigation
AA	Ambient Air
DS	Drum
EPB	Endpoint Location - Bottom (Excavation)
EPSW	Endpoint Location - Sidewall (Excavation)
FP	Free Product
IA	Indoor Air
IDW	Investigation Derived Waste (Soil Pile)
MW	Monitoring Well (Permanent)
SB	Soil Boring
SG	Staff Gauge (Stream Gauging)
SL	Sludge
SV	Soil Vapor Point
SVE	Soil Vapor Extraction Well
SW	Surface Water
TMW	Temporary Monitoring Well
TP	Test Pit (Excavated Material from Test Pit Not Associated With Sidewall or Bottom Samples)
WC	Waste Characterization Boring
COMP	Composite Sample
TB	Trip Blank (QA/QC Sampling – All Investigations)
FB	Field Blank (QA/QC Sampling – All Investigations)
DUP	Duplicate (QA/QC Sampling – All Investigations)

NN – Numeric Identifier

The two digit number that follows the sample investigation code (LL) identifies the specific sample based on the soil boring, monitoring well, endpoint or other location identification. For a subset of samples where there is no specific location identifier, the two digit number is the sequence number for the sample submitted. For example, an aqueous sample from a monitoring well identified as MW-1 would have the sample investigation code of MW and the numeric identifier as 01. Note there is no hyphen. The same can be done for soil borings, a soil sample collected from soil boring 9 (SB-9) would be have the LLNN identification of SB09 (again, no hyphen).

Note however that there is a subset of samples related to laboratory analytical quality assurance, among these includes TB, FB, and DUP. On many investigations, the Scope will require multiple collections of these types of samples, therefore the numerical number represents the sequence sample count where the first sample is 01, the second sample is 02, and the third sample is 03 and so on.

_ Underscore

The underscore is required. It separates the investigation code and numeric identifier from the modifier specific to the sample itself. Note that every effort should be made to insure that the underscore is clear on the sample label and chain of custody (COC).

ID – Modifier Specific to Type Media

Each sample investigation code and numeric identifier is further modified by an ID specific to the sample type media. In general, soil samples (soil borings or endpoint samples) use an ID that indicates the depth at which the sample was taken. Aqueous samples (groundwater or surface water samples) are identified by the date the sample was collected. Other types of samples including quality control (TB, FB, and DUP), Vapor samples (AA, IA, SV or SVE), other soil type samples (IDW, sludge, free product, drum, and others) are also identified by a date. The following rules apply to the ID when using sample depth or sample date.

Sample Depth

The sample depth must be whole numbers (no fractions) separated by a hyphen. Thus for a soil sample collected from the soil boring SB-1 from a depth of 6 feet to 8 feet, the sample would be identified as:

SB01_6-8

Unfortunately, the NYSDEC EQuIS system does not accept fractions. Therefore, if your sample interval is a fraction of a foot (6.5-7.5), round up to the larger interval (6-8).

Sample Date

The sample date is always in the format of MMDDYY. Note that the year is two digits. Thus for a groundwater sample collected on July 1, 2015 from the monitoring well MW-1, the sample would be identified as:

MW01_070115

Special Cases

There are a couple of specific sample types that require further explanation.

Endpoint Sampling

End point sidewall samples are sometimes modified by magnetic direction (N, S, E, and W). For example, the first sidewall endpoint sample from the north wall of an excavation at a depth of 5 feet would be written as:

EPSW01_N_5

Again, note that the N in the identification refers to north and is separated from the prefix investigation code/numeric identifier and ID modifier suffix by underscores.

Vapor Extraction Well Sample
As with the sidewall endpoint samples, the sample name is altered by inserting a middle modifier between the prefix and suffix of the sample name. The middle modifier is used to identify the source of the sample (inlet sample port, midpoint sample port or outlet sample port). For example the midpoint port of the vapor extraction well number 1 sampled on July 1, 2015 would be written as;

SVE01_MID_070115

Matrix Spike and Matrix Spike Duplicate
On occasion, a Langan investigation will collect a sample to be used to provide the lab with a site specific medium to spike to determine the quality of the analytical method. This special case of sampling requires additional information to be used in the sample name, specifically, a suffix specifying whether the sample is the matrix spike (MS) or the matrix spike duplicate (MSD). In the following example, the sample is collected from soil boring number 1 at a depth of 2-4 feet. For the matrix spike sample:

SB01_2-4_MS

and for the matrix spike duplicate sample:

SB01_2-4_MSD

Multiple Interval Groundwater Sampling
Although not currently a common practice, low flow sampling facilitates stratigraphic sampling of a monitoring well. If the scope requires stratigraphic sampling then groundwater samples will be labeled with a lower case letter following the well number. For example, placing the pump or sampling tube at 10 feet below surface in MW01 on July 1, 2015 would require the sample to be labeled as:

MW01a_070115

While a second sample where the pump or tubing intake is placed at 20 feet would be labeled as:

MW01b_070115

Note that it is important that you record what depth the intake for each sample represents in your field notes; as this information is going to be critical to interpreting the results.

Appendix J

Site Management Forms

SITE INSPECTION CHECKLIST

Site Name: _450 Union Street_ Location: 450 Union Street, Brooklyn, NY Project Number: 170301202

Inspector Name: ___________ Date: _________ Weather Conditions: ______________

Reason for Inspection (i.e., routine, severe condition, etc.): ___________________________________

Check one of the following: **Y:** Yes **N:** No **NA**: Not Applicable

		Y	**N**	**NA**	**Normal Situation**	**Remarks**
	General					
1	What are the current site conditions?				-	
2	Site Cover System				Y	
	Environmental Easement					
3	Has the site use changed since the last inspection?				N	
4	Does it appear that all environmental easement restrictions have been followed?				Y	
	Site Cover System					
5	Are there any indications of a breach in the site cover system at the time of this inspection?				N	
6	Are there any cracks in the building slabs or site cover?				N	
7	Are there any cracks in the building walls?				N	
8	Is there any construction activity, or indication of any construction activity within the past certification year (including any tenant improvements), that included the breaching of the capping system, on-site at the time of this inspection?				N	
9	If YES to number 8, is there documentation that the Soil Management Plan, HASP, and CAMP for the site was/is being followed?				NA if N to 8/ Y if Y to 8	
	Bulkhead Wall/Containment Barrier					
10	Are there any indications of damage to the bulkhead at the time of this inspection?				N	
	Recovery Well Network					
11	Are all wells within the recovery well network intact and secured at the time of this inspection?				Y	

***** If the answer to any of the above questions indicate non-compliance with any IC/ECs for the site, additional remarks must be provided and, where applicable, documentation attached to this checklist detailing additional inspection and repair activities.**

SITE INSPECTION CHECKLIST

Additional remarks ____
____
____
____
____
____
____

Minimum Inspection Schedule: Site-wide inspections will be conducted annually, per certification year, at a minimum. Additional inspections will also be conducted at times of severe condition events. All inspection events will utilize this checklist.

Appendix K

Remedial Site Optimization Report

REMEDIAL SYSTEM OPTIMIZATION OUTLINE

TABLE OF CONTENTS