674 Ninth Avenue
Manhattan, New York 10036
Block 1037, Lot 63

PHASE II LIMITED SUBSURFACE INVESTIGATION

AUGUST 10, 2018

PREPARED FOR:

HUBB_NYC
579 Fifth Ave, 4th Floor
New York, NY 10017
Attn: Mr. Jesse Terry

PREPARED BY:

Vertex Engineering, PC
45-18 Court Square, Suite 602
Long Island City, New York 11101
PHONE: 646.553.3500

VERTEX PROJECT NO: 51782

Richard J. Tobia
NY PE No. 095039-1
Aug 10, 2018

August 10, 2018

HUBB_NYC
579 Fifth Ave, 4th Floor
New York, NY 10017
Attn: Mr. Jesse Terry

RE: Phase II Limited Subsurface Investigation
Vacant Two Story Commercial Building
674 Ninth Avenue, Manhattan, New York 10036
(Block 1037, Lot 63)
VERTEX Project No. 51782

Dear Mr. Terry:

Vertex Engineering, PC (VERTEX) is pleased to submit this Phase II Limited Subsurface Investigation (LSI) report for the above-referenced property ("site"). The purpose of this investigation was to characterize waste soil piles in the basement of the site and determine if the fuel oil aboveground storage tanks (ASTs) or on-site or off-site dry-cleaning operations have impacted the site soils and groundwater. The potential for environmental impacts at the site were documented in VERTEX's Phase I Environmental Site Assessment, dated July 3, 2018.

The Phase II LSI was conducted in accordance with standard industry protocols and New York State Department of Environmental Conservation (NYSDEC) technical guidelines. To the best of our knowledge, this Phase II LSI report is true and accurate.

Please do not hesitate to contact us at your convenience should you have any questions or comments regarding this report or our recommendations. It has been a pleasure working with you on this project.

Sincerely,

Vertex Engineering PC

Richard J. Tobia, P.E.
Technical Director

NY PE No. 095039-1
August 10, 2018

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PHASE II LIMITED SUBSURFACE INVESTIGATION

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Manhattan, New York 10036
VERTEX Project No. 51782

1.0 BACKGROUND INFORMATION

Vertex Engineering, PC (VERTEX) conducted a Phase II Limited Subsurface Investigation (LSI) at the commercial property located at 674 Ninth Avenue in Manhattan, New York ("site"). The site is located to the south of West 47th St, north of West 46th St, east of Ninth Avenue, and west of Eighth Avenue. According to the New York City (NYC) Department of Finance, the site consists of one parcel of land occupying approximately 0.05 acres and is identified as Block 1037, Lot 63. The site is improved with one building, constructed prior to 1890, with a footprint encompassing approximately 2,000 square feet. The site is currently vacant but was most recently occupied by JMC Custom Framing (2nd floor) and Empire Tailors & Cleaners (1st floor). According to the New York City Automated City Register System (ACRIS), the site is owned by Luchow, LLC. The site location is depicted on Figure 1. A site plan showing the site and surrounding properties is provided as Figure 2.

A Phase I Environmental Site Assessment (ESA) prepared for the site by The Vertex Companies, Inc. in July 2018, identified the following recognized environmental conditions (RECs):

- Historical dry-cleaning operations, including the presence of tetrachloroethylene (PCE)-labeled drums located in basement, at the site from at least 1988 through 2018;
- Confirmed sub-slab soil gas (SSSG) and soil contamination from 2018 investigations;
- Presence of heating oil aboveground storage tanks (AST(s)) that are encased in concrete and unable to be observed;
- Presence of unknown waste piles in basement;
- Former drycleaners located at 670 Ninth Avenue and 682 Ninth Avenue.

Based on the findings of the Phase I ESA, VERTEX recommended the following:

- Proper disposal of the drums, containment drum, unknown liquid containers (refrigerant, tar pails, 5-gallon bucket in the first-floor tenant space);
- Proper characterization and disposal of waste piles located in the basement; and,
- Completion of a Phase II LSI including soil boring installation, soil sample collection, and collection of groundwater samples (if groundwater is encountered) to determine if the fuel oil AST(s) or onsite or offsite dry-cleaning operations have impacted the site.

2.0 LIMITED SITE INVESTIGATION ACTIVITIES

In accordance with standard industry protocols and NYSDEC technical guidelines, VERTEX performed a Phase II LSI at the site. In July 2018, VERTEX conducted the Phase II LSI activities to determine soil and groundwater quality at the site. The overall goal of the investigation was to determine whether and to what extent impacted media are present at the site, develop appropriate remedial strategies, and develop cost estimates to resolve any such impacts. The scope of work included the following:

- A geophysical evaluation to clear proposed drilling locations of underground utilities and/or structures;

- Collection of waste classification samples to determine the quality of soil piles observed throughout the basement; and,

- Installation, sampling, and analysis of soil samples and groundwater via borings to investigate potential subsurface impacts associated with former on-site dry-cleaning operations.

The scope of work is described in detail below.

2.1 Health and Safety Plan

Prior to initiating field activities, a Health & Safety Plan (HASP) was prepared to guide the conduct of the work in the event that regulated constituents were encountered during the performance of the field activities. The purpose of the HASP was to minimize the likelihood of exposure of VERTEX employees to hazardous concentrations of chemicals during field activities, minimize impacts to the environment, and provide safety guidelines for subcontractors. Field activities

were completed in accordance with Occupational Safety and Health Administration (OSHA) level D personal protective equipment (PPE), consisting of hard hats, safety glasses, protective gloves and steel toed boots.

2.2 Utility Clearance and Geophysical Evaluation

As part of the Phase II LSI, VERTEX's drilling subcontractor contacted the New York one call system prior to initiating the drilling activities. In addition, VERTEX retained the services of Master Locators Inc. (Master Locators) of Glen Mills, Pennsylvania to perform a geophysical survey to "clear" proposed drilling locations to ensure that they were free of subsurface utilities or structures. In addition, the geophysical survey was utilized to mark-out subsurface utilities and identify subsurface anomalies indicative of USTs or other items. Master Locators utilized ground penetrating radar (GPR) and electromagnetic (EM) equipment during the survey.

The proposed drilling locations were "cleared" by Master Locators on July 23, 2018. A geophysical survey of the entire Subject Property was not conducted; however, no anomalies, were identified in the immediate vicinity of the boring locations.

A geophysical report was not prepared; however, VERTEX was on-site during the investigation to confirm the findings and visually identify markings.

2.3 Soil Boring Installation

Hawk Drilling, LLC (Hawk Drilling) of Hampton, New Jersey was retained by VERTEX to advance eight soil borings (VTX-01 through VTX-08) using direct-push (i.e. Geoprobe®) drilling techniques. Due to access limitations, a jackhammer driven probe was utilized in the basement. The boring locations and attempted temporary well locations are depicted on Figure 3. A concrete coring

machine was utilized to remove concrete prior to boring installation activities. The soil borings were completed on July 23, 2018, under the oversight and supervision of VERTEX field staff.

Soil samples were collected continuously and screened in the field for the presence of total volatile organic vapors using a photoionization detector (PID) calibrated to 100 parts per million (ppm) by volume of isobutylene. The observed soil types, field screening readings, notations of regulated constituent's presence were recorded on soil boring logs. Silty sand was encountered between 0 and 3 feet bgs. Clay soils were identified at 3.5 to 4.5 feet bgs. Drilling refusal was encountered in the soil borings at depth ranging from one foot below the basement slab to nine feet below grade in the eastern portion of the site building (first floor addition). Drilling refusal was due to encountering bedrock. A review of the Bedrock and Engineering Geologic Maps of New York County and Parts of Kings and Queens Counties, New York and Parts of Bergen and Hudson Counties, New Jersey, bedrock is located at approximately 15 feet bgs in the vicinity of the site. During the Phase II LSI, bedrock was encountered at a shallower depth of 10 feet or less bgs. Bedrock appears to dip to the south in the immediate area of the site.

Groundwater is expected to flow to the west towards the Hudson River or to the south based on bedrock geology. Groundwater was not encountered in any of the borings, accordingly, a groundwater investigation was not conducted during this investigation.

Soil boring logs are included as Appendix A. Visual and olfactory observations were utilized to assess the soil for evidence of suspected regulated constituents.

The following table provides a summary of the soil boring completion depth, rationale for soil boring location, and depth of notable field observations (if any).

Boring ID	Completion Depth (feet bgs)	Building Location	Rationale for Boring Location / Field Observations
VTX-01	9.0	1st Floor Addition	Installed at location of former dry-cleaning machine. Elevated PID readings ranged from 5 to 121 ppm. Slight odors were observed, no staining was present.
VTX-02	7.0	1st Floor Addition	Installed to investigate former dry-cleaning operations. Elevated PID readings ranged from 40 to >15,000 ppm. Slight odors were observed, no staining was present.
VTX-03	5.0	1st Floor Addition	Installed to investigate former dry-cleaning operations. Elevated PID readings ranged from 66 to 348 ppm. Slight odors were observed, no staining was present.
VTX-04	5.5	1st Floor Addition	Installed to investigate former dry-cleaning operations. Elevated PID readings ranged from 15 to 382 ppm. Slight odors were observed; no staining was present.
VTX-05	1.0	Basement	Installed to investigate subsurface conditions on the northern property boundary. No elevated PID readings, odors, or staining.
VTX-06	1.0	Basement	Installed to investigate subsurface conditions in the vicinity of the fuel oil AST(s). No elevated PID readings, odors, or staining.
VTX-07	1.0	Basement	Installed to investigate subsurface conditions on the southern property boundary. No elevated PID readings, odors, or staining.
VTX-08	1.0	Basement	Installed to investigate former drum storage area and leaking fill for fuel oil AST(s). No elevated PID readings, odors, or staining.

bgs – below ground surface
ppm – parts per million

2.4 Soil Boring Sampling

The following table provides a summary of the soil sample locations and depths, along with the rationale for sample collection.

Boring ID	Sample Depth (feet bgs)	Sampling Rationale
VTX-01	0.5-1.0 8.5-9.0	Elevated PID reading (121 ppm). Vertical delineation
VTX-02	2.0-2.5 4.0-4.5	Elevated PID reading (330 ppm). Elevated PID reading (>15,000 ppm)
VTX-03	4.5-5.0	Elevated PID reading (348 ppm).
VTX-04	4.5-5.0	Elevated PID reading (382 ppm).

Boring ID	Sample Depth (feet bgs)	Sampling Rationale
VTX-05	0.0-0.5	0 to 6-inch interval above bedrock refusal
VTX-06	0.5-1.0	Fill material observed
VTX-07	0.0-0.5	0 to 6-inch interval above bedrock refusal
VTX-08	0.0-0.5	0 to 6-inch interval above bedrock refusal

bgs – below ground surface
ppm – parts per million

Soil boring were positioned along the outer edges of the basement area and edges of the rear first floor dry-cleaning area to assess potential contributions from off-site sources and potential for on-site sources to impact off-site properties. Samples were collected directly from the acetate sleeve cores after screening was completed.

Following sample collection, the sample containers were secured, labeled, and placed in a storage/transportation cooler and cooled to acceptable temperatures (e.g., four degrees Celsius) with ice. Samples were then transported by a field courier to the laboratory following proper chain of custody procedures. The courier relinquished custody to the log-in sample custodian upon arrival at the laboratory.

Soil samples collected from the soil borings were analyzed for VOCs via United States Environmental Protection Agency (USEPA) Method 8260. The reporting list was limited to the following compounds: PCE, trichloroethylene (TCE), cis-1,2-dichlorotheylene (c1,2-DCE), vinyl chloride, benzene, ethylbenzene, toluene, total xylenes, naphthalene, 1,2,4,5-tetramethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropylbenzene, n-propylbenzene, and p-isopropyltoluene as these were the likely contaminants expected to be encountered from a release of No. 2 fuel oil and dry-cleaning operations.

2.5 Soil Pile Sampling

Waste piles and soils were observed throughout the basement of the site building. VERTEX screened the soil piles using a PID. Elevated PID readings were observed in two of the soil piles; one with black staining located behind two boilers in the southeastern corner of the basement (PID reading of 150 ppm) and one in front of the AST(s) (PID reading of 300 ppm). Soil samples were collected from both of the soil piles based on the elevated readings.

The suspect soil pile sample collected from behind the boilers was analyzed for the following: VOCs, semi-volatile organic compounds (SVOCs) via USEPA Method 8270D, total petroleum hydrocarbons (TPH) and TPH gasoline range organics (GRO) via USEPA Method 8015D, polychlorinated biphenyls (PCBs) via USEPA Method 8082A, metals and Toxicity Characteristic Leaching Procedure (TCLP) metals via USEPA Method 6010D/7470A, total cyanide via USEPA Method 9010C/9012B, pH via USEPA Method 9045D, hexavalent chromium via USEPA Method 7196A, and reactive cyanide and sulfide via USEPA Method 125, 7.3. These parameters were selected in order to characterize the potential waste soil and to obtain disposal pricing.

The suspect soil pile sample collected from in front of the AST(s) was analyzed for SVOCs only.

The soil samples were submitted to Alpha Analytical in Westborough, Massachusetts (New York Environmental Laboratory Approval Program (ELAP) No. 11148) for the analyses referenced above.

2.5.1 Analytical Results

The results of the soil sample analyses were compared to the New York State Department of Environmental Conservation (NYSDEC) Soil Cleanup Objectives (SCOs) that include Restricted Use Soil Cleanup Objectives (RUSCOs) for:

- Industrial Use (RUSCO-I),
- Commercial Use (RUSCO-C),
- Residential Use (RUSCO-R),
- Restricted Residential Use (RUSCO-RR),
- Groundwater Protection (RUSCO-GW),
- Ecological Resources (RUSCO-ECO), and
- Unrestricted Use (UUSCO).

Review of the soil analytical results identified the following exceedances of the SCOs:

Constituents in Soil Boring Samples in Excess of SCOs

SAMPLE LOCATION	RUSCO-I	RUSCO-C	RUSCO-R	RUSCO-RR	RUSCO-GW	RUSCO - ECO	UUSCO
VTX-01 (0.5-1)	--	--	--	--	--	--	--
VTX-01 (8.5-9)	--	--	--	--	--	--	--
VTX-02 (2-2.5)	--	--	--	--	--	--	--
VTX-02 (4-4.5)	--	--	--	--	--	--	--
VTX-03 (4.0-4.5)	--	--	PCE	PCE	PCE	PCE	PCE
VTX-04 (4.5-5.0)	--	--	PCE	--	PCE	PCE	PCE
VTX-05 (0.0-0.5)	--	--	--	--	--	--	--
VTX-06 (0.5–1.0)*	--	--	--	--	--	--	--
VTX-07 (0.0-0.5)	--	--	--	--	--	--	--
VTX-08 (0.0-0.5)*	--	--	--	--	--	--	--

*analytes included expanded list for fuel oils

The results of the soil investigation indicate an on-site source in soil of PCE located on the southeastern side of the site building. Table 1 summarizes the results of the soil boring analyses. Figure 3 depicts the locations of the soil borings along with the exceedances. The laboratory data package for the soil sampling conducted during the investigation is provided as Appendix B.

The results of the soil pile sample analyses were also compared to the SCOs.

Constituents in Soil Pile Samples in Excess of SCOs SAMPLE LOCATION	RUSCO-I	RUSCO-C	RUSCO-R	RUSCO-RR	RUSCO-GW	RUSCO - ECO	UUSCO
Soil Pile Waste Class	B(a)P	B(a)P B(b)F	B(a)A B(a)P B(b)F B(k)F Chrysene Di(a,h)A I(1,2,3-cd)P PCE	B(a)A B(a)P B(b)F Chrysene Di(a,h)A I(1,2,3-cd)P PCE	B(a)A B(b)F Chrysene PCE	Zinc PCE	B(a)A B(a)P B(b)F B(k)F Chrysene Di(a,h)A I(1,2,3-cd)P Copper Zinc PCE
AST Soil Pile Waste Class	--	--	--	--	--	--	--

B(a)A – Benzo(a)anthracene, B(a)P – Benzo(a)pyrene, B(b)F – Benzo(b)fluoranthene, B(k)F – Benzo(b)fluoranthene, Di(a,h)A – Dibenzo(a,h)anthracene, I(1,2,3-cd)P - Indeno(1,2,3-cd)pyrene

The soil pile sampling results identified exceedances of the SCOs. Table 2 summarizes the soil pile waste characterization sampling results. The laboratory data package for the soil pile waste characterization sampling is provided as Appendix B. A photographic log of the site activities

3.0 CONCLUSIONS AND RECOMMENDATIONS

VERTEX performed a Phase II LSI in July 2018 at the vacant property located at 674 Ninth Avenue in New York, New York. The Phase II LSI activities were completed to characterize waste soil piles at the site and determine if the fuel oil ASTs or on-site or off-site dry-cleaning operations had impacted the site soils and groundwater. The following was identified at the site:

- An onsite source of PCE-impacted soil was identified below the southeastern (on-grade) portion of the site building, confirming the likely source of the SSSG concentrations detected during a previous investigation performed by others.
- Concentrations of PCE detected in the site soils exceeded the RUSCO-R, the RUSCO-GW, and the RUSCO-ECO. It is likely that soils with higher PCE concentrations may be found within the area of VTX-3 and VTX-4, as these samples were biased towards the southern exterior perimeter of the building.
- Concentrations of PCE were detected in all soil samples. Very low concentrations (1.0 to 6.4 parts per billion [ppb]) of PCE were detected in the four basement boring locations (VTX-05 through VTX-08). Relatively low (12 to 1,100 ppb) concentrations of PCE were detected in the northern first floor samples (VTX-01 and VTX-02), and high (13,000 to 24,000 ppb) concentrations were detected in the southern first floor samples (VTX-03 and VTX-04).
- Based on the previous soil gas and indoor air investigation results and the findings presented in this report, it is likely that soil, soil gas and/or indoor air have been impacted at neighboring properties from the identified on-site soil source. The presence or absence of PCE-impacted groundwater is not known.
- The soil pile located behind the boiler on the southeastern side of the basement contained concentrations of PCE, SVOCs, and metals in excess of the various SCOs. The sample collected from the soil pile in front of the AST(s) did not contain any SVOC concentrations in exceedance of the SCOs.

Based on the results of this investigation and the previous investigation performed by others, VERTEX offers the following recommendations regarding remediation of the impacts:

Soil

- Removal or in-situ remediation of the PCE-impacted soils beneath the first-floor addition portion of the building is required as concentrations detected in soil exceed the SCOs. There are likely areas of greater PCE concentrations that have not yet been identified. It is recommended that additional borings be completed and sampled to delineate the extent of the contamination in this area and to try to define the extent of the area to be remediated. During the supplementary sampling event, data can be collected to characterize the soils to support excavation and offsite disposal as an option. The collection of data such as particle size distribution, to support sub-slab depressurization system (SSDS)design and/or soil vapor extraction (SVE), is recommended. Additionally, a pilot study is recommended to determine SSDS design parameters and to determine if SVE is a more viable option to remediate the PCE-impacted soil.

Soil Piles

- The soil piles located in the southeastern portion of the basement should be drummed and transported offsite for disposal at a licensed waste disposal facility in accordance with local, state, and federal regulations.

Soil Vapor

- A SSDS should be installed in the first-floor addition portion of the building to mitigate the buildup of sub-slab vapors and to limit vapor intrusion into the building. As source soils with concentrations exceeding SCOs were detected, the remediation of the source is also necessary to control vapors.

Groundwater

- PCE concentrations in soil exceed the RUSCO-GW. It is likely that a groundwater well, installed within the bedrock aquifer, will be required if site closure through the NYSDEC Brownfield Cleanup Program (BCP) is desired. Due to access limitations, there is only one location in the building where a bedrock monitoring well could be installed and sampled.

Miscellaneous

- The AST(s) and associated fill, supply, and return lines should be properly inspected and pressure tested prior to being put back into service. If the AST(s) will no longer be utilized, the AST(s) and all appetences should be cleaned and properly abandoned in-place or removed.

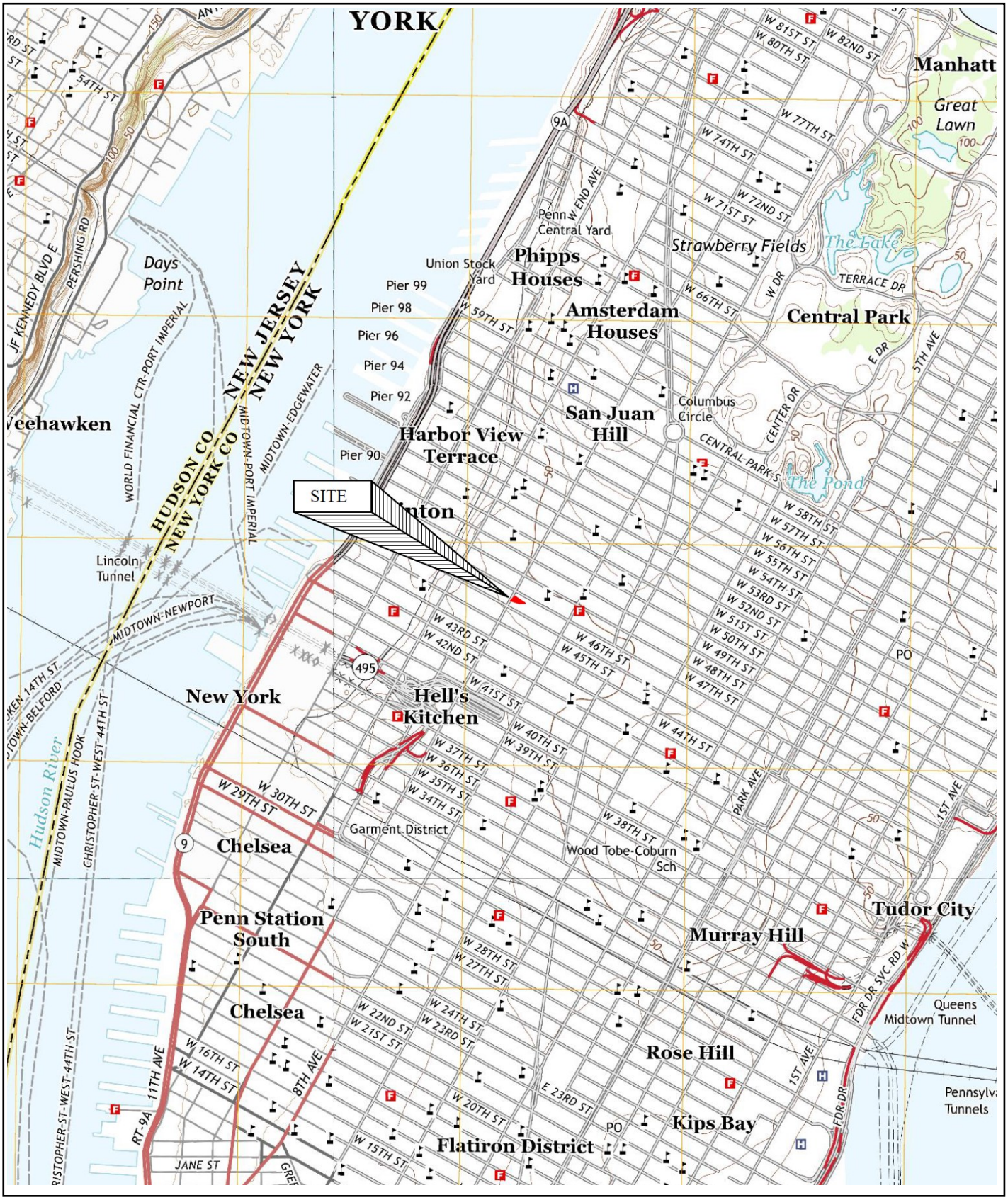
General

Based on the results of the Phase II LSI, the source of PCE contamination at the site is likely related to the former on-site dry-cleaning operations. A soil source located below the first-floor addition portion of the building was identified during this investigation. VERTEX recommends additional investigation to determine the extent of the PCE impacts prior to development of a remedial strategy. Mitigation of contaminated sub-slab vapor is also recommended.

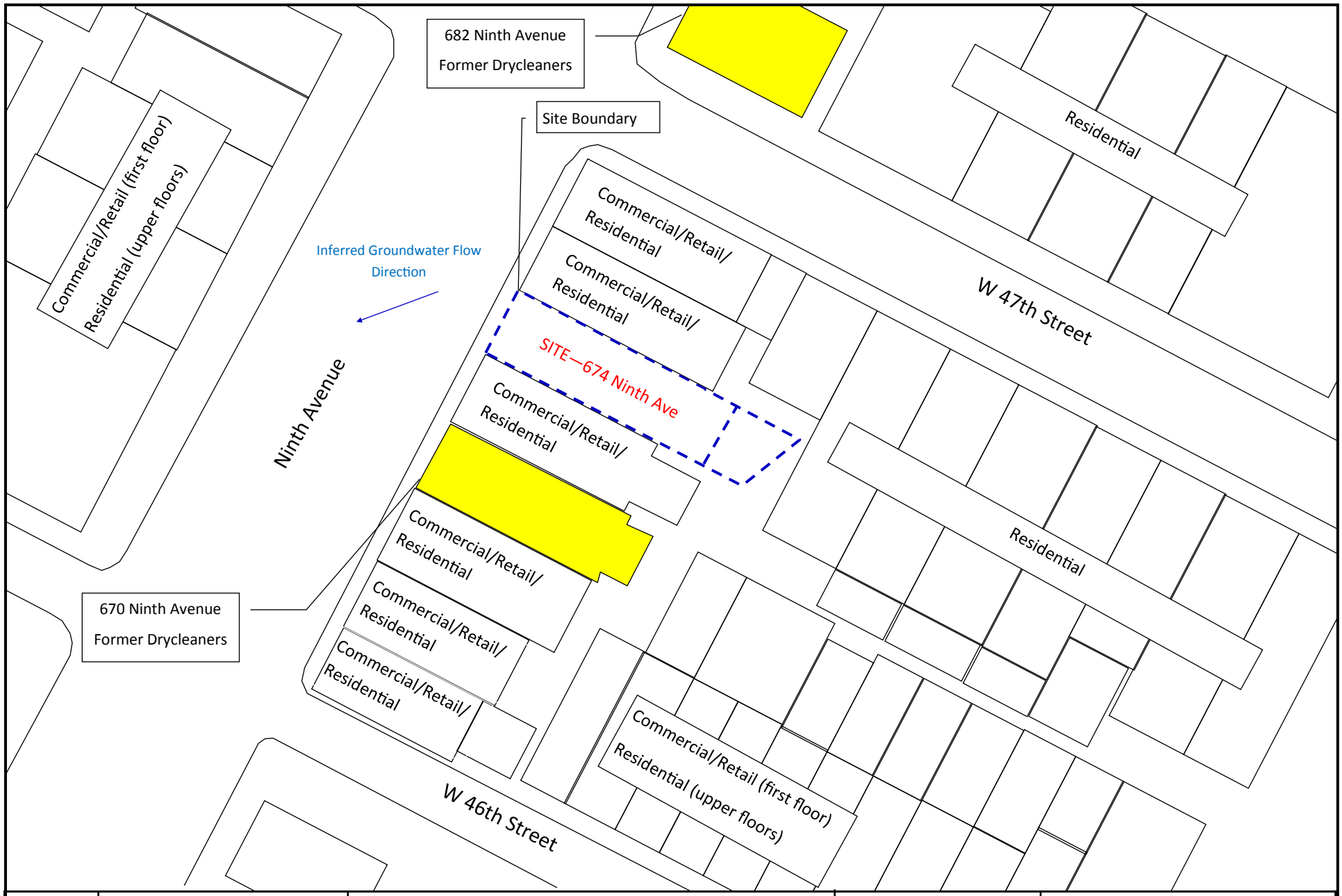
Prior to conducting additional investigation work, VERTEX recommends submitting a BCP Pre-Application Worksheet to the NYSDEC. This would be followed by a meeting with Client representatives and NYSDEC BCP representatives to discuss the site development plan, the project schedule, available information on the site history and the results of this and prior environmental investigations and the conceptual cleanup plan. The initial meeting with NYSDEC BCP is an important step to confirm the NYSDEC's minimum requirements for the further investigation and remediation should the site be entered into the BCP.

Once the pre-application meeting is completed and the minimum site requirements are understood, VERTEX can prepare a remediation cost opinion for bringing the site to regulatory closure under the BCP.

FIGURES



Source: USGS, 1997 Central Park, NY Quadrangle Contour Interval: 10 feet	TOPOGRAPHIC MAP 674 Ninth Avenue Manhattan, New York VERTEX Proj. No. 51782	VERTEX Engineering, PC FIGURE NO. 1



Base Map Source:
GOOGLE EARTH

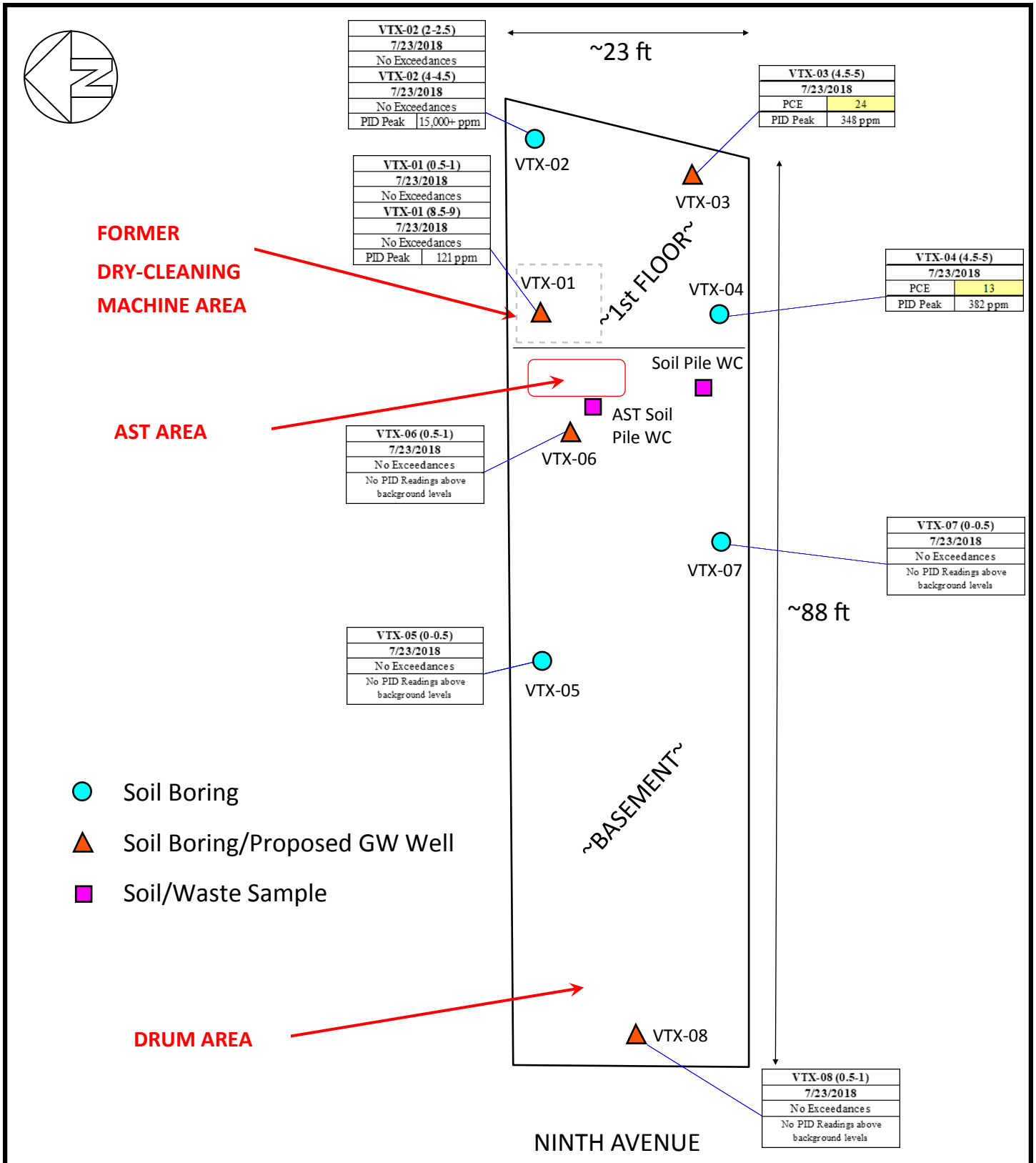
SITE SCHEMATIC

674 Ninth Avenue
Manhattan, New York

FIGURE NO. 2

VERTEX Project No. 51782

VERTEX Engineering, PC



	Unrestricted Use SCO	
Tetrachloroethene	PCE	1.3

Source: Google Earth Pro

All results are in mg/kg (ppm)

SAMPLE LOCATION MAP WITH SUMMARY RESULTS

674 NINTH AVENUE
NEW YORK, NY

VERTEX Project No. 51782

VERTEX Engineering, PC

FIGURE NO. 3

TABLES

Table 1
Summary of Soil Sampling Results
674 Ninth Avenue, New York, New York

LOCATION	RUSCO C	RUSCO ECO	RUSCO GW	RUSCO I	RUSCO R	RUSCO RR	RUSCO UU	Units	VTX-01 (0.5-1)		VTX-01 (8.5-9)		VTX-02 (2-2.5)		VTX-02 (4-4.5)		VTX-03		XTX-04		VTX-05		VTX-06		VTX-07		VTX-08	
SAMPLING DATE									7/23/2018		7/23/2018		7/23/2018		7/23/2018		7/23/2018		7/23/2018		7/23/2018		7/23/2018		7/23/2018		7/23/2018	
LAB SAMPLE ID									L1828205-01		L1828205-02		L1828205-03		L1828205-04		L1828205-05		L1828205-06		L1828205-07		L1828205-08		L1828205-09		L1828205-10	
SAMPLE DEPTH (ft.)									0.5-1		8.5-9		2-2.5		4-4.5		4.5-5		4.5-5		0-0.5		0.5-1		0-0.5		0.5-1	
Volatile Organics by 8260/5035																												
1,2,4,5-Tetramethylbenzene	NS	NS	NS	NS	NS	NS	NS	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	U	-	-	0.0027	U
1,2,4-Trimethylbenzene	190	NS	3.6	380	47	52	3.6	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	U	-	-	0.0027	U
1,3,5-Trimethylbenzene	190	NS	8.4	380	47	52	8.4	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	U	-	-	0.0027	U
Benzene	44	70	0.06	89	2.9	4.8	0.06	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00051	U	-	-	0.00068	U
cis-1,2-Dichloroethene	500	NS	0.25	1000	59	100	0.25	mg/kg	0.0014	U	0.00096	U	0.0012	U	0.0015	U	0.18	U	0.071	U	0.0013	U	0.0013		0.0019	U	0.0014	U
Ethylbenzene	390	NS	1	780	30	41	1	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	U	-	-	0.0014	U
Isopropylbenzene	NS	NS	NS	NS	NS	NS	NS	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	U	-	-	0.0014	U
Naphthalene	500	NS	12	1000	100	100	12	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0041	U	-	-	0.0054	U
n-Propylbenzene	500	NS	3.9	1000	100	100	3.9	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	U	-	-	0.0014	U
o-Xylene	NS	NS	NS	NS	NS	NS	NS	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	U	-	-	0.0014	U
p/m-Xylene	NS	NS	NS	NS	NS	NS	NS	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002	U	-	-	0.0027	U
p-Isopropyltoluene	NS	NS	NS	NS	NS	NS	NS	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	U	-	-	0.0014	U
Tetrachloroethene	150	2	1.3	300	5.5	19	1.3	mg/kg	0.062		0.012		0.49*		1.1*		24		13		0.001		0.0064		0.0018		0.0015	
Toluene	500	36	0.7	1000	100	100	0.7	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00092	J	-	-	0.00075	J
Trichloroethene	200	2	0.47	400	10	21	0.47	mg/kg	0.00072	U	0.00048	U	0.00062	U	0.00082		0.089	U	0.035	U	0.00067	U	0.00051	U	0.00097	U	0.00068	U
Vinyl chloride	13	NS	0.02	27	0.21	0.9	0.02	mg/kg	0.0014	U	0.00096	U	0.0012	U	0.0015	U	*0.18*	U	*0.071*	U	0.0013	U	0.001	U	0.0019	U	0.0014	U
Xylenes, Total	500	0.26	1.6	1000	100	100	0.26	mg/kg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001	U	-	-	0.0014	U

Notes:
* Concentration detected in initial Low Level Analysis exceeded calibration range. Sample was re-analyzed as a High Level Methanol.
U - Compound was undetected at the listed laboratory method detection limit.
J - The compound was detected; however, the concentration is below the laboratory method detection limit. Accordingly, this concentration is estimated.
NS - No NYSDEC Soil Criteria established for this compound.
Italicized text indicates the laboratory reporting limit exceeds the Soil Cleanuo Objective Criteria.
Detected concentration exceeds Soil Concentration Criteria

Industrial Use (RUSCO-I)
Commercial Use (RUSCO-C)
Residential Use (RUSCO-R)
Restricted Residential Use (RUSCO-RR)
Groundwater Protection (RUSCO-GW)
Ecological Resources (RUSCO-ECO)
Unrestricted Use (UUSCO)

Table 2
Waste Classification Soil Sampling Results
674 Ninth Avenue, New York, New York

LOCATION	EPA Toxicity Characteristic (TCLP) Regulatory Levels	RUSCO C	RUSCO ECO	RUSCO GW	RUSCO I	RUSCO R	RUSCO RR	RUSCO UU	Units	SOIL PILE WC		AST SOIL PILE WC	
SAMPLING DATE										7/23/2018		7/23/2018	
LAB SAMPLE ID										L1828225-01		L1828225-02	
SAMPLE LOCATION	Criteria									Behind Boiler		In Front of AST	
Gasoline Range Organics													
Gasoline Range Organics	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	6.4		-	
General Chemistry													
Chromium, Hexavalent	NS	400	1	19	800	22	110	1	mg/kg	0.999	U	-	
Cyanide, Reactive	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	10	U	-	
Cyanide, Total	NS	27	NS	40	10000	27	27	27	mg/kg	1.2	U	-	
pH (H)	NS	NS	NS	NS	NS	NS	NS	NS	SU	5.2		-	
Solids, Total	NS	NS	NS	NS	NS	NS	NS	NS	%	80.1		82.9	
Sulfide, Reactive	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	10	U	-	
Ignitability of Solids													
Ignitability	NS	NS	NS	NS	NS	NS	NS	NS	NA	NI	U	-	
Petroleum Hydrocarbon Quantitation													
TPH	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	578		-	
Polychlorinated Biphenyls by GC													
Aroclor 1016	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1221	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1232	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1242	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1248	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1254	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1260	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1262	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Aroclor 1268	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
PCBs, Total	NS	1	1	3.2	25	1	1	0.1	mg/kg	0.041	U	-	
Semivolatile Organics by GC/MS													
1,2,4,5-Tetrachlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
1,2-Dichlorobenzene	NS	500	NS	1.1	1000	100	100	1.1	mg/kg	0.59	U	0.2	U
1,3-Dichlorobenzene	NS	280	NS	2.4	560	17	49	2.4	mg/kg	0.59	U	0.2	U
1,4-Dichlorobenzene	NS	130	20	1.8	250	9.8	13	1.8	mg/kg	0.59	U	0.22	
2,4,5-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
2,4,6-Trichlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.35	U	0.12	U
2,4-Dichlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.53	U	0.18	U
2,4-Dimethylphenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
2,4-Dinitrophenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	2.8	U	0.94	U
2,4-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
2,6-Dinitrotoluene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
2-Chloronaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
2-Chlorophenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
2-Methylnaphthalene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.26	J	0.1	J
2-Methylphenol	NS	500	NS	0.33	1000	100	100	0.33	mg/kg	*0.59*	U	0.2	U
2-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
2-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.3	U	0.42	U
3,3'-Dichlorobenzidine	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
3-Methylphenol/4-Methylphenol	NS	500	NS	0.33	1000	34	100	0.33	mg/kg	*0.84*	U	0.037	J
3-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
4,6-Dinitro-o-cresol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.5	U	0.51	U
4-Bromophenyl phenyl ether	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
4-Chloroaniline	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
4-Chlorophenyl phenyl ether	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
4-Nitroaniline	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
4-Nitrophenol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.82	U	0.27	U
Acenaphthene	NS	500	20	98	1000	100	100	20	mg/kg	0.57		0.16	U
Acenaphthylene	NS	500	NS	107	1000	100	100	100	mg/kg	0.52		0.039	J
Acetophenone	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.034	J
Anthracene	NS	500	NS	1000	1000	100	100	100	mg/kg	1.8		0.13	
Benzo(a)anthracene	NS	5.6	NS	1	11	1	1	1	mg/kg	3.1		0.12	U
Benzo(a)pyrene	NS	1	2.6	22	1.1	1	1	1	mg/kg	1.6		0.16	U
Benzo(b)fluoranthene	NS	5.6	NS	1.7	11	1	1	1	mg/kg	7.6		0.06	J
Benzo(ghi)perylene	NS	500	NS	1000	1000	100	100	100	mg/kg	1.4		0.043	J
Benzo(k)fluoranthene	NS	56	NS	1.7	110	1	3.9	0.8	mg/kg	1.4		0.12	U
Benzoic Acid	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.66	J	0.64	U
Benzyl Alcohol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Biphenyl	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.3	U	0.45	U
Bis(2-chloroethoxy)methane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.63	U	0.21	U
Bis(2-chloroethyl)ether	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.53	U	0.18	U
Bis(2-chloroisopropyl)ether	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.7	U	0.24	U
Bis(2-ethylhexyl)phthalate	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Butyl benzyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Carbazole	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.4	J	0.2	U
Chrysene	NS	56	NS	1	110	1	3.9	1	mg/kg	5.5		0.12	
Di-n-butylphthalate	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Di-n-octylphthalate	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Dibenzo(a,h)anthracene	NS	0.56	NS	1000	1.1	0.33	0.33	0.33	mg/kg	0.48		0.12	U
Dibenzofuran	NS	350	NS	210	1000	14	59	7	mg/kg	0.37	J	0.2	U
Diethyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Dimethyl phthalate	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Fluoranthene	NS	500	NS	1000	1000	100	100	100	mg/kg	9.6		0.039	J
Fluorene	NS	500	30	386	1000	100	100	30	mg/kg	0.7		0.2	U
Hexachlorobenzene	NS	6	NS	3.2	12	0.33	1.2	0.33	mg/kg	*0.35*	U	0.12	U
Hexachlorobutadiene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Hexachlorocyclopentadiene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.7	U	0.56	U
Hexachloroethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.47	U	0.16	U
Indeno(1,2,3-cd)pyrene	NS	5.6	NS	8.2	11	0.5	0.5	0.5	mg/kg	1.9		0.034	J
Isophorone	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.53	U	0.18	U
n-Nitrosodi-n-propylamine	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Naphthalene	NS	500	NS	12	1000	100	100	12	mg/kg	0.62		0.12	J
NDPA/DPA	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.47	U	0.16	U
Nitrobenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.53	U	0.18	U
p-Chloro-m-cresol	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.59	U	0.2	U
Pentachlorophenol	NS	6.7	0.8	0.8	55	2.4	6.7	0.8	mg/kg	0.47	U	0.16	U
Phenanthrene	NS	500	NS	1000	1000	100	100	100	mg/kg	9.9		0.17	
Phenol	NS	500	30	0.33	1000	100	100	0.33	mg/kg	*0.59*	U	0.039	J
Pyrene	NS	500	NS	1000	1000	100	100	100	mg/kg	8.2		0.24	
TCLP Metals by EPA 1311													
Arsenic, TCLP	5	NS	NS	NS	NS	NS	NS	NS	mg/l	1	U	-	
Barium, TCLP	100	NS	NS	NS	NS	NS	NS	NS	mg/l	0.068	J	-	
Cadmium, TCLP	1	NS	NS	NS	NS	NS	NS	NS	mg/l	0.1	U	-	
Chromium, TCLP	5	NS	NS	NS	NS	NS	NS	NS	mg/l	0.24		-	
Lead, TCLP	5	NS	NS	NS	NS	NS	NS	NS	mg/l	0.077	J	-	
Mercury, TCLP	0.2	NS	NS	NS	NS	NS	NS	NS	mg/l	0.001	U	-	
Selenium, TCLP	1	NS	NS	NS	NS	NS	NS	NS	mg/l	0.5	U	-	
Silver, TCLP	5	NS	NS	NS	NS	NS	NS	NS	mg/l	0.1	U	-	
Total Metals													
Aluminum, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	9830		-	
Antimony, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	4.82	U	-	
Arsenic, Total	NS	16	13	16	16	16	16	13	mg/kg	3.6		-	
Barium, Total	NS	400	433	820	10000	350	400	350	mg/kg	57.4		-	
Beryllium, Total	NS	590	10	47	2700	14	72	7.2	mg/kg	0.087	J	-	
Cadmium, Total	NS	9.3	4	7.5	60	2.5	4.3	2.5	mg/kg	0.443	J	-	
Calcium, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	10900		-	
Chromium, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	17.1		-	
Cobalt, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	6.28		-	
Copper, Total	NS	270	50	1720	10000	270	270	50	mg/kg	93.1		-	
Iron, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	19200		-	
Lead, Total	NS	1000	63	450	3900	400	400	63	mg/kg	40.4		-	
Magnesium, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	4010		-	
Manganese, Total	NS	10000	1600	2000	10000	2000	2000	1600	mg/kg	349		-	
Mercury, Total	NS	2.8	0.18	0.73	5.7	0.81	0.81	0.18	mg/kg	0.17		-	
Nickel, Total	NS	310	30	130	10000	140	310	30	mg/kg	15.4		-	
Potassium, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	3450		-	
Selenium, Total	NS	1500	3.9	4	6800	36	180	3.9	mg/kg	1.76	J	-	
Silver, Total	NS	1500	2	8.3	6800	36	180	2	mg/kg	0.964	U	-	
Sodium, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1850		-	
Thallium, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.93	U	-	
Vanadium, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	19.6		-	
Zinc, Total	NS	10000	109	2480	10000	2200	10000	109	mg/kg	1100		-	

Table 2
Waste Classification Soil Sampling Results
674 Ninth Avenue, New York, New York

LOCATION	EPA Toxicity Characteristic (TCLP) Regulatory Levels	RUSCO C	RUSCO ECO	RUSCO GW	RUSCO I	RUSCO R	RUSCO RR	RUSCO UU	Units	SOIL PILE WC		AST SOIL PILE WC	
SAMPLING DATE										7/23/2018		7/23/2018	
LAB SAMPLE ID										L1828225-01		L1828225-02	
SAMPLE LOCATION	Criteria									Behind Boiler		In Front of AST	
Volatile Organics by 8260/5035													
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.054	U	-	
1,1,1-Trichloroethane	NS	500		0.68	1000	100	100	0.68	mg/kg	0.054	U	-	
1,1,2,2-Tetrachloroethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.054	U	-	
1,1,2-Trichloroethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
1,1-Dichloroethane	NS	240	NS	0.27	480	19	26	0.27	mg/kg	0.11	U	-	
1,1-Dichloroethene	NS	500	NS	0.33	1000	100	100	0.33	mg/kg	0.11	U	-	
1,1-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.054	U	-	
1,2,3-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
1,2,3-Trichloropropane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
1,2,4,5-Tetramethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
1,2,4-Trichlorobenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
1,2,4-Trimethylbenzene	NS	190	NS	3.6	380	47	52	3.6	mg/kg	0.22	U	-	
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.32	U	-	
1,2-Dibromoethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
1,2-Dichlorobenzene	NS	500	NS	1.1	1000	100	100	1.1	mg/kg	0.22	U	-	
1,2-Dichloroethane	NS	30	10	0.02	60	2.3	3.1	0.02	mg/kg	*0.11*	U	-	
1,2-Dichloroethene, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
1,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
1,3,5-Trimethylbenzene	NS	190	NS	8.4	380	47	52	8.4	mg/kg	0.22	U	-	
1,3-Dichlorobenzene	NS	280	NS	2.4	560	17	49	2.4	mg/kg	0.22	U	-	
1,3-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
1,3-Dichloropropene, Total	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.054	U	-	
1,4-Dichlorobenzene	NS	130	20	1.8	250	9.8	13	1.8	mg/kg	0.22	U	-	
1,4-Dioxane	NS	130	0.1	0.1	250	9.8	13	0.1	mg/kg	*11*	U	-	
2,2-Dichloropropane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
2-Butanone	NS	500	100	0.12	1000	100	100	0.12	mg/kg	*1.1*	U	-	
2-Hexanone	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.1	U	-	
4-Methyl-2-pentanone	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.1	U	-	
Acetone	NS	500	2.2	0.05	1000	100	100	0.05	mg/kg	*1.1*	U	-	
Acrylonitrile	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.43	U	-	
Benzene	NS	44	70	0.06	89	2.9	4.8	0.06	mg/kg	0.054	U	-	
Bromobenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
Bromochloromethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
Bromodichloromethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.054	U	-	
Bromoform	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.43	U	-	
Bromomethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
Carbon disulfide	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.1	U	-	
Carbon tetrachloride	NS	22	NS	0.76	44	1.4	2.4	0.76	mg/kg	0.11	U	-	
Chlorobenzene	NS	500	40	1.1	1000	100	100	1.1	mg/kg	0.054	U	-	
Chloroethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
Chloroform	NS	350	12	0.37	700	10	49	0.37	mg/kg	0.16	U	-	
Chloromethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.43	U	-	
cis-1,2-Dichloroethene	NS	500	NS	0.25	1000	59	100	0.25	mg/kg	0.11	U	-	
cis-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.054	U	-	
Dibromochloromethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
Dibromomethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
Dichlorodifluoromethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.1	U	-	
Ethyl ether	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
Ethylbenzene	NS	390	NS	1	780	30	41	1	mg/kg	0.11	U	-	
Hexachlorobutadiene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.43	U	-	
Isopropylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
Methyl tert butyl ether	NS	500	NS	0.93	1000	62	100	0.93	mg/kg	0.22	U	-	
Methylene chloride	NS	500	12	0.05	1000	51	100	0.05	mg/kg	*0.54*	U	-	
n-Butylbenzene	NS	500	NS	12	1000	100	100	12	mg/kg	0.11	U	-	
n-Propylbenzene	NS	500	NS	3.9	1000	100	100	3.9	mg/kg	0.11	U	-	
Naphthalene	NS	500	NS	12	1000	100	100	12	mg/kg	0.43	U	-	
o-Chlorotoluene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
o-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
p-Chlorotoluene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
p-Diethylbenzene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
p-Ethyltoluene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
p-Isopropyltoluene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
p/m-Xylene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.22	U	-	
sec-Butylbenzene	NS	500	NS	11	1000	100	100	11	mg/kg	0.11	U	-	
Styrene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
tert-Butylbenzene	NS	500	NS	5.9	1000	100	100	5.9	mg/kg	0.22	U	-	
Tetrachloroethene	NS	150	2	1.3	300	5.5	19	1.3	mg/kg	30		-	
Toluene	NS	500	36	0.7	1000	100	100	0.7	mg/kg	0.11	U	-	
trans-1,2-Dichloroethene	NS	500	NS	0.19	1000	100	100	0.19	mg/kg	0.16	U	-	
trans-1,3-Dichloropropene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.11	U	-	
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.54	U	-	
Trichloroethene	NS	200	2	0.47	400	10	21	0.47	mg/kg	0.054	U	-	
Trichlorofluoromethane	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	0.43	U	-	
Vinyl acetate	NS	NS	NS	NS	NS	NS	NS	NS	mg/kg	1.1	U	-	
Vinyl chloride	NS	13	NS	0.02	27	0.21	0.9	0.02	mg/kg	*0.11*	U	-	
Xylenes, Total	NS	500	0.26	1.6	1000	100	100	0.26	mg/kg	0.11	U	-	

Notes:
U - Compound was undetected at the listed laboratory method detection limit.
J - The compound was detected; however, the concentration is below the laboratory method detection limit. Accordingly, this concentration is estimated.
NS - No NYSDEC Soil Criteria established for this compound.
Detected concentration exceeds Soil Concentration Criteria
Italicized text indicates the laboratory reporting limit exceeds the Soil Cleanuo Objective Criteria.
Industrial Use (RUSCO-I)
Commercial Use (RUSCO-C)
Residential Use (RUSCO-R)
Restricted Residential Use (RUSCO-RR)
Groundwater Protection (RUSCO-GW)
Ecological Resources (RUSCO-ECO)
Unrestricted Use (UUSCO)

APPENDIX A:

SOIL BORING LOGS

SOIL BORING / MONITORING WELL
CONSTRUCTION LOG

VERTEX

PROJECT:	**HUBBNYC**	PROJECT NO.: **51782**	BORING NO.: VTX-01
LOCATION:	**674 Ninth Avenue Manhattan, New York**	DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-5	5/3	NA	45	0.0-3.0': Light brown/ reddish fine silty sand (Slight odor)		
				50			
2				121			
				121			
3				115			
				100			
4				70	3.0'-6.5: Light brown/ grey tint of red clay, silt, trace sand (DRY)		
				70			
5				62			
				41			
6	5-10	5/4	NA	23			
				6			
7				5			
				8	6.5'-8.0': Medium brown clay (DAMP)		
8				12			
				14			
9				15	8.0'-9.0': Medium brown/reddish sandy clay		
				20			
10					Refusal @ 9.0'		
11	10-15	NA	NA		VTX-01 (0.5-1.0') @ 11:00		
					VTX-01 (8.5-9.0') @ 11:05		
12							
13							
14							
15							

DESCRIPTION OF SOIL CONSTITUENTS	
%	Descriptor
0 - 5 %	Trace
5 - 15%	Little
15 - 30%	Some
30 - 50%	Modifier
>50%	In CAPs

SAND AND GRAVEL (GRANULAR SOILS)	
Density	Blows (N)
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	>50

CLAY (COHESIVE SOILS)	
Consistency	Blows (N)
Very Soft	<2
Soft	2 - 4
Medium Stiff	4 - 8
Stiff	8 - 15
Very Stiff	15 - 30
Hard	>30

WELL CONSTRUCTION DETAILS
Screen
Riser
Concrete
Bentonite
Native
Sand
Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

SOIL BORING / MONITORING WELL
CONSTRUCTION LOG

VERTEX

PROJECT:	**HUBBNYC**	PROJECT NO.: **51782**	BORING NO.: VTX-2
LOCATION:	**674 Ninth Avenue Manhattan, New York**	DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-5	5/5	NA	30	0.0-2.5': Light brown/reddish silty sand		
				40			
2				50.3			
				330			
3				51.7			
				144	2.5-3.5': Light grey/brown clay, trace silt		
4				15,000+			
				131	3.5-7.0': Light brown/grey dense clay, trace silt		
5				161.7			
				25			
6	5-10	5/2	NA	35			
				71			
7				154			
				300			
8				300	Refusal @ 7.0'		
9					VTX-02 (2.0-2.5') @ 11:10		
10					VTX-02 (4.0-4.5') @ 11:45		

DESCRIPTION OF SOIL CONSTITUENTS		SAND AND GRAVEL (GRANULAR SOILS)		CLAY (COHESIVE SOILS)		WELL CONSTRUCTION DETAILS
%	Descriptor	Density	Blows (N)	Consistency	Blows (N)	Screen
0 - 5 %	Trace	Very Loose	0 - 4	Very Soft	<2	Riser
5 - 15%	Little	Loose	4 - 10	Soft	2 - 4	Concrete
15 - 30%	Some	Medium Dense	10 - 30	Medium Stiff	4 - 8	Bentonite
30 - 50%	Modifier	Dense	30 - 50	Stiff	8 - 15	Native
>50%	In CAPs	Very Dense	>50	Very Stiff	15 - 30	Sand
				Hard	>30	Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

SOIL BORING / MONITORING WELL
CONSTRUCTION LOG

VERTEX

PROJECT: **HUBBNYC**		PROJECT NO.: **51782**	BORING NO.: VTX-3
LOCATION: **674 Ninth Avenue Manhattan, New York**		DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-5	5/5	NA	60	0.0-2.5': Light brown fine silt, rock fragments		
				65			
2				68	2.5-4.5': Medium brown fine sand, trace clay		
				88			
3				66			
				135			
4				135			
				346			
5				70			
				348	4.5'-5.0': Light grey/brown clay, trace rocks (bedrock)		
6	5-10	NA	NA		Refusal @ 5.0'		
					VTX-03 (4.0-4.5') @ 11:35		
7							
8							
9							
10							

DESCRIPTION OF SOIL CONSTITUENTS		SAND AND GRAVEL (GRANULAR SOILS)		CLAY (COHESIVE SOILS)		WELL CONSTRUCTION DETAILS
%	Descriptor	Density	Blows (N)	Consistency	Blows (N)	Screen
0 - 5 %	Trace	Very Loose	0 - 4	Very Soft	<2	Riser
5 - 15%	Little	Loose	4 - 10	Soft	2 - 4	Concrete
15 - 30%	Some	Medium Dense	10 - 30	Medium Stiff	4 - 8	Bentonite
30 - 50%	Modifier	Dense	30 - 50	Stiff	8 - 15	Native
>50%	In CAPs	Very Dense	>50	Very Stiff	15 - 30	Sand
				Hard	>30	Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

VERTEX

PROJECT:	**HUBBNYC**	PROJECT NO.: **51782**	BORING NO.: VTX-4
LOCATION:	**674 Ninth Avenue Manhattan, New York**	DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-5	5/5	NA	15	0.0-3.5': Light brown fine sand, trace silt		
				20			
2				35	3.5-5.5': Light grey clay, trace brown silty clay, sand		
				40			
3				43			
				26			
4				70			
				293			
5				256			
				382			
6	5-10	NA	NA	194			
					Refusal @ 5.5'		
7					VTX-04 (4.5-5.0')		
8							
9							
10							

DESCRIPTION OF SOIL CONSTITUENTS		SAND AND GRAVEL (GRANULAR SOILS)		CLAY (COHESIVE SOILS)		WELL CONSTRUCTION DETAILS
%	Descriptor	Density	Blows (N)	Consistency	Blows (N)	Screen
0 - 5 %	Trace	Very Loose	0 - 4	Very Soft	<2	Riser
5 - 15%	Little	Loose	4 - 10	Soft	2 - 4	Concrete
15 - 30%	Some	Medium Dense	10 - 30	Medium Stiff	4 - 8	Bentonite
30 - 50%	Modifier	Dense	30 - 50	Stiff	8 - 15	Native
>50%	In CAPs	Very Dense	>50	Very Stiff	15 - 30	Sand
				Hard	>30	Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

SOIL BORING / MONITORING WELL

CONSTRUCTION LOG

VERTEX

PROJECT:	**HUBBNYC**	PROJECT NO.: **51782**	BORING NO.: VTX-5
LOCATION:	**674 Ninth Avenue Manhattan, New York**	DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-4	1/1	NA	0	0.0-0.75': Medium brown fine to course sand, trace clay and silt		
				0	0.75-1.0': Weathered bedrock		
2				0	VTX-05 (0.0-0.5) @ 09:20		
3							
4							

DESCRIPTION OF SOIL CONSTITUENTS		SAND AND GRAVEL (GRANULAR SOILS)		CLAY (COHESIVE SOILS)		WELL CONSTRUCTION DETAILS
%	Descriptor	Density	Blows (N)	Consistency	Blows (N)	Screen
0 - 5 %	Trace	Very Loose	0 - 4	Very Soft	<2	Riser
5 - 15%	Little	Loose	4 - 10	Soft	2 - 4	Concrete
15 - 30%	Some	Medium Dense	10 - 30	Medium Stiff	4 - 8	Bentonite
30 - 50%	Modifier	Dense	30 - 50	Stiff	8 - 15	Native
>50%	In CAPs	Very Dense	>50	Very Stiff	15 - 30	Sand
				Hard	>30	Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

SOIL BORING / MONITORING WELL
CONSTRUCTION LOG

VERTEX

PROJECT:	**HUBBNYC**	PROJECT NO.: **51782**	BORING NO.: VTX-6
LOCATION:	**674 Ninth Avenue Manhattan, New York**	DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-4	1/1	NA	0	0.0-0.5': Medium brown silt, trace clay and course sand		
				0	0.5-1.0': Dark to medium brown silty sand, brick fragments		
2				0	VTX-06 (0.5-1.0) @ 09:40		
3							
4							

DESCRIPTION OF SOIL CONSTITUENTS		SAND AND GRAVEL (GRANULAR SOILS)		CLAY (COHESIVE SOILS)		WELL CONSTRUCTION DETAILS
%	Descriptor	Density	Blows (N)	Consistency	Blows (N)	
0 - 5 %	Trace	Very Loose	0 - 4	Very Soft	<2	Screen
5 - 15%	Little	Loose	4 - 10	Soft	2 - 4	Riser
15 - 30%	Some	Medium Dense	10 - 30	Medium Stiff	4 - 8	Concrete
30 - 50%	Modifier	Dense	30 - 50	Stiff	8 - 15	Bentonite
>50%	In CAPs	Very Dense	>50	Very Stiff	15 - 30	Native
				Hard	>30	Sand
						Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

SOIL BORING / MONITORING WELL
CONSTRUCTION LOG

VERTEX

PROJECT:	**HUBBNYC**	PROJECT NO.: **51782**	BORING NO.: VTX-7
LOCATION:	**674 Ninth Avenue Manhattan, New York**	DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-4	1/1	NA	0	0.0-0.75': Medium brown fine to course sand, trace clay and silt		
				0	0.75-1.0': Weathered bedrock		
2				0	VTX-07 (0.0-0.5) @ 09:30		
3							
4							

DESCRIPTION OF SOIL CONSTITUENTS		SAND AND GRAVEL (GRANULAR SOILS)		CLAY (COHESIVE SOILS)		WELL CONSTRUCTION DETAILS
%	Descriptor	Density	Blows (N)	Consistency	Blows (N)	
0 - 5 %	Trace	Very Loose	0 - 4	Very Soft	<2	Screen
5 - 15%	Little	Loose	4 - 10	Soft	2 - 4	Riser
15 - 30%	Some	Medium Dense	10 - 30	Medium Stiff	4 - 8	Concrete
30 - 50%	Modifier	Dense	30 - 50	Stiff	8 - 15	Bentonite
>50%	In CAPs	Very Dense	>50	Very Stiff	15 - 30	Native
				Hard	>30	Sand
						Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

SOIL BORING / MONITORING WELL CONSTRUCTION LOG

VERTEX

PROJECT:	**HUBBNYC**	PROJECT NO.: **51782**	BORING NO.: VTX-8
LOCATION:	**674 Ninth Avenue Manhattan, New York**	DRILLER: Hawk	WELL: NA
Date Start: 7/23/2018	Date Finish: 7/23/2018	INSPECTOR: W. Swanson	

SAMPLER		CASING	CORE	GROUNDWATER DEPTH MEASUREMENTS		GS Elevation Data
TYPE	Macrocore			RISER ELEV.:	NA	Datum:
SIZE (ID)	2-inch			DATE:	NA	
HAMMER (LB.)	NA			TIME:	NA	Elevation (ft):
FALL (IN.)	NA			DEPTH (ft):	NA	

SAMPLE INFORMATION					SOIL DESCRIPTION	WELL CONST	WELL DETAILS
DEPTH / ELEV (ft)	Interval (ft)	PEN / REC (ft)	BLOWS/6"	PID (ppm)			
1	0-4	1/1	NA	0	0.0-0.5': Grey silt		
				0	VTX-08 (0.0-0.5) @ 09:50		
2							
3							
4							

DESCRIPTION OF SOIL CONSTITUENTS		SAND AND GRAVEL (GRANULAR SOILS)		CLAY (COHESIVE SOILS)		WELL CONSTRUCTION DETAILS
%	Descriptor	Density	Blows (N)	Consistency	Blows (N)	Screen
0 - 5 %	Trace	Very Loose	0 - 4	Very Soft	<2	Riser
5 - 15%	Little	Loose	4 - 10	Soft	2 - 4	Concrete
15 - 30%	Some	Medium Dense	10 - 30	Medium Stiff	4 - 8	Bentonite
30 - 50%	Modifier	Dense	30 - 50	Stiff	8 - 15	Native
>50%	In CAPs	Very Dense	>50	Very Stiff	15 - 30	Sand
				Hard	>30	Grout

Note(s):

GROUNDWATER MONITORING WELL DATA						WELL MATERIALS USED			
DEPTH (FT.):	NA	SCREEN INTERVAL:	NA	BACKFILL OVER SEAL:	NA	SAND:	NA	SAND SIZE:	NA
DIA. (IN.):	NA	LENGTH OF RISER:	NA	SURFACE SEAL:	NA	BENTONITE:	NA		
MATERIAL:	NA	DEPTH/TYPE PACK:	NA	ROADBOX DESC.:	NA	CONCRETE:	NA		
SLOT SIZE:	NA	DEPTH/TYPE SEAL:	NA						

APPENDIX B:

LABORATORY DATA PACKAGE –

SOIL (AUGUST 2017)

ANALYTICAL REPORT

Lab Number:	L1828205
Client:	The Vertex Companies, Inc. 3322 US Highway 22 West Suite 907 Branchburg, NJ 08876
ATTN:	Madalyn Kulas
Phone:	(732) 414-2224
Project Name:	HUBB NYC-9TH AVE.
Project Number:	Not Specified
Report Date:	07/30/18

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1828205-01	VTX-01 (0.5-1)	SOIL	9TH AVENUE, MANHATTAN	07/23/18 11:00	07/23/18
L1828205-02	VTX-01 (8.5-9)	SOIL	9TH AVENUE, MANHATTAN	07/23/18 11:05	07/23/18
L1828205-03	VTX-02 (2-2.5)	SOIL	9TH AVENUE, MANHATTAN	07/23/18 11:10	07/23/18
L1828205-04	VTX-02 (4-4.5)	SOIL	9TH AVENUE, MANHATTAN	07/23/18 11:45	07/23/18
L1828205-05	VTX-03	SOIL	9TH AVENUE, MANHATTAN	07/23/18 11:35	07/23/18
L1828205-06	XTX-04	SOIL	9TH AVENUE, MANHATTAN	07/23/18 11:40	07/23/18
L1828205-07	VTX-05	SOIL	9TH AVENUE, MANHATTAN	07/23/18 09:20	07/23/18
L1828205-08	VTX-06	SOIL	9TH AVENUE, MANHATTAN	07/23/18 09:40	07/23/18
L1828205-09	VTX-07	SOIL	9TH AVENUE, MANHATTAN	07/23/18 09:30	07/23/18
L1828205-10	VTX-08	SOIL	9TH AVENUE, MANHATTAN	07/23/18 09:50	07/23/18

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

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.

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205
Project Number: Not Specified **Report Date:** 07/30/18

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.

Volatile Organics

L1828205-03 and -04: The sample was analyzed as a High Level Methanol in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses 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: Melissa Cripps Melissa Cripps

Title: Technical Director/Representative Date: 07/30/18

ORGANICS

VOLATILES

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-01
Client ID: VTX-01 (0.5-1)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 15:23
Analyst: MKS
Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	62		ug/kg	0.72	0.28	1
Vinyl chloride	ND		ug/kg	1.4	0.49	1
Trichloroethene	ND		ug/kg	0.72	0.20	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	0.25	1
Tentatively Identified Compounds						
Total TIC Compounds	2.95	J	ug/kg			1
Unknown	2.95	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	113		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-02
Client ID: VTX-01 (8.5-9)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:05
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 16:29
Analyst: MKS
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	12		ug/kg	0.48	0.19	1
Vinyl chloride	ND		ug/kg	0.96	0.32	1
Trichloroethene	ND		ug/kg	0.48	0.13	1
cis-1,2-Dichloroethene	ND		ug/kg	0.96	0.17	1
Tentatively Identified Compounds						
No Tentatively Identified Compounds	ND		ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	120		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	111		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-03
Client ID: VTX-02 (2-2.5)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:10
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 16:16
Analyst: MKS
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	440	E	ug/kg	0.62	0.24	1
Vinyl chloride	ND		ug/kg	1.2	0.42	1
Trichloroethene	ND		ug/kg	0.62	0.17	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.22	1
Tentatively Identified Compounds						
No Tentatively Identified Compounds	ND		ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	82		70-130
Dibromofluoromethane	115		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-03
Client ID: VTX-02 (2-2.5)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:10
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/28/18 12:18
Analyst: KJD
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Tetrachloroethene	490		ug/kg	32	12.	1
Tentatively Identified Compounds						
Total TIC Compounds	208	J	ug/kg			1
Unknown	208	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	111		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-04
Client ID: VTX-02 (4-4.5)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:45
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 16:42
Analyst: MKS
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	4200	E	ug/kg	0.75	0.30	1
Vinyl chloride	ND		ug/kg	1.5	0.50	1
Trichloroethene	0.82		ug/kg	0.75	0.21	1
cis-1,2-Dichloroethene	ND		ug/kg	1.5	0.26	1
Tentatively Identified Compounds						
No Tentatively Identified Compounds	ND		ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	83		70-130
Dibromofluoromethane	113		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-04
Client ID: VTX-02 (4-4.5)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:45
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/28/18 12:44
Analyst: KJD
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Tetrachloroethene	1100		ug/kg	42	17.	1
Tentatively Identified Compounds						
Total TIC Compounds	781	J	ug/kg			1
Unknown	781	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	85		70-130
Dibromofluoromethane	112		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-05 D
Client ID: VTX-03
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:35
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 13:37
Analyst: MV
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	24000		ug/kg	89	35.	2.5
Vinyl chloride	ND		ug/kg	180	60.	2.5
Trichloroethene	ND		ug/kg	89	24.	2.5
cis-1,2-Dichloroethene	ND		ug/kg	180	31.	2.5
Tentatively Identified Compounds						
No Tentatively Identified Compounds	ND		ug/kg			2.5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	111		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-06
Client ID: XTX-04
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:40
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/28/18 14:54
Analyst: KJD
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	13000		ug/kg	35	14.	1
Vinyl chloride	ND		ug/kg	71	24.	1
Trichloroethene	ND		ug/kg	35	9.7	1
cis-1,2-Dichloroethene	ND		ug/kg	71	12.	1
Tentatively Identified Compounds						
Total TIC Compounds	352	J	ug/kg			1
Unknown	352	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	91		70-130
4-Bromofluorobenzene	89		70-130
Dibromofluoromethane	117		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-07
Client ID: VTX-05
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:20
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/28/18 11:51
Analyst: KJD
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	1.0		ug/kg	0.67	0.26	1
Vinyl chloride	ND		ug/kg	1.3	0.45	1
Trichloroethene	ND		ug/kg	0.67	0.18	1
cis-1,2-Dichloroethene	ND		ug/kg	1.3	0.23	1
Tentatively Identified Compounds						
No Tentatively Identified Compounds	ND		ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	114		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-08
Client ID: VTX-06
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:40
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 16:56
Analyst: MKS
Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	6.4		ug/kg	0.51	0.20	1
Benzene	ND		ug/kg	0.51	0.17	1
Toluene	0.92	J	ug/kg	1.0	0.56	1
Ethylbenzene	ND		ug/kg	1.0	0.14	1
Vinyl chloride	ND		ug/kg	1.0	0.34	1
Trichloroethene	ND		ug/kg	0.51	0.14	1
p/m-Xylene	ND		ug/kg	2.0	0.58	1
o-Xylene	ND		ug/kg	1.0	0.30	1
Xylenes, Total	ND		ug/kg	1.0	0.30	1
cis-1,2-Dichloroethene	1.3		ug/kg	1.0	0.18	1
Isopropylbenzene	ND		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
Naphthalene	ND		ug/kg	4.1	0.67	1
n-Propylbenzene	ND		ug/kg	1.0	0.18	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.20	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.34	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.0	0.20	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	110		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-09
Client ID: VTX-07
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:30
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/29/18 17:46
Analyst: MV
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	1.8		ug/kg	0.97	0.38	1
Vinyl chloride	ND		ug/kg	1.9	0.65	1
Trichloroethene	ND		ug/kg	0.97	0.27	1
cis-1,2-Dichloroethene	ND		ug/kg	1.9	0.34	1
Tentatively Identified Compounds						
Total TIC Compounds	6.21	J	ug/kg			1
Unknown	6.21	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	95		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-10
Client ID: VTX-08
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:50
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 17:23
Analyst: MKS
Percent Solids: 97%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tetrachloroethene	1.5		ug/kg	0.68	0.26	1
Benzene	ND		ug/kg	0.68	0.22	1
Toluene	0.75	J	ug/kg	1.4	0.74	1
Ethylbenzene	ND		ug/kg	1.4	0.19	1
Vinyl chloride	ND		ug/kg	1.4	0.45	1
Trichloroethene	ND		ug/kg	0.68	0.18	1
p/m-Xylene	ND		ug/kg	2.7	0.76	1
o-Xylene	ND		ug/kg	1.4	0.39	1
Xylenes, Total	ND		ug/kg	1.4	0.39	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	0.24	1
Isopropylbenzene	ND		ug/kg	1.4	0.15	1
p-Isopropyltoluene	ND		ug/kg	1.4	0.15	1
Naphthalene	ND		ug/kg	5.4	0.88	1
n-Propylbenzene	ND		ug/kg	1.4	0.23	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.7	0.26	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.7	0.45	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.7	0.26	1

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-10 Date Collected: 07/23/18 09:50

Client ID: VTX-08 Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Tentatively Identified Compounds						
Total TIC Compounds	66.3	J	ug/kg			1
Unknown Naphthalene	7.54	J	ug/kg			1
Hexadecane (C16)	5.75	NJ	ug/kg			1
Tetradecane (C14)	5.06	NJ	ug/kg			1
Unknown	15.1	J	ug/kg			1
Unknown	4.95	J	ug/kg			1
Unknown Naphthalene	5.79	J	ug/kg			1
Unknown Aromatic	4.33	J	ug/kg			1
Unknown Aromatic	4.02	J	ug/kg			1
Unknown Alkane	5.31	J	ug/kg			1
Unknown Naphthalene	8.40	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	104		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:41
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05 Batch: WG1140275-5					
Tetrachloroethene	ND		ug/kg	25	9.8
Vinyl chloride	ND		ug/kg	50	17.
Trichloroethene	ND		ug/kg	25	6.8
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND		ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	103		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:41
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01,03-04 Batch: WG1140311-5					
Tetrachloroethene	ND		ug/kg	0.50	0.20
Vinyl chloride	ND		ug/kg	1.0	0.34
Trichloroethene	ND		ug/kg	0.50	0.14
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/kg		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	103		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:43
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02,08,10 Batch: WG1140418-5					
Tetrachloroethene	ND		ug/kg	0.50	0.20
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Vinyl chloride	ND		ug/kg	1.0	0.34
Trichloroethene	ND		ug/kg	0.50	0.14
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.0	0.19
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/kg		

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:43
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02,08,10 Batch: WG1140418-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	104		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/28/18 10:06
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 07 Batch: WG1140747-5					
Tetrachloroethene	ND		ug/kg	0.50	0.20
Vinyl chloride	ND		ug/kg	1.0	0.34
Trichloroethene	ND		ug/kg	0.50	0.14
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/kg		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	107		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/28/18 10:06
Analyst: KJD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 03-04,06 Batch: WG1140750-5					
Tetrachloroethene	ND		ug/kg	25	9.8
Vinyl chloride	ND		ug/kg	50	17.
Trichloroethene	ND		ug/kg	25	6.8
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/kg		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	86		70-130
Dibromofluoromethane	107		70-130

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828205

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/29/18 16:30
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 09 Batch: WG1140787-5					
Tetrachloroethene	ND		ug/kg	0.50	0.20
Vinyl chloride	ND		ug/kg	1.0	0.34
Trichloroethene	ND		ug/kg	0.50	0.14
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Tentatively Identified Compounds					
Total TIC Compounds	4.43	J	ug/kg		
Unknown	4.43	J	ug/kg		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828205

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05 Batch: WG1140275-3 WG1140275-4								
Tetrachloroethene	126		127		70-130	1		30
Vinyl chloride	94		97		67-130	3		30
Trichloroethene	118		120		70-130	2		30
cis-1,2-Dichloroethene	111		112		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		88		70-130
Toluene-d8	91		91		70-130
4-Bromofluorobenzene	82		82		70-130
Dibromofluoromethane	109		108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828205

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01,03-04 Batch: WG1140311-3 WG1140311-4								
Tetrachloroethene	126		127		70-130	1		30
Vinyl chloride	94		97		67-130	3		30
Trichloroethene	118		120		70-130	2		30
cis-1,2-Dichloroethene	111		112		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		88		70-130
Toluene-d8	91		91		70-130
4-Bromofluorobenzene	82		82		70-130
Dibromofluoromethane	109		108		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02,08,10 Batch: WG1140418-3 WG1140418-4								
Tetrachloroethene	98		101		70-130	3		30
Benzene	104		108		70-130	4		30
Toluene	106		111		70-130	5		30
Ethylbenzene	108		111		70-130	3		30
Vinyl chloride	110		108		67-130	2		30
Trichloroethene	103		105		70-130	2		30
p/m-Xylene	104		108		70-130	4		30
o-Xylene	101		105		70-130	4		30
cis-1,2-Dichloroethene	102		101		70-130	1		30
Isopropylbenzene	102		109		70-130	7		30
p-Isopropyltoluene	101		103		70-130	2		30
Naphthalene	90		94		70-130	4		30
n-Propylbenzene	112		116		70-130	4		30
1,3,5-Trimethylbenzene	105		113		70-130	7		30
1,2,4-Trimethylbenzene	108		113		70-130	5		30
1,2,4,5-Tetramethylbenzene	96		97		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		108		70-130
Toluene-d8	104		104		70-130
4-Bromofluorobenzene	112		110		70-130
Dibromofluoromethane	99		98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828205

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 07 Batch: WG1140747-3 WG1140747-4								
Tetrachloroethene	116		112		70-130	4		30
Vinyl chloride	127		123		67-130	3		30
Trichloroethene	118		114		70-130	3		30
cis-1,2-Dichloroethene	110		107		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		95		70-130
Toluene-d8	92		92		70-130
4-Bromofluorobenzene	81		82		70-130
Dibromofluoromethane	113		108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828205

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 03-04,06 Batch: WG1140750-3 WG1140750-4								
Tetrachloroethene	116		112		70-130	4		30
Vinyl chloride	127		123		67-130	3		30
Trichloroethene	118		114		70-130	3		30
cis-1,2-Dichloroethene	110		107		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		95		70-130
Toluene-d8	93		92		70-130
4-Bromofluorobenzene	82		82		70-130
Dibromofluoromethane	113		108		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828205

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 09 Batch: WG1140787-3 WG1140787-4								
Tetrachloroethene	104		101		70-130	3		30
Vinyl chloride	93		90		67-130	3		30
Trichloroethene	101		100		70-130	1		30
cis-1,2-Dichloroethene	104		103		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		89		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	95		94		70-130

INORGANICS
&
MISCELLANEOUS

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-01
Client ID: VTX-01 (0.5-1)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.6		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-02
Client ID: VTX-01 (8.5-9)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:05
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-03
Client ID: VTX-02 (2-2.5)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:10
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.0		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-04
Client ID: VTX-02 (4-4.5)
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:45
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
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	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-05
Client ID: VTX-03
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:35
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.3		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-06
Client ID: XTX-04
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:40
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.7		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-07
Client ID: VTX-05
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:20
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.4		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-08
Client ID: VTX-06
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:40
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.2		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-09
Client ID: VTX-07
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:30
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.8		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828205-10
Client ID: VTX-08
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:50
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	96.7		%	0.100	NA	1	-	07/24/18 15:14	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828205

Report Date: 07/30/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-10 QC Batch ID: WG1138940-1 QC Sample: L1828205-01 Client ID: VTX-01 (0.5-1)						
Solids, Total	91.6	92.4	%	1		20

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

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	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1828205-01A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-01B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-01C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-01D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-01X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-01Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-01Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-02A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-02B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-02C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-02D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-02X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-02Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-02Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-03A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-03B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-03C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-03D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-03X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-03Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-03Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-04A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-04B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1828205-04C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-04D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-04X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-04Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-04Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-05A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-05B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-05C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-05D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-05X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-05Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-05Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-06A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-06B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-06C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-06D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-06X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-06Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-06Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-07A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-07B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-07C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-07D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-07X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-07Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-07Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-08A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-08B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828205
Report Date: 07/30/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1828205-08C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-08D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-08X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-08Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-08Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-09A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-09B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-09C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-09D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-09X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-09Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-09Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-10A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-10B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-10C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-10D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828205-10X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828205-10Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)
L1828205-10Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:56	NYTCL-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name:	HUBB NYC-9TH AVE.	**Lab Number:**	L1828205
Project Number:	Not Specified	**Report Date:**	07/30/18

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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

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.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HUBB NYC-9TH AVE.	**Lab Number:**	L1828205
Project Number:	Not Specified	**Report Date:**	07/30/18

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 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

Project Name:	HUBB NYC-9TH AVE.	**Lab Number:**	L1828205
Project Number:	Not Specified	**Report Date:**	07/30/18

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.

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: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
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: Chloride, 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, SM4500CI-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: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, 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, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

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.

NEW JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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: 7/23/18

ALPHA Job #: L1828205

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

Client Information

Client: Vertex
Address: 3522 Rte 22W Ste 307
Branchburg NJ 08876
Phone: 908 450 1443
Fax: 908 448 2627
Email: MKulas@vertexeng.com

Project Information

Project Name: HUBBNYC - 9th Ave
Project Location: 9th Ave, Manhattan
Project #
(Use Project name as Project #) ☐
Project Manager: Madalyn Kulas
ALPHAQuote #:

Turn-Around Time

Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ NJ Full / Reduced
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Billing Information

☒ Same as Client Info
PO #

Regulatory Requirement

☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☒ Other NY 891

Site Information

Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

For EPH, selection is REQUIRED:
☐ Category 1
☐ Category 2

For VOC, selection is REQUIRED:
☐ 1,4-Dioxane
☐ 8011

Other project specific requirements/comments:
Please report TICs
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: PCE, TCE, cis-DCE, VC	BTEX, naphthalene, trimethylbenzenes, propylbenzenes, toluenes	Total Bottle	Sample Specific Comments
28205-01	VTX-01 (0.5-1)	7/23/18	1100	S	WS	X			
02	VTX-01 (8.5-9)		1105			X			
03	VTX-02 (2-2.5)		1110			X			
04	VTX-02 (4-4.5)		1145			X			
05	VTX-03		1135			X			
06	VTX-04		1140			X			
07	VTX-05		0920			X			
08	VTX-06		0940			X	X X		
09	VTX-07		0930			X			
10	VTX-08		0950			X	X X		

Container Type: E/P E/P E/P
Preservative: 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
Wesley Swanson	7/23/18 13:50	Paul Mazzella	7/23/18 13:50
Paul Mazzella	7/23/18 14:2		
	7/23 7/24		7/23/18 2230

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: 01-14 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1828225
Client:	The Vertex Companies, Inc. 3322 US Highway 22 West Suite 907 Branchburg, NJ 08876
ATTN:	Madalyn Kulas
Phone:	(732) 414-2224
Project Name:	HUBB NYC-9TH AVE.
Project Number:	Not Specified
Report Date:	07/30/18

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1828225-01	SOIL PILE WC	SOIL	9TH AVENUE, MANHATTAN	07/23/18 09:00	07/23/18
L1828225-02	AST SOIL PILE WC	SOIL	9TH AVENUE, MANHATTAN	07/23/18 11:30	07/23/18

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225
Project Number: Not Specified **Report Date:** 07/30/18

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.

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225
Project Number: Not Specified **Report Date:** 07/30/18

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

L1828225-01: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

Total Metals

L1828225-01: 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.

The WG1140069-3 MS recoveries for aluminum (0%), calcium (379%), manganese (0%) and zinc (0%), performed on L1828225-01, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG1140069-3 MS recovery, performed on L1828225-01, is outside the acceptance criteria for thallium (69%). A post digestion spike was performed and was within acceptance criteria.

The WG1140069-4 Laboratory Duplicate RPDs for copper (22%) and manganese (74%), performed on L1828225-01, are outside the acceptance criteria. The elevated RPDs have been attributed to the non-homogeneous nature of the native sample.

Cyanide, Total

The WG1138957-2/-3 LCS/LCSD recoveries (75%/48%), associated with L1828225-01, are outside our in-house acceptance criteria, but within the vendor-certified acceptance limits. The results of the original analysis are reported. The LCS/LCSD RPD (39%) is above the acceptance criteria.

pH

The WG1138750-2 Laboratory Duplicate RPD (17%), performed on L1828225-01, is outside the acceptance criteria. 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:  Amita Naik

Title: Technical Director/Representative Date: 07/30/18

ORGANICS

VOLATILES

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01
Client ID: SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 07/27/18 14:56
Analyst: MV
Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	540	250	1
1,1-Dichloroethane	ND		ug/kg	110	16.	1
Chloroform	ND		ug/kg	160	15.	1
Carbon tetrachloride	ND		ug/kg	110	25.	1
1,2-Dichloropropane	ND		ug/kg	110	14.	1
Dibromochloromethane	ND		ug/kg	110	15.	1
1,1,2-Trichloroethane	ND		ug/kg	110	29.	1
Tetrachloroethene	30000		ug/kg	54	21.	1
Chlorobenzene	ND		ug/kg	54	14.	1
Trichlorofluoromethane	ND		ug/kg	430	75.	1
1,2-Dichloroethane	ND		ug/kg	110	28.	1
1,1,1-Trichloroethane	ND		ug/kg	54	18.	1
Bromodichloromethane	ND		ug/kg	54	12.	1
trans-1,3-Dichloropropene	ND		ug/kg	110	30.	1
cis-1,3-Dichloropropene	ND		ug/kg	54	17.	1
1,3-Dichloropropene, Total	ND		ug/kg	54	17.	1
1,1-Dichloropropene	ND		ug/kg	54	17.	1
Bromoform	ND		ug/kg	430	27.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	54	18.	1
Benzene	ND		ug/kg	54	18.	1
Toluene	ND		ug/kg	110	59.	1
Ethylbenzene	ND		ug/kg	110	15.	1
Chloromethane	ND		ug/kg	430	100	1
Bromomethane	ND		ug/kg	220	63.	1
Vinyl chloride	ND		ug/kg	110	36.	1
Chloroethane	ND		ug/kg	220	49.	1
1,1-Dichloroethene	ND		ug/kg	110	26.	1
trans-1,2-Dichloroethene	ND		ug/kg	160	15.	1

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01 Date Collected: 07/23/18 09:00

Client ID: SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Trichloroethene	ND		ug/kg	54	15.	1
1,2-Dichlorobenzene	ND		ug/kg	220	16.	1
1,3-Dichlorobenzene	ND		ug/kg	220	16.	1
1,4-Dichlorobenzene	ND		ug/kg	220	18.	1
Methyl tert butyl ether	ND		ug/kg	220	22.	1
p/m-Xylene	ND		ug/kg	220	60.	1
o-Xylene	ND		ug/kg	110	31.	1
Xylenes, Total	ND		ug/kg	110	31.	1
cis-1,2-Dichloroethene	ND		ug/kg	110	19.	1
1,2-Dichloroethene, Total	ND		ug/kg	110	15.	1
Dibromomethane	ND		ug/kg	220	26.	1
Styrene	ND		ug/kg	110	21.	1
Dichlorodifluoromethane	ND		ug/kg	1100	99.	1
Acetone	ND		ug/kg	1100	520	1
Carbon disulfide	ND		ug/kg	1100	490	1
2-Butanone	ND		ug/kg	1100	240	1
Vinyl acetate	ND		ug/kg	1100	230	1
4-Methyl-2-pentanone	ND		ug/kg	1100	140	1
1,2,3-Trichloropropane	ND		ug/kg	220	14.	1
2-Hexanone	ND		ug/kg	1100	130	1
Bromochloromethane	ND		ug/kg	220	22.	1
2,2-Dichloropropane	ND		ug/kg	220	22.	1
1,2-Dibromoethane	ND		ug/kg	110	30.	1
1,3-Dichloropropane	ND		ug/kg	220	18.	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	54	14.	1
Bromobenzene	ND		ug/kg	220	16.	1
n-Butylbenzene	ND		ug/kg	110	18.	1
sec-Butylbenzene	ND		ug/kg	110	16.	1
tert-Butylbenzene	ND		ug/kg	220	13.	1
o-Chlorotoluene	ND		ug/kg	220	21.	1
p-Chlorotoluene	ND		ug/kg	220	12.	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	320	110	1
Hexachlorobutadiene	ND		ug/kg	430	18.	1
Isopropylbenzene	ND		ug/kg	110	12.	1
p-Isopropyltoluene	ND		ug/kg	110	12.	1
Naphthalene	ND		ug/kg	430	70.	1
Acrylonitrile	ND		ug/kg	430	120	1

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01 Date Collected: 07/23/18 09:00

Client ID: SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
n-Propylbenzene	ND		ug/kg	110	18.	1
1,2,3-Trichlorobenzene	ND		ug/kg	220	35.	1
1,2,4-Trichlorobenzene	ND		ug/kg	220	29.	1
1,3,5-Trimethylbenzene	ND		ug/kg	220	21.	1
1,2,4-Trimethylbenzene	ND		ug/kg	220	36.	1
1,4-Dioxane	ND		ug/kg	11000	3800	1
p-Diethylbenzene	ND		ug/kg	220	19.	1
p-Ethyltoluene	ND		ug/kg	220	42.	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	220	21.	1
Ethyl ether	ND		ug/kg	220	37.	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	540	150	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	112		70-130

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:41
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1140275-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
1,3-Dichloropropene, Total	ND		ug/kg	25	7.9
1,1-Dichloropropene	ND		ug/kg	25	8.0
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:41
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1140275-5					
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
Xylenes, Total	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
1,2-Dichloroethene, Total	ND		ug/kg	50	6.8
Dibromomethane	ND		ug/kg	100	12.
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
Vinyl acetate	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
1,2,3-Trichloropropane	ND		ug/kg	100	6.4
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
2,2-Dichloropropane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
1,3-Dichloropropane	ND		ug/kg	100	8.4
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	6.6
Bromobenzene	ND		ug/kg	100	7.2
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
tert-Butylbenzene	ND		ug/kg	100	5.9
o-Chlorotoluene	ND		ug/kg	100	9.6

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:41
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1140275-5					
p-Chlorotoluene	ND		ug/kg	100	5.4
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Hexachlorobutadiene	ND		ug/kg	200	8.4
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
Naphthalene	ND		ug/kg	200	32.
Acrylonitrile	ND		ug/kg	200	58.
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
1,4-Dioxane	ND		ug/kg	5000	1800
p-Diethylbenzene	ND		ug/kg	100	8.8
p-Ethyltoluene	ND		ug/kg	100	19.
1,2,4,5-Tetramethylbenzene	ND		ug/kg	100	9.6
Ethyl ether	ND		ug/kg	100	17.
trans-1,4-Dichloro-2-butene	ND		ug/kg	250	71.
Tentatively Identified Compounds					
No Tentatively Identified Compounds	ND		ug/kg		

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 07/27/18 09:41
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1140275-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

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: WG1140275-3 WG1140275-4								
Methylene chloride	101		103		70-130	2		30
1,1-Dichloroethane	104		106		70-130	2		30
Chloroform	108		110		70-130	2		30
Carbon tetrachloride	125		124		70-130	1		30
1,2-Dichloropropane	102		103		70-130	1		30
Dibromochloromethane	109		111		70-130	2		30
1,1,2-Trichloroethane	96		99		70-130	3		30
Tetrachloroethene	126		127		70-130	1		30
Chlorobenzene	107		108		70-130	1		30
Trichlorofluoromethane	118		120		70-139	2		30
1,2-Dichloroethane	105		105		70-130	0		30
1,1,1-Trichloroethane	118		120		70-130	2		30
Bromodichloromethane	111		115		70-130	4		30
trans-1,3-Dichloropropene	91		92		70-130	1		30
cis-1,3-Dichloropropene	104		104		70-130	0		30
1,1-Dichloropropene	109		112		70-130	3		30
Bromoform	99		99		70-130	0		30
1,1,2,2-Tetrachloroethane	91		90		70-130	1		30
Benzene	106		108		70-130	2		30
Toluene	98		100		70-130	2		30
Ethylbenzene	96		98		70-130	2		30
Chloromethane	95		98		52-130	3		30
Bromomethane	144		**150**	Q	57-147	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1140275-3 WG1140275-4								
Vinyl chloride	94		97		67-130	3		30
Chloroethane	96		99		50-151	3		30
1,1-Dichloroethene	112		114		65-135	2		30
trans-1,2-Dichloroethene	110		111		70-130	1		30
Trichloroethene	118		120		70-130	2		30
1,2-Dichlorobenzene	110		111		70-130	1		30
1,3-Dichlorobenzene	110		111		70-130	1		30
1,4-Dichlorobenzene	110		111		70-130	1		30
Methyl tert butyl ether	99		101		66-130	2		30
p/m-Xylene	101		103		70-130	2		30
o-Xylene	99		101		70-130	2		30
cis-1,2-Dichloroethene	111		112		70-130	1		30
Dibromomethane	113		112		70-130	1		30
Styrene	95		96		70-130	1		30
Dichlorodifluoromethane	111		114		30-146	3		30
Acetone	110		114		54-140	4		30
Carbon disulfide	98		99		59-130	1		30
2-Butanone	104		104		70-130	0		30
Vinyl acetate	104		104		70-130	0		30
4-Methyl-2-pentanone	76		78		70-130	3		30
1,2,3-Trichloropropane	85		86		68-130	1		30
2-Hexanone	85		87		70-130	2		30
Bromochloromethane	**133**	Q	**139**	Q	70-130	4		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1140275-3 WG1140275-4								
2,2-Dichloropropane	110		110		70-130	0		30
1,2-Dibromoethane	105		105		70-130	0		30
1,3-Dichloropropane	93		94		69-130	1		30
1,1,1,2-Tetrachloroethane	109		111		70-130	2		30
Bromobenzene	110		109		70-130	1		30
n-Butylbenzene	94		96		70-130	2		30
sec-Butylbenzene	97		98		70-130	1		30
tert-Butylbenzene	99		102		70-130	3		30
o-Chlorotoluene	89		91		70-130	2		30
p-Chlorotoluene	90		90		70-130	0		30
1,2-Dibromo-3-chloropropane	94		93		68-130	1		30
Hexachlorobutadiene	122		125		67-130	2		30
Isopropylbenzene	93		95		70-130	2		30
p-Isopropyltoluene	101		102		70-130	1		30
Naphthalene	99		100		70-130	1		30
Acrylonitrile	98		97		70-130	1		30
n-Propylbenzene	91		92		70-130	1		30
1,2,3-Trichlorobenzene	113		116		70-130	3		30
1,2,4-Trichlorobenzene	119		119		70-130	0		30
1,3,5-Trimethylbenzene	95		96		70-130	1		30
1,2,4-Trimethylbenzene	94		96		70-130	2		30
1,4-Dioxane	84		95		65-136	12		30
p-Diethylbenzene	101		103		70-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

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: WG1140275-3 WG1140275-4								
p-Ethyltoluene	96		98		70-130	2		30
1,2,4,5-Tetramethylbenzene	96		98		70-130	2		30
Ethyl ether	106		107		67-130	1		30
trans-1,4-Dichloro-2-butene	78		72		70-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		88		70-130
Toluene-d8	91		91		70-130
4-Bromofluorobenzene	82		82		70-130
Dibromofluoromethane	109		108		70-130

SEMIVOLATILES

Project Name: HUBB NYC-9TH AVE.
Lab Number: L1828225
Project Number: Not Specified
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01
Client ID: SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/30/18 14:44
Analyst: RC
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/30/18 08:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	570		ug/kg	470	61.	1
1,2,4-Trichlorobenzene	ND		ug/kg	590	67.	1
Hexachlorobenzene	ND		ug/kg	350	66.	1
Bis(2-chloroethyl)ether	ND		ug/kg	530	79.	1
2-Chloronaphthalene	ND		ug/kg	590	58.	1
1,2-Dichlorobenzene	ND		ug/kg	590	100	1
1,3-Dichlorobenzene	ND		ug/kg	590	100	1
1,4-Dichlorobenzene	ND		ug/kg	590	100	1
3,3'-Dichlorobenzidine	ND		ug/kg	590	160	1
2,4-Dinitrotoluene	ND		ug/kg	590	120	1
2,6-Dinitrotoluene	ND		ug/kg	590	100	1
Fluoranthene	9600		ug/kg	350	67.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	590	63.	1
4-Bromophenyl phenyl ether	ND		ug/kg	590	89.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	700	100	1
Bis(2-chloroethoxy)methane	ND		ug/kg	630	59.	1
Hexachlorobutadiene	ND		ug/kg	590	86.	1
Hexachlorocyclopentadiene	ND		ug/kg	1700	530	1
Hexachloroethane	ND		ug/kg	470	95.	1
Isophorone	ND		ug/kg	530	76.	1
Naphthalene	620		ug/kg	590	71.	1
Nitrobenzene	ND		ug/kg	530	87.	1
NDPA/DPA	ND		ug/kg	470	67.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	590	90.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	590	200	1
Butyl benzyl phthalate	ND		ug/kg	590	150	1
Di-n-butylphthalate	ND		ug/kg	590	110	1
Di-n-octylphthalate	ND		ug/kg	590	200	1

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01 Date Collected: 07/23/18 09:00

Client ID: SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	590	54.	1
Dimethyl phthalate	ND		ug/kg	590	120	1
Benzo(a)anthracene	3100		ug/kg	350	66.	1
Benzo(a)pyrene	1600		ug/kg	470	140	1
Benzo(b)fluoranthene	7600		ug/kg	350	99.	1
Benzo(k)fluoranthene	1400		ug/kg	350	94.	1
Chrysene	5500		ug/kg	350	61.	1
Acenaphthylene	520		ug/kg	470	90.	1
Anthracene	1800		ug/kg	350	110	1
Benzo(ghi)perylene	1400		ug/kg	470	69.	1
Fluorene	700		ug/kg	590	57.	1
Phenanthrene	9900		ug/kg	350	71.	1
Dibenzo(a,h)anthracene	480		ug/kg	350	68.	1
Indeno(1,2,3-cd)pyrene	1900		ug/kg	470	82.	1
Pyrene	8200		ug/kg	350	58.	1
Biphenyl	ND		ug/kg	1300	140	1
4-Chloroaniline	ND		ug/kg	590	110	1
2-Nitroaniline	ND		ug/kg	590	110	1
3-Nitroaniline	ND		ug/kg	590	110	1
4-Nitroaniline	ND		ug/kg	590	240	1
Dibenzofuran	370	J	ug/kg	590	55.	1
2-Methylnaphthalene	260	J	ug/kg	700	71.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	590	61.	1
Acetophenone	ND		ug/kg	590	72.	1
2,4,6-Trichlorophenol	ND		ug/kg	350	110	1
p-Chloro-m-cresol	ND		ug/kg	590	87.	1
2-Chlorophenol	ND		ug/kg	590	69.	1
2,4-Dichlorophenol	ND		ug/kg	530	94.	1
2,4-Dimethylphenol	ND		ug/kg	590	190	1
2-Nitrophenol	ND		ug/kg	1300	220	1
4-Nitrophenol	ND		ug/kg	820	240	1
2,4-Dinitrophenol	ND		ug/kg	2800	270	1
4,6-Dinitro-o-cresol	ND		ug/kg	1500	280	1
Pentachlorophenol	ND		ug/kg	470	130	1
Phenol	ND		ug/kg	590	88.	1
2-Methylphenol	ND		ug/kg	590	91.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	840	92.	1

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01 Date Collected: 07/23/18 09:00

Client ID: SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
2,4,5-Trichlorophenol	ND		ug/kg	590	110	1
Benzoic Acid	660	J	ug/kg	1900	590	1
Benzyl Alcohol	ND		ug/kg	590	180	1
Carbazole	400	J	ug/kg	590	57.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	79		25-120
Phenol-d6	81		10-120
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	75		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	74		18-120

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-02
Client ID: AST SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:30
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 07/29/18 22:35
Analyst: RC
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 07/27/18 11:33

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	200	22.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	26.	1
2-Chloronaphthalene	ND		ug/kg	200	19.	1
1,2-Dichlorobenzene	ND		ug/kg	200	35.	1
1,3-Dichlorobenzene	ND		ug/kg	200	34.	1
1,4-Dichlorobenzene	220		ug/kg	200	34.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	52.	1
2,4-Dinitrotoluene	ND		ug/kg	200	39.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	39	J	ug/kg	120	22.	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	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	25.	1
Naphthalene	120	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	49.	1
Di-n-butylphthalate	ND		ug/kg	200	37.	1
Di-n-octylphthalate	ND		ug/kg	200	67.	1

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-02 Date Collected: 07/23/18 11:30

Client ID: AST SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	41.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1
Benzo(b)fluoranthene	60	J	ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	120		ug/kg	120	20.	1
Acenaphthylene	39	J	ug/kg	160	30.	1
Anthracene	130		ug/kg	120	38.	1
Benzo(ghi)perylene	43	J	ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	170		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	34	J	ug/kg	160	27.	1
Pyrene	240		ug/kg	120	19.	1
Biphenyl	ND		ug/kg	450	45.	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	81.	1
Dibenzofuran	ND		ug/kg	200	18.	1
2-Methylnaphthalene	100	J	ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	20.	1
Acetophenone	34	J	ug/kg	200	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	200	29.	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	420	74.	1
4-Nitrophenol	ND		ug/kg	270	80.	1
2,4-Dinitrophenol	ND		ug/kg	940	91.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	94.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	39	J	ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	30.	1
3-Methylphenol/4-Methylphenol	37	J	ug/kg	280	31.	1

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-02 Date Collected: 07/23/18 11:30

Client ID: AST SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
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	ND		ug/kg	200	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	72		25-120
Phenol-d6	76		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	76		30-120
2,4,6-Tribromophenol	85		10-136
4-Terphenyl-d14	83		18-120

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/27/18 22:55
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/27/18 08:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1140164-1					
Acenaphthene	ND		ug/kg	130	17.
1,2,4-Trichlorobenzene	ND		ug/kg	160	19.
Hexachlorobenzene	ND		ug/kg	99	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	99	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	27.
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	42.
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: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/27/18 22:55
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/27/18 08:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1140164-1					
Dimethyl phthalate	ND		ug/kg	160	35.
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.
Biphenyl	ND		ug/kg	380	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	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	20.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/27/18 22:55
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 07/27/18 08:02

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1140164-1					
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
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	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	32.
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	94		25-120
Phenol-d6	97		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	90		30-120
2,4,6-Tribromophenol	93		10-136
4-Terphenyl-d14	97		18-120

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/30/18 13:45
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 07/29/18 11:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1140670-1					
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	33.
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	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	56.
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: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/30/18 13:45
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 07/29/18 11:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1140670-1					
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	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.

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 07/30/18 13:45
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 07/29/18 11:50

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1140670-1					
4-Nitrophenol	ND		ug/kg	230	67.
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	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	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	76		25-120
Phenol-d6	87		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	81		30-120
2,4,6-Tribromophenol	94		10-136
4-Terphenyl-d14	102		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1140164-2 WG1140164-3								
Acenaphthene	90		90		31-137	0		50
1,2,4-Trichlorobenzene	84		86		38-107	2		50
Hexachlorobenzene	92		88		40-140	4		50
Bis(2-chloroethyl)ether	90		90		40-140	0		50
2-Chloronaphthalene	96		93		40-140	3		50
1,2-Dichlorobenzene	85		87		40-140	2		50
1,3-Dichlorobenzene	82		85		40-140	4		50
1,4-Dichlorobenzene	83		85		28-104	2		50
3,3'-Dichlorobenzidine	79		77		40-140	3		50
2,4-Dinitrotoluene	95		93		40-132	2		50
2,6-Dinitrotoluene	98		90		40-140	9		50
Fluoranthene	93		89		40-140	4		50
4-Chlorophenyl phenyl ether	89		86		40-140	3		50
4-Bromophenyl phenyl ether	91		90		40-140	1		50
Bis(2-chloroisopropyl)ether	91		94		40-140	3		50
Bis(2-chloroethoxy)methane	94		93		40-117	1		50
Hexachlorobutadiene	88		86		40-140	2		50
Hexachlorocyclopentadiene	87		85		40-140	2		50
Hexachloroethane	84		87		40-140	4		50
Isophorone	95		95		40-140	0		50
Naphthalene	88		88		40-140	0		50
Nitrobenzene	92		93		40-140	1		50
NDPA/DPA	94		90		36-157	4		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1140164-2 WG1140164-3								
n-Nitrosodi-n-propylamine	93		94		32-121	1		50
Bis(2-ethylhexyl)phthalate	101		99		40-140	2		50
Butyl benzyl phthalate	96		96		40-140	0		50
Di-n-butylphthalate	96		93		40-140	3		50
Di-n-octylphthalate	103		101		40-140	2		50
Diethyl phthalate	96		93		40-140	3		50
Dimethyl phthalate	98		94		40-140	4		50
Benzo(a)anthracene	90		88		40-140	2		50
Benzo(a)pyrene	97		95		40-140	2		50
Benzo(b)fluoranthene	95		94		40-140	1		50
Benzo(k)fluoranthene	93		91		40-140	2		50
Chrysene	95		92		40-140	3		50
Acenaphthylene	93		89		40-140	4		50
Anthracene	94		92		40-140	2		50
Benzo(ghi)perylene	92		89		40-140	3		50
Fluorene	90		88		40-140	2		50
Phenanthrene	91		90		40-140	1		50
Dibenzo(a,h)anthracene	95		92		40-140	3		50
Indeno(1,2,3-cd)pyrene	94		92		40-140	2		50
Pyrene	90		89		35-142	1		50
Biphenyl	100		95		54-104	5		50
4-Chloroaniline	87		84		40-140	4		50
2-Nitroaniline	98		94		47-134	4		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1140164-2 WG1140164-3								
3-Nitroaniline	82		80		26-129	2		50
4-Nitroaniline	94		89		41-125	5		50
Dibenzofuran	90		89		40-140	1		50
2-Methylnaphthalene	92		88		40-140	4		50
1,2,4,5-Tetrachlorobenzene	94		90		40-117	4		50
Acetophenone	98		98		14-144	0		50
2,4,6-Trichlorophenol	99		93		30-130	6		50
p-Chloro-m-cresol	101		98		26-103	3		50
2-Chlorophenol	93		94		25-102	1		50
2,4-Dichlorophenol	98		96		30-130	2		50
2,4-Dimethylphenol	98		98		30-130	0		50
2-Nitrophenol	94		95		30-130	1		50
4-Nitrophenol	103		99		11-114	4		50
2,4-Dinitrophenol	80		72		4-130	11		50
4,6-Dinitro-o-cresol	86		82		10-130	5		50
Pentachlorophenol	88		85		17-109	3		50
Phenol	90		90		26-90	0		50
2-Methylphenol	97		97		30-130.	0		50
3-Methylphenol/4-Methylphenol	95		95		30-130	0		50
2,4,5-Trichlorophenol	95		91		30-130	4		50
Benzoic Acid	65		57		10-110	13		50
Benzyl Alcohol	95		97		40-140	2		50
Carbazole	94		91		54-128	3		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1140164-2 WG1140164-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	86		90		25-120
Phenol-d6	87		89		10-120
Nitrobenzene-d5	85		84		23-120
2-Fluorobiphenyl	83		82		30-120
2,4,6-Tribromophenol	81		83		10-136
4-Terphenyl-d14	79		77		18-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1140670-2 WG1140670-3								
Acenaphthene	87		87		31-137	0		50
1,2,4-Trichlorobenzene	81		82		38-107	1		50
Hexachlorobenzene	89		89		40-140	0		50
Bis(2-chloroethyl)ether	82		81		40-140	1		50
2-Chloronaphthalene	86		87		40-140	1		50
1,2-Dichlorobenzene	80		81		40-140	1		50
1,3-Dichlorobenzene	77		79		40-140	3		50
1,4-Dichlorobenzene	77		79		28-104	3		50
3,3'-Dichlorobenzidine	80		83		40-140	4		50
2,4-Dinitrotoluene	99		98		40-132	1		50
2,6-Dinitrotoluene	93		91		40-140	2		50
Fluoranthene	94		94		40-140	0		50
4-Chlorophenyl phenyl ether	86		86		40-140	0		50
4-Bromophenyl phenyl ether	89		88		40-140	1		50
Bis(2-chloroisopropyl)ether	82		84		40-140	2		50
Bis(2-chloroethoxy)methane	82		84		40-117	2		50
Hexachlorobutadiene	79		82		40-140	4		50
Hexachlorocyclopentadiene	59		61		40-140	3		50
Hexachloroethane	74		77		40-140	4		50
Isophorone	81		82		40-140	1		50
Naphthalene	82		83		40-140	1		50
Nitrobenzene	82		85		40-140	4		50
NDPA/DPA	89		90		36-157	1		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1140670-2 WG1140670-3								
n-Nitrosodi-n-propylamine	81		84		32-121	4		50
Bis(2-ethylhexyl)phthalate	88		89		40-140	1		50
Butyl benzyl phthalate	94		93		40-140	1		50
Di-n-butylphthalate	91		90		40-140	1		50
Di-n-octylphthalate	90		90		40-140	0		50
Diethyl phthalate	86		86		40-140	0		50
Dimethyl phthalate	86		84		40-140	2		50
Benzo(a)anthracene	89		88		40-140	1		50
Benzo(a)pyrene	99		101		40-140	2		50
Benzo(b)fluoranthene	90		92		40-140	2		50
Benzo(k)fluoranthene	100		99		40-140	1		50
Chrysene	89		90		40-140	1		50
Acenaphthylene	88		89		40-140	1		50
Anthracene	92		92		40-140	0		50
Benzo(ghi)perylene	96		94		40-140	2		50
Fluorene	88		90		40-140	2		50
Phenanthrene	91		89		40-140	2		50
Dibenzo(a,h)anthracene	95		92		40-140	3		50
Indeno(1,2,3-cd)pyrene	91		91		40-140	0		50
Pyrene	92		93		35-142	1		50
Biphenyl	89		90		54-104	1		50
4-Chloroaniline	83		83		40-140	0		50
2-Nitroaniline	96		94		47-134	2		50

Lab Control Sample Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1140670-2 WG1140670-3								
3-Nitroaniline	85		88		26-129	3		50
4-Nitroaniline	92		91		41-125	1		50
Dibenzofuran	89		89		40-140	0		50
2-Methylnaphthalene	86		87		40-140	1		50
1,2,4,5-Tetrachlorobenzene	90		87		40-117	3		50
Acetophenone	84		86		14-144	2		50
2,4,6-Trichlorophenol	92		92		30-130	0		50
p-Chloro-m-cresol	91		93		26-103	2		50
2-Chlorophenol	87		87		25-102	0		50
2,4-Dichlorophenol	92		93		30-130	1		50
2,4-Dimethylphenol	87		87		30-130	0		50
2-Nitrophenol	88		91		30-130	3		50
4-Nitrophenol	94		103		11-114	9		50
2,4-Dinitrophenol	76		78		4-130	3		50
4,6-Dinitro-o-cresol	89		92		10-130	3		50
Pentachlorophenol	84		81		17-109	4		50
Phenol	82		83		26-90	1		50
2-Methylphenol	89		92		30-130.	3		50
3-Methylphenol/4-Methylphenol	87		90		30-130	3		50
2,4,5-Trichlorophenol	93		95		30-130	2		50
Benzoic Acid	49		51		10-110	4		50
Benzyl Alcohol	83		85		40-140	2		50
Carbazole	92		92		54-128	0		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

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: WG1140670-2 WG1140670-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	84		85		25-120
Phenol-d6	86		87		10-120
Nitrobenzene-d5	82		82		23-120
2-Fluorobiphenyl	83		82		30-120
2,4,6-Tribromophenol	87		88		10-136
4-Terphenyl-d14	87		85		18-120

PETROLEUM HYDROCARBONS

Project Name: HUBB NYC-9TH AVE.
Lab Number: L1828225
Project Number: Not Specified
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01
Client ID: SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/25/18 11:41
Analyst: MZ
Percent Solids: 80%

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westborough Lab						
Gasoline Range Organics	6400		ug/kg	4800	92.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	101		70-130
4-Bromofluorobenzene	86		70-130

Project Name: HUBB NYC-9TH AVE.
Lab Number: L1828225
Project Number: Not Specified
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01
Client ID: SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 07/30/18 11:06
Analyst: DG
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/27/18 10:24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	578000		ug/kg	40400	4640	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	95		40-140

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/25/18 10:59
Analyst: MZ

Parameter	Result	Qualifier	Units	RL	MDL
Gasoline Range Organics - Westborough Lab for sample(s): 01 Batch: WG1139334-12					
Gasoline Range Organics	1500	J	ug/kg	2500	48.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	92		70-130
4-Bromofluorobenzene	83		70-130

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 07/28/18 14:34
Analyst: LL

Extraction Method: EPA 3546
Extraction Date: 07/27/18 10:24

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1140242-1					
TPH	ND		ug/kg	31300	3600

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	79		40-140

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Gasoline Range Organics - Westborough Lab	Associated sample(s): 01		Batch: WG1139334-10 WG1139334-11					
Gasoline Range Organics	80		82		80-120	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,1,1-Trifluorotoluene	92		94		70-130
4-Bromofluorobenzene	83		85		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1140242-2								
TPH	84		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	79				40-140

Lab Duplicate Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1140242-3 QC Sample: L1828225-01 Client ID: SOIL PILE WC						
TPH	578000	765000	ug/kg	28		40

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	95		94		40-140

PCBS

Project Name: HUBB NYC-9TH AVE.
Lab Number: L1828225
Project Number: Not Specified
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01
Client ID: SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 07/29/18 19:20
Analyst: WR
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 07/27/18 08:42
Cleanup Method: EPA 3665A
Cleanup Date: 07/27/18
Cleanup Method: EPA 3660B
Cleanup Date: 07/28/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	41.0	4.64	1	A
Aroclor 1221	ND		ug/kg	41.0	6.23	1	A
Aroclor 1232	ND		ug/kg	41.0	4.03	1	A
Aroclor 1242	ND		ug/kg	41.0	5.01	1	A
Aroclor 1248	ND		ug/kg	41.0	4.60	1	A
Aroclor 1254	ND		ug/kg	41.0	3.34	1	A
Aroclor 1260	ND		ug/kg	41.0	4.28	1	A
Aroclor 1262	ND		ug/kg	41.0	3.37	1	A
Aroclor 1268	ND		ug/kg	41.0	2.90	1	A
PCBs, Total	ND		ug/kg	41.0	2.90	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	57		30-150	A
Decachlorobiphenyl	58		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 07/27/18 08:01
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 07/27/18 01:59
Cleanup Method: EPA 3665A
Cleanup Date: 07/27/18
Cleanup Method: EPA 3660B
Cleanup Date: 07/27/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1140055-1						
Aroclor 1016	ND		ug/kg	31.7	3.60	A
Aroclor 1221	ND		ug/kg	31.7	4.83	A
Aroclor 1232	ND		ug/kg	31.7	3.12	A
Aroclor 1242	ND		ug/kg	31.7	3.88	A
Aroclor 1248	ND		ug/kg	31.7	3.56	A
Aroclor 1254	ND		ug/kg	31.7	2.59	A
Aroclor 1260	ND		ug/kg	31.7	3.31	A
Aroclor 1262	ND		ug/kg	31.7	2.61	A
Aroclor 1268	ND		ug/kg	31.7	2.25	A
PCBs, Total	ND		ug/kg	31.7	2.25	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	75		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	78		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

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: WG1140055-2 WG1140055-3									
Aroclor 1016	82		77		40-140	6		50	A
Aroclor 1260	76		71		40-140	7		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		79		30-150	A
Decachlorobiphenyl	77		71		30-150	A
2,4,5,6-Tetrachloro-m-xylene	82		75		30-150	B
Decachlorobiphenyl	80		73		30-150	B

METALS

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01 Date Collected: 07/23/18 09:00

Client ID: SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 07/24/18 16:49

Matrix: Soil

Percent Solids: 80%

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	1.00	0.019	1	07/27/18 13:40	07/27/18 17:35	EPA 3015	1,6010D	AB
Barium, TCLP	0.068	J	mg/l	0.500	0.021	1	07/27/18 13:40	07/27/18 17:35	EPA 3015	1,6010D	AB
Cadmium, TCLP	ND		mg/l	0.100	0.010	1	07/27/18 13:40	07/27/18 17:35	EPA 3015	1,6010D	AB
Chromium, TCLP	0.240		mg/l	0.200	0.021	1	07/27/18 13:40	07/27/18 17:35	EPA 3015	1,6010D	AB
Lead, TCLP	0.077	J	mg/l	0.500	0.027	1	07/27/18 13:40	07/27/18 17:35	EPA 3015	1,6010D	AB
Mercury, TCLP	ND		mg/l	0.0010	0.0003	1	07/26/18 10:33	07/26/18 19:48	EPA 7470A	1,7470A	EA
Selenium, TCLP	ND		mg/l	0.500	0.035	1	07/27/18 13:40	07/27/18 17:35	EPA 3015	1,6010D	AB
Silver, TCLP	ND		mg/l	0.100	0.028	1	07/27/18 13:40	07/27/18 17:35	EPA 3015	1,6010D	AB

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01 Date Collected: 07/23/18 09:00

Client ID: SOIL PILE WC Date Received: 07/23/18

Sample Location: 9TH AVENUE, MANHATTAN Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	9830		mg/kg	9.64	2.60	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Antimony, Total	ND		mg/kg	4.82	0.366	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Arsenic, Total	3.60		mg/kg	0.964	0.200	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Barium, Total	57.4		mg/kg	0.964	0.168	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Beryllium, Total	0.087	J	mg/kg	0.482	0.032	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Cadmium, Total	0.443	J	mg/kg	0.964	0.095	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Calcium, Total	10900		mg/kg	9.64	3.37	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Chromium, Total	17.1		mg/kg	0.964	0.093	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Cobalt, Total	6.28		mg/kg	1.93	0.160	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Copper, Total	93.1		mg/kg	0.964	0.249	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Iron, Total	19200		mg/kg	4.82	0.870	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Lead, Total	40.4		mg/kg	4.82	0.258	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Magnesium, Total	4010		mg/kg	9.64	1.48	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Manganese, Total	349		mg/kg	0.964	0.153	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Mercury, Total	0.170		mg/kg	0.079	0.017	1	07/25/18 08:00	07/25/18 22:46	EPA 7471B	1,7471B	EA
Nickel, Total	15.4		mg/kg	2.41	0.233	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Potassium, Total	3450		mg/kg	241	13.9	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Selenium, Total	1.76	J	mg/kg	1.93	0.249	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Silver, Total	ND		mg/kg	0.964	0.273	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Sodium, Total	1850		mg/kg	193	3.04	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Thallium, Total	ND		mg/kg	1.93	0.304	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Vanadium, Total	19.6		mg/kg	0.964	0.196	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE
Zinc, Total	1100		mg/kg	4.82	0.282	2	07/27/18 04:00	07/27/18 12:37	EPA 3050B	1,6010D	PE

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

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: WG1139159-1										
Mercury, Total	ND		mg/kg	0.083	0.018	1	07/25/18 08:00	07/25/18 22:30	1,7471B	EA

Prep Information

Digestion Method: EPA 7471B

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: WG1139765-1										
Mercury, TCLP	ND		mg/l	0.0010	0.0003	1	07/26/18 10:33	07/26/18 19:45	1,7470A	EA

Prep Information

Digestion Method: EPA 7470A

TCLP/SPLP Extraction Date: 07/24/18 16:49

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1140069-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Antimony, Total	ND		mg/kg	2.00	0.152	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Arsenic, Total	ND		mg/kg	0.400	0.083	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Barium, Total	ND		mg/kg	0.400	0.070	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Beryllium, Total	ND		mg/kg	0.200	0.013	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Cadmium, Total	ND		mg/kg	0.400	0.039	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Calcium, Total	ND		mg/kg	4.00	1.40	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Chromium, Total	ND		mg/kg	0.400	0.038	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Cobalt, Total	ND		mg/kg	0.800	0.066	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Copper, Total	ND		mg/kg	0.400	0.103	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Iron, Total	0.660	J	mg/kg	2.00	0.361	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Lead, Total	ND		mg/kg	2.00	0.107	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Magnesium, Total	ND		mg/kg	4.00	0.616	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Manganese, Total	0.204	J	mg/kg	0.400	0.064	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Nickel, Total	ND		mg/kg	1.00	0.097	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Potassium, Total	ND		mg/kg	100	5.76	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

Method Blank Analysis
Batch Quality Control

Selenium, Total	ND		mg/kg	0.800	0.103	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Silver, Total	ND		mg/kg	0.400	0.113	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Sodium, Total	2.49	J	mg/kg	80.0	1.26	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Thallium, Total	ND		mg/kg	0.800	0.126	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Vanadium, Total	ND		mg/kg	0.400	0.081	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE
Zinc, Total	ND		mg/kg	2.00	0.117	1	07/27/18 04:00	07/27/18 12:28	1,6010D	PE

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 Batch: WG1140300-1										
Arsenic, TCLP	ND		mg/l	1.00	0.019	1	07/27/18 13:40	07/27/18 17:02	1,6010D	AB
Barium, TCLP	ND		mg/l	0.500	0.021	1	07/27/18 13:40	07/27/18 17:02	1,6010D	AB
Cadmium, TCLP	ND		mg/l	0.100	0.010	1	07/27/18 13:40	07/27/18 17:02	1,6010D	AB
Chromium, TCLP	ND		mg/l	0.200	0.021	1	07/27/18 13:40	07/27/18 17:02	1,6010D	AB
Lead, TCLP	ND		mg/l	0.500	0.027	1	07/27/18 13:40	07/27/18 17:02	1,6010D	AB
Selenium, TCLP	ND		mg/l	0.500	0.035	1	07/27/18 13:40	07/27/18 17:02	1,6010D	AB
Silver, TCLP	ND		mg/l	0.100	0.028	1	07/27/18 13:40	07/27/18 17:02	1,6010D	AB

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 07/24/18 16:49

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1139159-2 SRM Lot Number: D098-540								
Mercury, Total	113		-		50-149	-		
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1139765-2								
Mercury, TCLP	110		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1140069-2 SRM Lot Number: D098-540					
Aluminum, Total	66	-	47-153	-	
Antimony, Total	156	-	6-194	-	
Arsenic, Total	108	-	83-117	-	
Barium, Total	91	-	82-118	-	
Beryllium, Total	85	-	83-117	-	
Cadmium, Total	101	-	82-117	-	
Calcium, Total	84	-	81-118	-	
Chromium, Total	96	-	83-119	-	
Cobalt, Total	102	-	84-116	-	
Copper, Total	99	-	84-116	-	
Iron, Total	92	-	60-140	-	
Lead, Total	105	-	82-117	-	
Magnesium, Total	82	-	76-124	-	
Manganese, Total	82	-	82-118	-	
Nickel, Total	100	-	82-117	-	
Potassium, Total	84	-	69-131	-	
Selenium, Total	107	-	78-121	-	
Silver, Total	97	-	80-120	-	
Sodium, Total	89	-	74-126	-	
Thallium, Total	104	-	80-119	-	
Vanadium, Total	94	-	79-121	-	

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1140069-2 SRM Lot Number: D098-540					
Zinc, Total	102	-	81-119	-	
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1140300-2					
Arsenic, TCLP	103	-	75-125	-	20
Barium, TCLP	104	-	75-125	-	20
Cadmium, TCLP	99	-	75-125	-	20
Chromium, TCLP	96	-	75-125	-	20
Lead, TCLP	98	-	75-125	-	20
Selenium, TCLP	107	-	75-125	-	20
Silver, TCLP	89	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1139159-3 QC Sample: L1828178-02 Client ID: MS Sample												
Mercury, Total	ND	0.13	0.165	**126**	Q	-	-		80-120	-		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1139765-3 QC Sample: L1828225-01 Client ID: SOIL PILE WC												
Mercury, TCLP	ND	0.025	0.0222	89		-	-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1140069-3 QC Sample: L1828225-01 Client ID: SOIL PILE WC										
Aluminum, Total	9830	195	9610	**0**	Q	-	-	75-125	-	20
Antimony, Total	ND	48.8	42.7	87		-	-	75-125	-	20
Arsenic, Total	3.60	11.7	14.4	92		-	-	75-125	-	20
Barium, Total	57.4	195	207	76		-	-	75-125	-	20
Beryllium, Total	0.087J	4.88	4.30	88		-	-	75-125	-	20
Cadmium, Total	0.443J	4.98	4.98	100		-	-	75-125	-	20
Calcium, Total	10900	977	14600	**379**	Q	-	-	75-125	-	20
Chromium, Total	17.1	19.5	35.1	92		-	-	75-125	-	20
Cobalt, Total	6.28	48.8	50.6	91		-	-	75-125	-	20
Copper, Total	93.1	24.4	118	102		-	-	75-125	-	20
Iron, Total	19200	97.7	19300	102		-	-	75-125	-	20
Lead, Total	40.4	49.8	93.0	106		-	-	75-125	-	20
Magnesium, Total	4010	977	4910	92		-	-	75-125	-	20
Manganese, Total	349.	48.8	231	**0**	Q	-	-	75-125	-	20
Nickel, Total	15.4	48.8	58.5	88		-	-	75-125	-	20
Potassium, Total	3450	977	4440	101		-	-	75-125	-	20
Selenium, Total	1.76J	11.7	12.5	107		-	-	75-125	-	20
Silver, Total	ND	29.3	28.1	96		-	-	75-125	-	20
Sodium, Total	1850	977	2810	98		-	-	75-125	-	20
Thallium, Total	ND	11.7	8.08	**69**	Q	-	-	75-125	-	20
Vanadium, Total	19.6	48.8	66.2	95		-	-	75-125	-	20

Matrix Spike Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1140069-3 QC Sample: L1828225-01 Client ID: SOIL PILE WC										
Zinc, Total	1100	48.8	1020	**0**	Q	-	-	75-125	-	20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1140300-3 QC Sample: L1828225-01 Client ID: SOIL PILE WC										
Arsenic, TCLP	ND	1.2	1.28	107		-	-	75-125	-	20
Barium, TCLP	0.068J	20	21.1	106		-	-	75-125	-	20
Cadmium, TCLP	ND	0.51	0.515	101		-	-	75-125	-	20
Chromium, TCLP	0.240	2	2.13	94		-	-	75-125	-	20
Lead, TCLP	0.077J	5.1	5.10	100		-	-	75-125	-	20
Selenium, TCLP	ND	1.2	1.32	110		-	-	75-125	-	20
Silver, TCLP	ND	0.5	0.448	90		-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1139159-4 QC Sample: L1828178-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/kg	NC		20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1139765-4 QC Sample: L1828225-01 Client ID: SOIL PILE WC						
Mercury, TCLP	ND	ND	mg/l	NC		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1140069-4 QC Sample: L1828225-01 Client ID: SOIL PILE WC						
Aluminum, Total	9830	8660	mg/kg	13		20
Antimony, Total	ND	ND	mg/kg	NC		20
Arsenic, Total	3.60	3.38	mg/kg	6		20
Barium, Total	57.4	55.9	mg/kg	3		20
Beryllium, Total	0.087J	ND	mg/kg	NC		20
Cadmium, Total	0.443J	0.409J	mg/kg	NC		20
Calcium, Total	10900	10600	mg/kg	3		20
Chromium, Total	17.1	17.7	mg/kg	3		20
Cobalt, Total	6.28	5.62	mg/kg	11		20
Copper, Total	93.1	74.5	mg/kg	**22**	Q	20
Iron, Total	19200	19800	mg/kg	3		20
Lead, Total	40.4	44.8	mg/kg	10		20
Magnesium, Total	4010	3880	mg/kg	3		20
Manganese, Total	349.	161	mg/kg	**74**	Q	20
Nickel, Total	15.4	12.8	mg/kg	18		20
Potassium, Total	3450	3370	mg/kg	2		20
Selenium, Total	1.76J	1.52J	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Sodium, Total	1850	2190	mg/kg	17		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1140069-4 QC Sample: L1828225-01 Client ID: SOIL PILE WC					
Thallium, Total	ND	ND	mg/kg	NC	20
Vanadium, Total	19.6	18.7	mg/kg	5	20
Zinc, Total	1100	980	mg/kg	12	20
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1140300-4 QC Sample: L1828225-01 Client ID: SOIL PILE WC					
Arsenic, TCLP	ND	ND	mg/l	NC	20
Barium, TCLP	0.068J	0.075J	mg/l	NC	20
Cadmium, TCLP	ND	ND	mg/l	NC	20
Chromium, TCLP	0.240	0.257	mg/l	7	20
Lead, TCLP	0.077J	0.062J	mg/l	NC	20
Selenium, TCLP	ND	ND	mg/l	NC	20
Silver, TCLP	ND	ND	mg/l	NC	20

INORGANICS
&
MISCELLANEOUS

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01
Client ID: SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Test Material Information

Source of Material:	Unknown
Description of Material:	Non-Metallic - Damp Soil
Particle Size:	Fine
Preliminary Burning Time (sec):	120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	07/24/18 07:13	1,1030	GD

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-01
Client ID: SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 09:00
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.1		%	0.100	NA	1	-	07/26/18 13:31	121,2540G	RI
Cyanide, Total	ND		mg/kg	1.2	0.26	1	07/24/18 18:20	07/25/18 12:50	1,9010C/9012B	LH
pH (H)	5.2		SU	-	NA	1	-	07/24/18 07:35	1,9045D	MA
Chromium, Hexavalent	ND		mg/kg	0.999	0.200	1	07/28/18 22:45	07/30/18 13:30	1,7196A	AJ
Cyanide, Reactive	ND		mg/kg	10	10.	1	07/26/18 20:25	07/26/18 22:48	125,7.3	RM
Sulfide, Reactive	ND		mg/kg	10	10.	1	07/26/18 20:25	07/26/18 22:14	125,7.3	RM

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

SAMPLE RESULTS

Lab ID: L1828225-02
Client ID: AST SOIL PILE WC
Sample Location: 9TH AVENUE, MANHATTAN

Date Collected: 07/23/18 11:30
Date Received: 07/23/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.9		%	0.100	NA	1	-	07/26/18 13:31	121,2540G	RI

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified
Lab Number: L1828225
Report Date: 07/30/18

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: WG1138957-1										
Cyanide, Total	ND		mg/kg	0.84	0.18	1	07/24/18 18:20	07/25/18 12:39	1,9010C/9012B	LH
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1139986-1										
Sulfide, Reactive	ND		mg/kg	10	10.	1	07/26/18 20:25	07/26/18 22:12	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1139993-1										
Cyanide, Reactive	ND		mg/kg	10	10.	1	07/26/18 20:25	07/26/18 22:46	125,7.3	RM
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1140455-1										
Chromium, Hexavalent	ND		mg/kg	0.800	0.160	1	07/28/18 22:45	07/30/18 13:30	1,7196A	AJ

Lab Control Sample Analysis

Batch Quality Control

Project Name: HUBB NYC-9TH AVE.

Project Number: Not Specified

Lab Number: L1828225

Report Date: 07/30/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1138750-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1138957-2 WG1138957-3								
Cyanide, Total	**75**	Q	**48**	Q	80-120	**39**	Q	35
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1139986-2								
Sulfide, Reactive	88		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1139993-2								
Cyanide, Reactive	72		-		30-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1140455-2								
Chromium, Hexavalent	87		-		80-120	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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: WG1138957-4 WG1138957-5 QC Sample: L1828230-06 Client ID: MS Sample												
Cyanide, Total	ND	14	14	100		13	94		75-125	7		35
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1140455-4 QC Sample: L1828225-01 Client ID: SOIL PILE WC												
Chromium, Hexavalent	ND	1280	1110	87		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1138750-2 QC Sample: L1828225-01 Client ID: SOIL PILE WC						
pH (H)	5.2	4.4	SU	**17**	Q	5
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1139861-1 QC Sample: L1828175-01 Client ID: DUP Sample						
Solids, Total	95.3	95.9	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1139986-3 QC Sample: L1828235-06 Client ID: DUP Sample						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1139993-3 QC Sample: L1828235-06 Client ID: DUP Sample						
Cyanide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1140455-6 QC Sample: L1828225-01 Client ID: SOIL PILE WC						
Chromium, Hexavalent	ND	ND	mg/kg	NC		20

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

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	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1828225-01A	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828225-01B	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828225-01C	5 gram Encore Sampler	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828225-01D	Plastic 2oz unpreserved for TS	A	NA		3.5	Y	Absent		TS(7)
L1828225-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.5	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)
L1828225-01F	Glass 60mL/2oz unpreserved	A	NA		3.5	Y	Absent		IGNIT-1030(14),NYTCL-8270(14),REACTS(14),TCN-9010(14),PH-9045(1),NYTCL-8082(14),REACTCN(14),TPH-DRO-D(14),HEXCR-7196(30)
L1828225-01G	Vial Large Septa unpreserved (4oz)	A	NA		3.5	Y	Absent		TPH-GRO(14)
L1828225-01G9	Vial MeOH preserved split	A	NA		3.5	Y	Absent		TPH-GRO(14)
L1828225-01H	Vial Large Septa unpreserved (4oz)	A	NA		3.5	Y	Absent		IGNIT-1030(14),NYTCL-8270(14),REACTS(14),TCN-9010(14),PH-9045(1),NYTCL-8082(14),REACTCN(14),TPH-DRO-D(14),HEXCR-7196(30)
L1828225-01I	Glass 500ml/16oz unpreserved	A	NA		3.5	Y	Absent		IGNIT-1030(14),NYTCL-8270(14),REACTS(14),TCN-9010(14),PH-9045(1),NYTCL-8082(14),REACTCN(14),TPH-DRO-D(14),HEXCR-7196(30)
L1828225-01O	Glass 250ml/8oz unpreserved	NA	NA			Y	Absent		-
L1828225-01W	Plastic 120ml HNO3 preserved Extracts	A	NA		3.5	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)
L1828225-01W9	Tumble Vessel	A	NA		3.5	Y	Absent		-
L1828225-01X	Vial MeOH preserved split	A	NA		3.5	Y	Absent		NYTCL-8260HLW(14)
L1828225-01Y	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:11	NYTCL-8260HLW(14)
L1828225-01Z	Vial Water preserved split	A	NA		3.5	Y	Absent	24-JUL-18 06:11	NYTCL-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: HUBB NYC-9TH AVE.
Project Number: Not Specified

Lab Number: L1828225
Report Date: 07/30/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1828225-02A	Glass 120ml/4oz unpreserved	A	NA		3.5	Y	Absent		NYTCL-8270(14),TS(7)

*Values in parentheses indicate holding time in days

Project Name:	HUBB NYC-9TH AVE.	**Lab Number:**	L1828225
Project Number:	Not Specified	**Report Date:**	07/30/18

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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample¿s toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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

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.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	HUBB NYC-9TH AVE.	**Lab Number:**	L1828225
Project Number:	Not Specified	**Report Date:**	07/30/18

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 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

Project Name: HUBB NYC-9TH AVE. **Lab Number:** L1828225

Project Number: Not Specified **Report Date:** 07/30/18

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.

125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

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.

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: SCM: Perchlorate
EPA 9010: NPW and SCM: Amenable Cyanide Distillation
SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
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: Chloride, 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: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, 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, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

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.

NEW JERSEY CHAIN OF CUSTODY

ALPHA ANALYTICAL

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: 7/23/18

ALPHA Job #: L1825225

Client Information

Client: Vertex
Address: 3327 Rte 22 W, Ste 907
Branchburg, NJ 08876
Phone: 908 448 2027
Fax: 908 450 1443
Email: mkulas@vertexinc.com

These samples have been previously analyzed by Alpha ☐

Project Information

Project Name: HUBB NYC - 9th Ave
Project Location: 9th Ave, Manhattan, NY
Project #
(Use Project name as Project #) ☐
Project Manager: Madalyn Kulas
ALPHAQuote #:

Turn-Around Time

Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables

☐ NJ Full / Reduced
☐ EQuIS (1 File) ☒ EQuIS (4 File)
☐ Other

Regulatory Requirement

☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☒ Other NY

Billing Information

☒ Same as Client Info
PO #

Site Information

Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

For EPH, selection is REQUIRED:
☐ Category 1
☐ Category 2

For VOC, selection is REQUIRED:
☐ 1,4-Dioxane
☐ 8011

Other project specific requirements/comments:
Please specify Metals or TAL.

ANALYSIS

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	VOCs	SVOCs	TPH	TAP RCRA 8 metals	TAL metals, hex chrome	PCB	Ignitability, Reactivity, Corrosivity, total Cyanide	Sample Specific Comments
25225-01	Soil Pile WC	7/23/18	0900	S	WS	X	X	X	X	X	X	X	
02	AST Soil Pile WC	↓	1130	↓	↓		X						

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

Total Bottle

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
Weston Swanson	7/23/18 13:50	Paul Mazzella	7/23/18 13:50
Paul Mazzella	7/23/18 17:45		7/23/18 22:30

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: 01-14 HC (rev. 30-Sept-2013)

APPENDIX C:

PHOTOGRAPHIC LOG

Photographic Documentation
Phase II LSI
674 Ninth Avenue
Manhattan, NY, 10036
VERTEX Proj. No. 51782

Photo #1: Eastern-facing interior on the 1st floor of the site.

Photo #2: Eastern section (former dry cleaning machine) of the 1st floor of the site.

Photo #3: VTX-01 located in the eastern section of the 1st floor.

Photo #4:VTX-02 located in the eastern section of the 1st floor.

Photo #5: VTX-03 located in the eastern section of the 1st floor.

Photo #6: VTX-04 located in the eastern section of the 1st floor.

Photographs taken on July 23, 2018 by Wesley Swanson

Photographic Documentation
Phase II LSI
674 Ninth Avenue
Manhattan, NY, 10036
VERTEX Proj. No. 51782

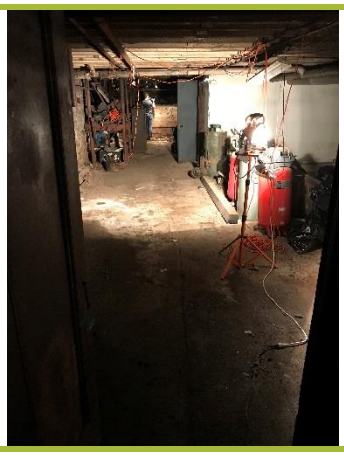


Photo #7: View looking east of the interior of the basement.

Photo #8: VTX-05 located in the basement.

Photo #9: VTX-08 located near the former drum storage area in the basement.

Photo #10: Additional view of the drum storage area.

Photo #11: VTX-07 located in the basement.

Photo #12: Former drycleaner boiler room located in the basement.

Photographs taken on July 23, 2018 by Wesley Swanson

Photographic Documentation
Phase II LSI
674 Ninth Avenue
Manhattan, NY, 10036
VERTEX Proj. No. 51782

Photo #13: VTX-06, AST Soil Pile Waste Class, and vaulted AST(s) located in the rear section of the basement.

Photo #14: Additional boiler room located in the eastern section of the basement.

Photo #15: Soil Pile Waste Class located in additional drycleaner boiler room.