BP SERVICE STATION
4001-4010 4TH AVENUE
BROOKLYN, NEW YORK
SPILL # 18-11146

Supplemental
Remedial Investigation
Report
(RIR)

NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
REGION II
LONG ISLAND CITY
NEW YORK

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

PREPARED BY:

BERNINGER ENVIRONMENTAL
17 OLD DOCK ROAD
YAPHANK, NEW YORK 11980

BEi

June 2020

Table of Contents

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June 17th, 2020

Veronica Zhune
New York State Environmental Conservation
Division of Environmental Remediation, Region 2
47-40 21st Street
Long Island City, New York 11101

Re: BP Service Station
4001-4010 4th Avenue
Brooklyn, New York 11232

Remedial Investigation Work Plan
NYSDEC Spill #18-11146
(RIWP)

Dear Ms. Zhune,

1.0 INTRODUCTION

The following document is a Remedial Investigation Report (RIR) developed for the subject site based upon the approved Remedial Investigation Work Plan (RIWP), which supplemented previous Phase I and Phase II Environmental Site Assessments (ESAs) performed at the site. The previously conducted Phase II ESA identified environmental conditions above standards and warranted further supplemental investigation to further the extent of contamination. This supplemental RIR will discuss the findings from the supplemental investigation and propose remedial alternatives to address the contamination discovered within soils at the site. Included within this Report is a discussion on the following: site background, site history, summary of supplemental findings, remedial alternatives, and a conclusion on the results.

2.0 SITE BACKGROUND

The site is located at 4001-4011 4th Avenue, Brooklyn, New York- Figure 1. The site is located on a plot size approximately 10,017 square feet. The site is currently used as a gas station with a convenience store and parking. The building was constructed in 1965. Castleton reviewed the Phase I ESA prepared by Merritt Environmental Consulting Corporation (MECC) dated January 7, 2019. The MECC Phase I ESA identified that the site has been a gasoline station since its first developed use. According to the historical Sanborn Maps, a gasoline tank was present at the corner of 4th Avenue and 10th Street during the years 1926-1951. MECC recommended further evaluation to

determine if any documentation is available or if additional investigation (Phase II) is warranted. Subsequent documentation regarding the gasoline tank shown on the 1926-1951 Sanborn Maps was not provided. A Phase II was subsequently performed based on the recommendations outlined in the Phase I ESA. Please refer to Attachment-A for a survey of the current layout of the station.

3.0 SITE HISTORY

A Phase II ESA was performed by Castleton Environmental during January of 2019, which included a series of borings conducted at key locations throughout the property and a ground penetrating radar (GPR) survey to identify any potential former UST's. Six (6) soil borings were advanced on the Subject Property in the vicinity of the UST's. Soil samples were collected continuously from each boring location, logged and field screened with a PID for the presence of VOCs. Elevated field sensory (PID), olfactory or visible evidence of impacts to soil were observed in each of the borings ranging from 22.9 ppm in SB01 to 5,285 ppm in SB04. Soil analytical results were compared to NYSDEC CP-51 Soil Cleanup Levels (SCLs) for petroleum impacted soil and NYSDEC Part 375 Soil Cleanup Objectives (SCOs). Soil analytical results reported concentrations of SVOCs as non-detect or below SCLs and SCOs in all of the six (6) soil samples analyzed. VOCs above SCLs were reported in five (5) of the six (6) soil samples. VOCs above commercial-use SCOs were reported in two (2) of the six (6) samples analyzed. Based upon these findings a spill was reported and spill number # 18-11146 was assigned to the site. Please refer to Attachment-B for the previously conducted Phase II by another contractor.

4.0 SCOPE OF WORK

The previously conducted Phase II ESA concluded that the need for further investigation was necessary in order to further define the nature and extent of contamination discovered in soil. The focus was to vertically delineate the contamination discovered at previous sample locations and attempt to locate groundwater. The results of the GPR survey were also recommended to be confirmed through the performance of test pits in the former UST areas. The following summary of findings section details the results from the supplemental investigation compared to the applicable standards.

5.0 SUMMARY OF FINDINGS

The following summary of findings discusses the results from the supplemental RIR conducted on April 29, 2020. The supplemental borings conducted included: three (3) test pit borings(B-1-3) in areas of the previously identified former USTs were performed in order to confirm the results of the GPR survey. Borings B-4 and B-5 were conducted at former locations were soil contamination was discovered at depth, but never delineated. B-6 and B-7 were test pits in an additional area where the

previous GPR survey found suspected former USTs. Finally, B-8 was conducted down gradient of the suspected former USTs and B-4 and B-5. All borings were advanced until refusal was encountered preventing further vertical advancement of sample tooling.

5.1 Former UST Identification

A total of (9) suspected former UST's were identified in a GPR survey conducted during the Phase II ESA. In order to confirm this data and the existence of former USTs from past operations, a series of test pits were conducted in order to confirm the results of the GPR. Three (3) borings (B-1-3) and (B-6-7) were conducted along the string of suspected USTs discovered during the GPR as depicted on Figure-2. A rotary mason bit affixed to the boring rig was used to advance through the upper layer of concrete approximately twelve inches (12") in depth. A void of about one (1') was observed from one (1') to two and a half (2.5') feet were refusal was encountered at all three (3) test pit locations. The consistent refusal at precisely the same depth in all three (3) test pits is an indication that the previous GPR survey was accurate and most likely attributed to previous abandonment of the UST's in place. Based on the field observations at all three (3) borings, B-1-3, the tanks when abandoned were filled with concrete and left in place.

5.2 Supplemental Soil Sampling Locations and Results

A series of borings were conducted at previous sampling locations in an effort to vertically delineate contamination documented in soil. Borings B-4(former SB06) and B-5(between SB04 and former SB05) were collected at the previous Phase II locations. Boring B-8 was collected down gradient of B-4 and B-5 near the southwest corner of the property in an attempt to laterally delineate contamination discovered in the vicinity of the former USTs. Borings were collected utilizing the duel tube sampling system and continuous grab samples were extracted in five foot (5') intervals and screened in 2.5' intervals with a PID meter for the presence of VOCs. B-4 was the first delineation boring performed from 0-30' until refusal was encountered at 30' bgs. PID readings from 15-25' bgs were averaging approximately 4,500 ppm on the PID meter and subsided significantly from 25'-30' in the 500-190 ppm range with the bottom sample (B-4@ 27.5'-30'). A sample from 27.5'-30' was submitted to the lab for testing for VOCs via EPA 8260D. The results still indicated multiple BTEX petroleum constituents above unrestricted Part-375 SCOs. As mentioned above advancement beyond thirty feet (30') bgs was not feasible and most likely attributed to bedrock as rock fragments were discovered at the bottom of the last soil liner. B-5 was collected between the previous borings (SB04 and SB05) were vertical delineation was not achieved. Continuous samples were collected from grade surface to approximately 32.5' bgs. Refusal was again encountered and rock fragments were observed in the bottom sample tube at 32.5'. Again, this refusal was likely attributed to contact with bedrock. A sample at the bottom of the boring from 30-32.5' was submitted for lab analysis via VOC analysis. The lab results

indicated only minor VOC detections all significantly below the Part-375 unrestricted SCOs. B-8 was collected down gradient from the hot spot areas B-4 and B-5 and was sampled from the surface to a depth of thirty four (34') feet below grade surface. Marginal PID readings (1,500-2,500 ppm) were documented from 10'-20' bgs and subsided steadily to only 25 ppm at 34' bgs. Bedrock refusal was again encountered at 34' bgs and rock fragments were observed at the bottom of the soil sampling liner at 34' bgs. Please refer to Figure-3a-h for boring logs. Please see Table-1 for tabulated lab results compared to SCOs. The lab data package is included as Attachment-C.

6.0 REMEDIAL ALTERNATIVES

The results of the supplemental soil samples have indicated the need for remedial actions in soils with the main focus on the interval from 10'- 25' bgs. The goal is to provide in-situ remediation at areas where impacted soils have exceeded the Part-375 unrestricted-use SCOs. Please read below for remedial alternatives to treating the impacted soil discovered at the site.

5.1 Soil Vapor Extraction (SVE)

Soil Vapor Extraction (SVE) is a technology used to remove volatile organic vapors from the un-saturated zone often referred to as the vadose zone. Off-gassing of petroleum contamination emanating from the soil is extracted through a series of vertical screened pipes and exhausted to the atmosphere. This technology allows for mass removal of petroleum related contamination including sorbed contamination in the soil matrix. Soil Vapor Extraction is a reasonable in-situ alternative to remedy soil contamination at this site, especially where contamination extends beyond the capabilities of excavation. This technology would also prevent having to excavate former USTs and contaminated soil in areas where multiple underground utilities exist along with utilities associated with the operation of the active gas station. Based upon the location of the contaminated soil and the on-going operations of the current business, the SVE technology is deemed the most reasonable alternative to remediating soils to applicable levels.

5.2 Enhanced Biological Degradation

Enhance bio injections are another alternative to treating soil contamination in the vadose zone. A series of injection wells are used to deliver an oxidant solution or a microbial mixture to the contaminated vadose zone in order to promote biological degradation. This technology although practical and efficient, may not be conducive to achieve a timely clean-up based on the significant levels of contamination discovered in soil.

7.0 PROJECT SCHEDULE

Upon approval of this supplemental RIR, BEI will begin to draft a Remedial Action Plan (RAP) to address contaminated soils. The RAP will be submitted 45 days from the approval of this Report and issued to the Department for approval. The RAP will include: a remedial plan for addressing contaminated soil in the vadose zone, remedial action objectives (RAOs), operation monitoring and maintenance (OMM) and system termination.

8.0 CONCLUSION

In conclusion, the supplemental sampling data will be used to develop a Remedial Action Plan (RAP) in order to address soil contamination. No groundwater was encountered during any of the investigations conducted and is expected to be approximately 50 feet or more below grade surface. The supplemental sampling results indicated that vertical delineation was achieved at the B-5 and B-8 locations. At the B-4 location delineation was not feasible due to bedrock refusal at a depth of thirty feet (30') bgs. The majority of contamination at this boring was detected in the fifteen (15') feet to twenty five (25') horizon with PID readings as high as 4,500 ppm. Beyond this depth from 25'-30' PID readings drastically waned to levels in the 500 ppm range. Based upon the successful vertical delineation at two (2) locations B-5 and B-8, and the inability to advance beyond the refusals encountered at the surface of the bedrock at the B-6 location, a Remedial Action Plan (RAP) to address contaminated soils will be issue to the Department. Any questions or comments regarding this Report can be directed to BEI.

Sincerely,

Justin Halpin
Project Manager/Scientist

Alicia Patti
Geologist

enc: Figure-1 Site Location
Figure-2 Supplemental Boring Locations
Attachment-A Site Survey Layout
Attachment-B Previous Phase II ESA

FIGURES

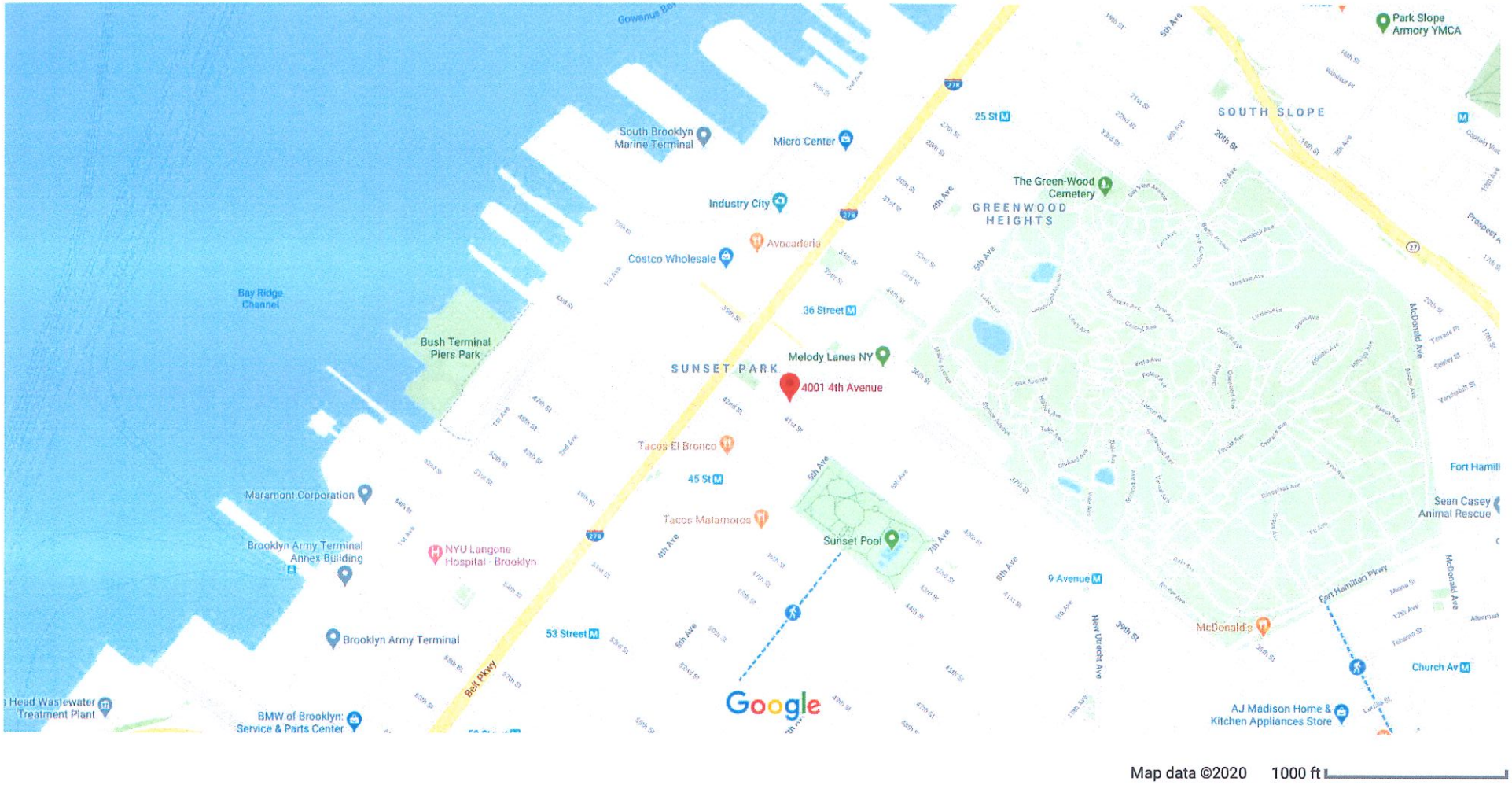

Figure-1
Site Location
Brooklyn, NY

Site Map
Boring Locations
Figure-2

BP Service Station
4001-4010 4th Avenue
Brooklyn, NY

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LOG OF BORING: B-1

PROJECT: BP 4th Avenue Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

SUBSURFACE PROFILE			SAMPLE					
DEPTH	GRAPHIC	BORING LOCATION: B-1	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
FT 0		GROUND SURFACE						
		First 8" concrete and an approximate 10" void of soil from 8" to 18" or 1.5'	0.0	NA	NA			
1.5'		Refusal most likely due to the former tanks backfilled with concrete; unable to advance past 2.5' Refusal at 2.5'						
2.5								
5								

Notes: Refusal at 2.5'
Sampling: No Sample Collected

FIGURE: 3-a
METHOD: Direct Push
BORING COMPANY: BEI
April 29, 2020
HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

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LOG OF BORING: B-2

PROJECT: BP 4th Avenue Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

SUBSURFACE PROFILE			SAMPLE					
DEPTH	GRAPHIC	BORING LOCATION: B-2	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
		GROUND SURFACE						
FT 0		First 8" concrete and an approximate 10" void of soil from 8" to 18" or 1.5'	0.0	NA	NA			
1.5'		Refusal most likely due to the former tanks backfilled with concrete; unable to advance past 2.5' Refusal at 2.5'	0.0	NA	NA			
2.5								
5								

Notes: Refusal at 2.5'
Sampling: No Sample Collected

FIGURE: 3-b
METHOD: Direct Push
BORING COMPANY: BEI
April 29, 2020
HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

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LOG OF BORING: B-3

PROJECT: BP 4th Avenue Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

SUBSURFACE PROFILE			SAMPLE					
DEPTH	GRAPHIC	BORING LOCATION: B-3	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
		GROUND SURFACE						
FT 0		First 8" concrete and an approximate 10" void of soil from 8" to 18" or 1.5'	0.0	NA	NA			
1.5'		Refusal most likely due to the former tanks backfilled with concrete; unable to advance past 2.5' Refusal at 2.5'	0.0	NA	NA			
2.5								
5								

Notes: Refusal at 2.5'
Sampling: No Sample Collected

FIGURE: 3-c
METHOD: Direct Push
BORING COMPANY: BEI
April 29, 2020
HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

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LOG OF BORING: B-4

PROJECT: BP 4th Ave Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

SUBSURFACE PROFILE			SAMPLE					
DEPTH	GRAPHIC	BORING LOCATION: B-4	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
		GROUND SURFACE						
FT 0		10YR-6/4; Light yellowish brown silty fine sand trace gravel, strong odor	38.7	80	SM			
2.5		10YR-6/4; Light yellowish brown silty fine sand trace gravel, strong odor	38.7	80	SM			
5		10YR-5/3; Brown silty fine sand, trace gravel, strong odor	25.0	80	SM			
7.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	25.0	80	SM			
10		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	199	80	SM			
12.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	199	80	SM			
15		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	4500	80	SM			
17.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	4500	80	SM			
20		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	4250	80	SM			
22.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	4250	80	SM			
25		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	900	80	SM			
27.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor; bedrock fragments	500	80	SM			Sample obtained from 27.5'-30'
30		Refusal at 30.0'						
32.5								

Notes: Refusal at 30.0'
Sampling: B-4 Collected at 27.5'-30.0'

FIGURE: 3-d
METHOD: Direct Push
BORING COMPANY: BEI
April 29, 2020
HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

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LOG OF BORING: B-5

PROJECT: BP 4th Ave Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

DEPTH	GRAPHIC	BORING LOCATION: B-5	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
		GROUND SURFACE						
FT 0		10YR-6/4; Light yellowish brown silty fine sand trace gravel, strong odor	2350	80	SM			
2.5		10YR-6/4; Light yellowish brown silty fine sand trace gravel, strong odor	2350	80	SM			
5		10YR-5/3; Brown silty fine sand, trace gravel, strong odor	2390	80	SM			
7.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	2390	80	SM			
10		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	3875	80	SM			
12.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	3875	80	SM			
15		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	1500	80	SM			
17.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	1500	80	SM			
20		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	380	80	SM			
22.5		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	380	80	SM			
25		10YR-5/3; Brown fine sand and silt, trace gravel, strong odor	80	80	SM			
27.5		10YR-5/3; Brown fine sand and silt, trace gravel, odor	80	80	SM			
30		10YR-5/3; Brown fine sand and silt, trace gravel, odor; rock fragments	70	80	SM			Sample obtained from 30-32.5'
32.5		Refusal at 32.5'						

Notes: Refusal at 32.5'
Sampling: B-4 Collected at 30.0'-32.5'

FIGURE: 3-e
METHOD: Direct Push
BORING COMPANY: BEI

April 29, 2020

HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

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LOG OF BORING: B-6

PROJECT: BP 4th Avenue Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

SUBSURFACE PROFILE			SAMPLE					
DEPTH	GRAPHIC	BORING LOCATION: B-6	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
		GROUND SURFACE						
FT 0		NA	0.0	NA	SM			
2.5		Refusal at 3.0'	0.0	NA	SM			
5								
7.5								
10								
12.5								
15								
17.5								
20								
22.5								
25								
27.5								
30								

Notes: Refusal at 3.0'
Sampling: No Sample Collected

FIGURE: 3-f
METHOD: Direct Push
BORING COMPANY: BEI
April 29, 2020
HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

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LOG OF BORING: B-7

PROJECT: BP 4th Avenue Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

SUBSURFACE PROFILE			SAMPLE					
DEPTH	GRAPHIC	BORING LOCATION: B-7	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
FT 0		GROUND SURFACE						
		NA	0.0	NA	SM			
2.5		Refusal at 3.0'	0.0	NA	SM			
5								
7.5								
10								
12.5								
15								
17.5								
20								
22.5								
25								
27.5								
30								

Notes: Refusal at 3.0'
Sampling: No Sample Collected

FIGURE: 3-g
METHOD: Direct Push
BORING COMPANY: BEI
April 29, 2020
HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

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LOG OF BORING: B-8

PROJECT: BP 4th Avenue Brooklyn
CLIENT: The Macchia Group
LOCATION: 4001-4010 4th Ave, Brooklyn, NY

SUBSURFACE PROFILE			SAMPLE					
DEPTH	GRAPHIC	BORING LOCATION: B-8	PID (ppm)	Recov.%	AGI Sym			WELL DETAILS
		GROUND SURFACE						
FT 0		10YR-5/3; Brown fine sand and silt trace gravel, odor	1600	80	SM			
2.5		10YR-5/3; Brown fine sand and silt trace gravel, odor	1600	80	SM			
5		10YR-5/3; Brown fine sand and silt trace gravel, odor	1870	80	SM			
7.5		10YR-5/3; Brown fine sand and silt trace gravel, odor	1870	80	SM			
10		10YR-5/3; Brown fine sand and silt trace gravel, odor	2490	80	SM			
12.5		10YR-5/3; Brown fine sand and silt trace gravel, odor	2490	80	SM			
15		10YR-5/3; Brown fine sand and silt trace gravel, odor	1430	80	SM			
17.5		10YR-5/3; Brown fine sand and silt trace gravel, odor	1430	80	SM			
20		10YR-5/3; Brown fine sand and silt trace gravel, odor	315	80	SM			
22.5		10YR-5/3; Brown fine sand and silt trace gravel, odor	315	80	SM			
25		10YR-5/3; Brown fine sand and silt trace gravel, odor	110	80	SM			
27.5		10YR-5/3; Brown fine sand and silt trace gravel, odor	90	80	SM			
30		10YR-5/3; Brown fine sand and silt trace gravel, odor	50.2	80	SM			
32.5		10YR-5/3; Brown fine sand and silt trace gravel, no odor	25.5	80	SM			
35		Refusal at 34.0'						

Notes: Refusal at 34.0'
Sampling: No Sample Collected

FIGURE: 3-h
METHOD: Direct Push
BORING COMPANY: BEI

April 29, 2020

HOLE DIAMETER: 2.25"
LOGGED BY: Halpin and Patti

ATTACHMENTS

Attachment-A
Current Site Layout Schematic

TANK MONITORING SYSTEM NOTE(S) & LEGEND :

H = ALARM HORN

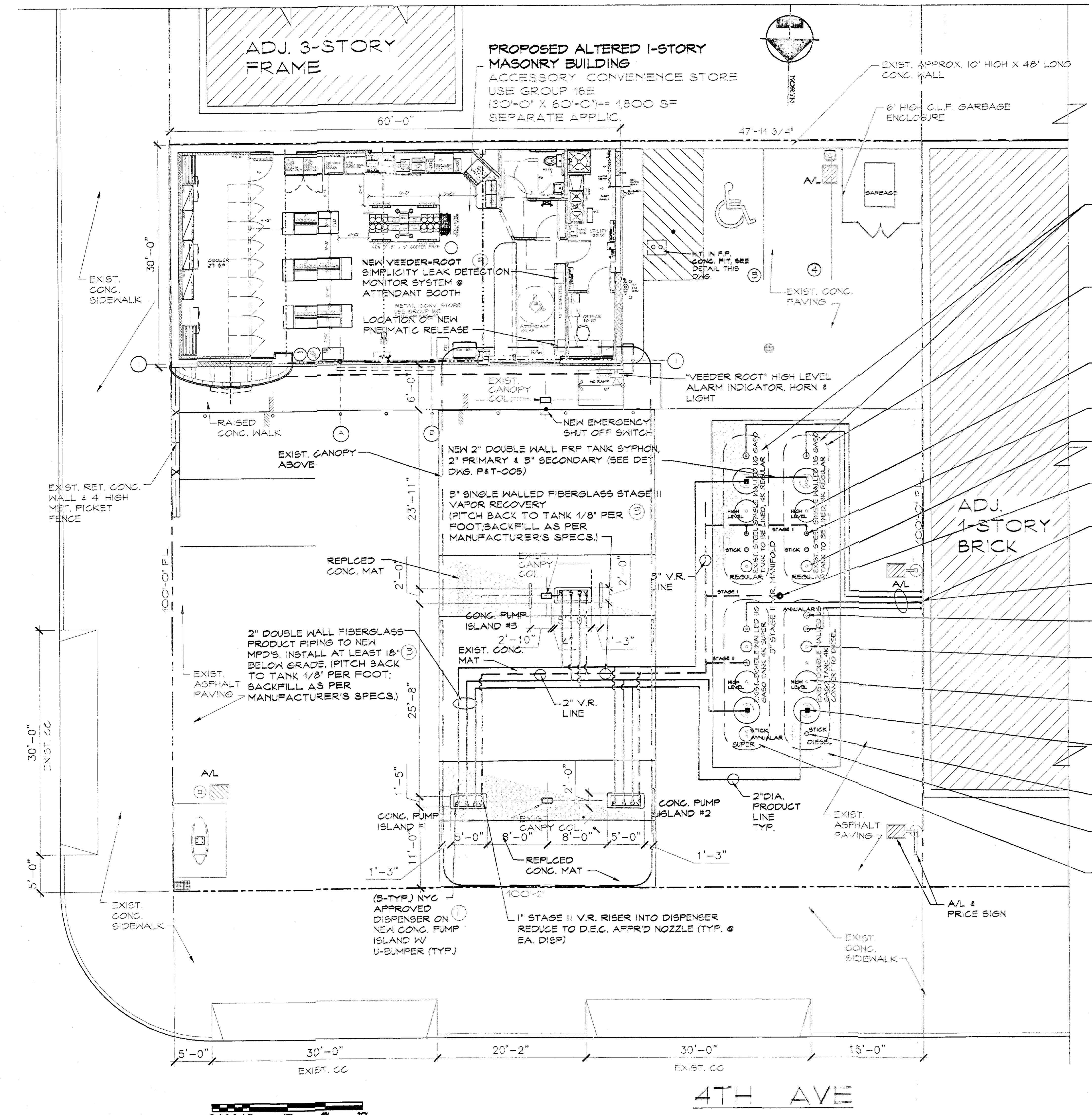
L = FLASHING LIGHT

= EMERGENCY CUT OFF SWITCH

* ALARM HORN AND FLASHING LIGHT, CONNECTED TO D.E.C.. APPROVED IN TANK MONITORING SYSTEM TO INDICATE HIGH LEVEL ALARM.

* HIGH LEVEL ALARM, BOTH AUDIBLE AND VISUAL, TO BE TRIGGERED WHEN TANK IS NO MORE THAN 90 % FULL.

* INSTALLATION MUST BE INSTALLED IN ACCORDANCE WITH FEDERAL REGULATION - 40 CFR PARTS 280 AND 281.



NOTE: WHERE INDICATED EXISTING. STEEL SINGLE WALLED UG GASO. TANK TO BE LINED (2-TOTAL). EACH TANK MUST BE LINED AS TO COMPLY WITH ALL TESTING AND REGULATIONS THAT GOVERN INCLUDING USA FEDERAL REGUALTIONS (CFR); NEW YORK STATE DEPT. OF ENVIROMENT CONSERVATION; NEW YORK CODE RULES AND REGUALTIONS (NYCRR) AND NEW YORK CITY FIRE DEPARTMENT. SEE NPTES "C" & "D" ON DWG. P&T-002 FO RMORE INFORMATION.

EXISTING 2-4,000 GAL. UG SINGLE WALL STEEL FUEL TANKS TO BE LINED. REPLACE CONC. MAT, FOR MORE INFO. SEE DWG P&T-004. REPLACE MANHOLE ON EA. TANK, REMOVE ALL STP & INSTALL NEW STP AS INDICATED. REMOVE ALL PIPING, VALVES, ETC. AND INSTALL NEW AS INDICATED. (11)

TANK LEVEL MONITOR (TLM) CONNECTED TO VEEDER ROOT SYSTEM (TYP. 1-EA. TANK) (9)

BSA APPR'D EXTRACTOR FLOAT VALVE (CAL. 247-83-SM) 1-REQ'D IN EA. GASO. TANK EXCEPT DIESEL TANK

(4)NEW DIRECT FILL W/ 4 NEW NYC APPR'D 15 GAL. SPILL CONTAINMENT DEVICE AND MECHANICAL OVERFILL PROTECTION DEVICE ON EACH FILL LINE (5)(6)

NEW STAGE-1 VAPORY RECOVERY DRYBREAK

(4) NEW 2" DIA. VENT 15' ABOVE GRADE & 10' FROM THE NEAREST BLDG. OPENING & WELL BRACED IN POSITION C.A.R.B. APPROVED P/V CAPS (GASO. TANKS ONLY), GC TO INSTALL 2" DIA. VENT MANIFOLD, SEE DET. ON DWG. P&T-007 (GASO. TANKS ONLY)

NEW 2" SINGLE WALL FIBERGLASS VENT PIPING (PICH BACK TO TANK 1/8" PER FOOT; BACKFILL PER MANUFACTUER'S SPECS.

NEW ANULAR PROBE MONITOR (1 REQ'R EA. TANK) WHERE INDICATED ONLY

(4)NEW DIRECT FILL W/ 4 NEW NYC APPR'D 15 GAL. SPILL CONTAINMENT DEVICE AND MECHANICAL OVERFILL PROTECTION DEVICE ON EACH FILL LINE (5)(6)

TANK LEVEL MONITOR (TLM) CONNECTED TO VEEDER ROOT SYSTEM (TYP. 1-EA. TANK) (9)

(3) NEW TOTAL SUBMERSIBLE PUMP IN A STP SUMP; PROVIDE (4) NEW 42" DIA. MANHOLE (1) REQUIRED IN EA. TANK) (4)

STICK LINE IN MANHOLE (1 REQUIRED IN EA. TANK) WHERE INDICATED

REPLACE CONC. MAT & INSTALL NEW PIPING, ETC. AS NOTED, SEE DWGS. P&T-004, P&T-005, P&T-006 FOR MORE INFO.

EXISTING 2-4,000 GAL. UG DOUBLE WALLED MOTOR FUELTANKS TO BE LINED. REPLACE CONC. MAT, FOR MORE INFO. SEE DWG P&T-004. REPLACE MANHOLE ON EA. TANK, REMOVE ALL STP & INSTALL NEW STP AS INDICATED. REMOVE ALL PIPING, VALVES, ETC. AND INSTALL NEW AS INDICATED. (10)

NOTE: WHERE INDICATED EXISTING. DOUBLE WALLED UG GASO. TANK TO BE LINED (2-TOTAL). EACH TANK MUST BE LINED AS TO COMPLY WITH ALL TESTING AND REGULATIONS THAT GOVERN INCLUDING USA FEDERAL REGUALTIONS (CFR); NEW YORK STATE DEPT. OF ENVIROMENT CONSERVATION; NEW YORK CODE RULES AND REGUALTIONS (NYCRR) AND NEW YORK CITY FIRE DEPARTMENT. SEE NPTES "C" & "D" ON DWG. P&T-002 FO RMORE INFORMATION.

GASOLINE SERVICE STATION

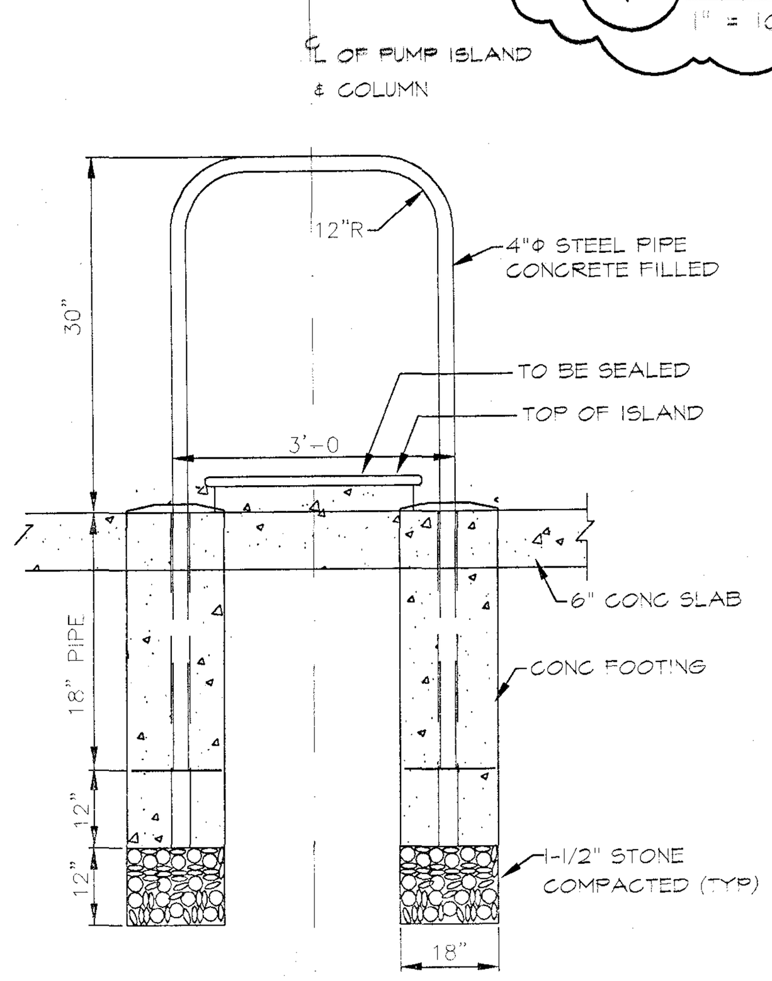
WITH ACCESSORY COVENIENCE STORE U.G. 16 B&E & SELF SERVE DISPENSERS

(1) PUMP & TANK SITE PLAN

1" = 10'-0"

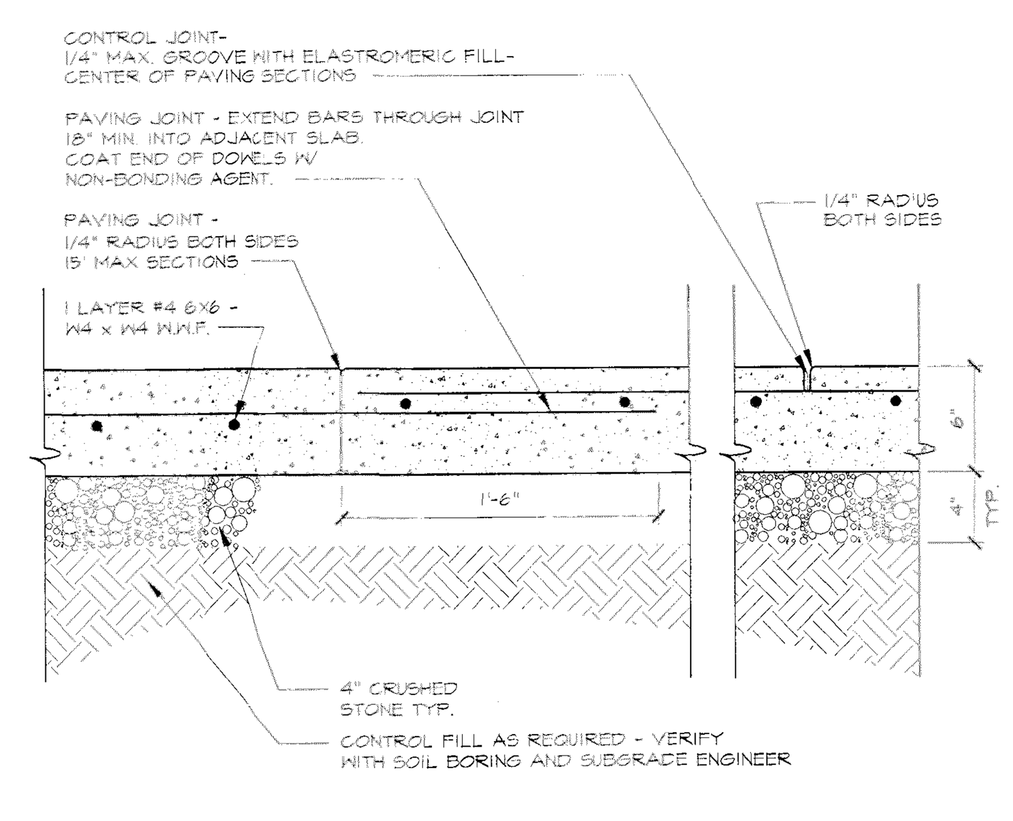
NOTE:

1. EXACT LOCATION OF EXISTING TANK FITTINGS TO BE VERIFY IN THE FIELD.



U-BOLLARD DETAIL

N.T.S.



DRIVE MAT DETAIL

1" = 1'-0"

NOTES:

(1) REMOVE ALL EXISTING CONCRETE PUMP ISLAND, DISPENSERS, TANK STP SUMPS, FILLS, VAPOR RECOVERY MANHOLES, TOP SLAB, AND RELATED PIPING AND REPLACE WITH AMERON DUALOY 3000/L NONMETALLIC PIPING UNLESS OTHERWISE NOTED. DISPENSERS TO BE REFURBISHED AND REUSED.

(2) PIPING SHOWN IS DIAGRAMMATIC ONLY. REFER TO MANUFACTURER'S INSTALLATION MANUAL FOR PROPER INSTALLATION.

(3) GENERAL CONTRACTOR TO VERIFY IN FIELD THE EXACT NUMBER OF TANK OPENINGS AND FITTING LOCATIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.

(4) AT THE TIME OF COMPLETION THE CONTRACTOR SHALL FILE AN AFFIDAVIT WITH THE NEW YORK CITY FIRE DEPARTMENT STATING WORK AND REQUIRED TESTS PERFORMED ON ANY TANKS/PIPING. TESTS RESULTS SHALL BE NOTED AND A COPY SHALL BE SENT TO THE OWNER AND THE ARCHITECT.

(5) GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICABLE TESTING/INSPECTIONS OF TANKS AND PIPING SYSTEM UPON COMPLETION OF PROJECT AS REQUIRED BY THE NEW YORK CITY FIRE DEPARTMENT RULES AND REGULATIONS. GENERAL CONTRACTOR TO CONTACT THE NEW YORK CITY FIRE DEPARTMENT AT (718) 694.2462 FOR THIS INFORMATION.

(6) CONTRACTOR MUST CONFORM TO THE REQUIREMENTS OF THE NEW YORK CITY ELECTRICAL CODE AND FILE A CERTIFICATE OF ELECTRICAL INSPECTION UPON COMPLETION OF THE WORK WITH THE NEW YORK CITY FIRE DEPARTMENT.

(7) LOCATION AND NUMBER OF EXISTING PUMPS AND TANKS TO BE VERIFIED BY THE NEW YORK CITY FIRE DEPARTMENT.

(8) THE BIDDING CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND PROPOSED WORK ITEMS TO BE COMPLETED AS NOTED ON THE DRAWINGS PRIOR TO BIDDING.

(9) THE CONTRACTOR SHALL VERIFY THE TYPE AND EXACT LOCATION OF ALL EXISTING TANK PIPING, MPD'S PANS, AND FITTING PENETRATIONS INTO THE TANK. NOTIFY ARCHITECT OF RECORD IN WRITING OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

(10) ANY UNDERGROUND DRAINAGE LINES, WATER LINES, SEWER LINES, ELECTRICAL LINES, ETC. THAT MAY BE ENCOUNTERED DURING THE COURSE OF CONSTRUCTION SHALL BE REMOVED AND REROUTED AS REQUIRED. GENERAL CONTRACTOR TO NOTIFY ARCHITECT AND OWNER IMMEDIATELY.

(11) PROVIDE COLOR AND SYMBOL CODES ON ALL FILLS AND GAUGE PORTS AS PER A.P.., N.Y.S.D.E.C. AND OWNER'S STANDARDS. PRODUCT I.D. MARKERS SHALL BE INSTALLED ON ALL FILL PORTS PER N.Y.S.D.E.C. REQUIREMENTS.

(12) GENERAL CONTRACTOR TO PRECISION TEST TANKS, PIPING SYSTEM, ETC. PRIOR TO CONSTRUCTION OF PROJECT AS PER NEW YORK CITY FIRE DEPARTMENT RULES AND REGULATIONS. GENERAL CONTRACTOR SHALL SECURE THE SERVICES OF THE NEW YORK CITY FIRE DEPARTMENT FOR TESTING PURPOSES. AFTER INSTALLATION GENERAL CONTRACTOR SHALL SCHEDULE A TEST TO BE DONE BY OWNER ON TANKS, PIPING, ETC. GENERAL CONTRACTOR SHALL NOT BACK FILL UNTIL ALL TESTING HAS BEEN DONE.

(13) GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A "SPARK TEST" OF THE CATHODICALLY PROTECTED PIPE WITNESSED BY A NEW YORK CITY FIRE DEPARTMENT INSPECTOR BEFORE BACK FILL INSPECTION IS SCHEDULED. (IF APPLICABLE)

(14) GENERAL CONTRACTOR TO ASSURE THAT ELECTRICAL EXPLOSION PROOF CONNECTIONS ARE PROVIDED AND IN GOOD CONDITION AT EACH TANK SUMP AS REQUIRED PER N.F.P.A. AND N.E.C. CODES.

(15) GENERAL CONTRACTOR SHALL PATCH AND REPAIR AREAS OF THE CONCRETE DRIVE MAT, SURROUNDING THE ISLANDS, DISTURBED BY CONSTRUCTION WITH A MINIMUM OF 0'-6" THICK CONCRETE, 0'-4" CRUSHED STONE AND (1) LAYER OF #3 REBARS EACH WAY.

N.Y.C. FIRE DEPARTMENT APPROVAL / EQUIPMENT LIST

EQ. NO.	EQUIPMENT	MANUFACTURER	MODEL NUMBER	C of A NUMBER
(1)	MULTI-PRODUCT BLENDER DISPENSER MPD	"WAYNE" OVATION	B12/3223D1/6K D03 2-HOSE	5032
	DISPENSER PAN	ENVIRON	DEEP PAN	
(2)	NOT USED			
(3)	UNDERGROUND PIPING	SMITH FIBERCAST	RED THREAD IIA	5099
(4)	SUBMERSIBLE TURBINE PUMP	FE PETRO	1 1/2 HP W/ INTAKE FILTER SCREEN	4839
(5)	MECHANICAL OVERFILL PREVENTION DEVICE	OPW	6150 (GRAVITY FILL)	4902
(6)	SPILL CONTAINMENT DEVICE	OPW	1-2115 (15 GALLON)	4978
(7)	FLEXIBLE CONNECTOR	TITEFLEX	FIRESAFE	
(8)	EXTRACTOR FITTING - CROSS	OPW	233VM-4433	
(9)	LEAK DETECTION SYSTEM	VEEDER ROOT	TLS 350	4853
	AUTOMATIC TANK GAUGE TANK LEVEL PROBE TANK HYDROSTATIC SUMP SENSOR ELECTRONIC LINE LEAK DETECTOR STP SUMP SENSOR DISPENSER PAN SENSOR			
(10)	EXIST. DOUBLE WALLED TANKS TO BE LINED	VIF	EXIST. (2-TOTAL) 4000 GALLONS	VIF
(11)	EXIST. STEEL SINGLE WALLED TANKS TO BE LINED	VIF	EXIST. (2-TOTAL) 4000 GALLONS	VIF

AS-BUILT DRAWINGS & INSTALLER STATEMENT:

G.C./ INSTALLER SHALL PROVIDE A COMPLETE SET OF AS BUILT DRAWINGS TO SCALE DEPICTING PRECISE LOCATION OF ALL COMPONENTS INSTALLED (INCLUDING PRODUCT/ VAPOR LINE SIZES & LOCATIONS, CONDUIT SIZES & LOCATIONS, ETC.) PRIOR TO OWNER'S ACCEPTANCE.

THESE PLANS MUST INCLUDE A STATEMENT BY THE INSTALLER THAT THE SYSTEM HAS BEEN INSTALLED IN COMPLIANCE WITH THE NEW YORK STATE STANDARDS FOR NEW AND SUBSTANTIALLY MODIFIED PETROLEUM STORAGE FACILITIES, 6 NYCRR PART 614.

LICENSED INSTALLER'S FINAL STATEMENT

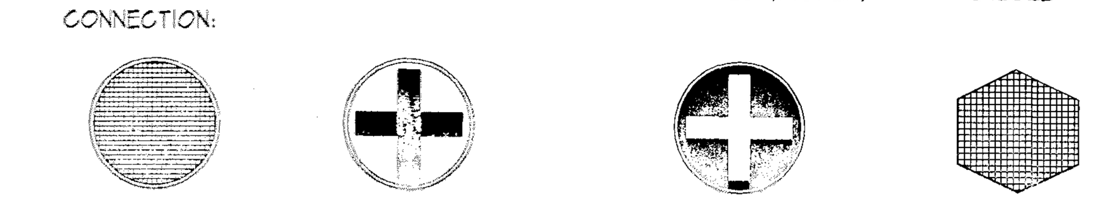
I, ______________________________ COMPLETED THE INSTALLATION OF THE EQUIPMENT DESCRIBED IN THE ANNEXED PLANS ON ____________________ THE INSTALLATION COMPLIES FULLY WITH THE REQUIREMENTS OF THE NEW YORK STATE PETROLEUM BULK STORAGE CODE 6 NYCRR PART 614.

____

SIGNATURE OF THE LICENSED INSTALLER

FILL BOX IDENTIFICATION REQUIREMENTS:

IDENTIFICATION REQUIREMENTS SHALL CONFORM TO AMERICAN PETROLEUM INSTITUTE STANDARDS



VAPOR HOSE CONNECTION:	UNLEADED (LOWER)	UNLEADED (HIGHER)	DIESEL
ORANGE	BLACK CROSS WHITE BACKGROUND	WHITE CROSS RED BACKGROUND	YELLOW

AMENDED

ACCEPTABLE FOR PERMIT UNDER DIRECTIVE NO. 14/1975

DEC 28 2010

KAUSAR AHMAD

320041897

SC343628763

REV	DATE	DESCRIPTION
-	6-17-09	ISSUED TO BID
-	6-24-09	ISSUED TO BLDG. DEPT. FOR APPROVAL
1	8-31-09	AS BUILT CONDITIONS

DRAWING: PUMP & TANK SITE PLAN AND EQUIPMENT SCHEDULE

LOCATION: 4001 4th LLC, 4001-11 4th AVE, BROOKLYN, NEW YORK

BLOCK	LOT	MAP	ZONE
714	6	---	C1-3 IN R6

VASSALOTTI ARCHITECTS L.L.P. ASSOCIATES
3000 MARCUS AVE, LAKE SUCCESS, NY 11042

DWN. BY: JEFF V.	CHK. BY: A.D.
SCALE: AS NOTED	
DATE: 6-17-09	JOB NO.: 08-0071
PAGE NO.: DWG. 4 OF 9	
DWG. NO.: P&T-004.00	

Attachment-B
Previous Phase II ESA

CASTLETON
ENVIRONMENTAL

January 25, 2019

Donald Middleton
Middleton Environmental Inc.
54 George Street
Babylon, New York 11702

RE: Phase II Environmental Site Assessment
4001-4011 4th Avenue, Brooklyn, New York

Dear Mr. Middleton:

Please find the attached Phase II Environmental Site Assessment Report for the property located at 4001-4011 4th Avenue, Brooklyn New York.

Thank you for the opportunity. Please call with any questions or comments.

Very truly yours,
Castleton Environmental Geologic Services, DPC

Frank P. Castellano, PG
Principal

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Phase II Environmental Site Assessment
4001-4011 4th Avenue
Brooklyn, New York

Prepared for: Donald Middleton
Middleton Environmental Inc.
54 George Street
Babylon, New York 11702

CASTLETON ENVIRONMENTAL

PHASE II ENVIRONMENTAL SITE ASSESSMENT
4001-4011 4TH AVENUE
BROOKLYN, NEW YORK
JANUARY 2019
CASTLETON PROJECT NUMBER: MEIN1901

Table of Contents

Figures

Appendices

1.0 INTRODUCTION

Castleton Environmental Geologic Services DPC (Castleton) has prepared the following Phase II Environmental Site Assessment (ESA) report to document the work performed at 4001-4011 4th Avenue, Brooklyn, New York (the site). The investigation was performed based upon review of the Phase I ESA by Merritt Environmental Consulting Corp. (MECC) dated January 7, 2019.

The objectives of this work were to determine if the sites historic and current usage as a gasoline station has impacted the subsurface. The objective was met through the performance of a geophysical survey and the collection and laboratory analysis of soil samples.

2.0 SITE BACKGROUND

The site is located at 4001-4011 4th Avenue, Brooklyn, New York (Figure 1). The site is located on a plot size approximately 10,017 square feet. The site is currently used as a gas station with a convenience store and parking. The building was constructed in 1965.

Castleton reviewed the Phase I ESA prepared by MECC dated January 7, 2019. The MECC Phase I ESA identified that site has been a gasoline since its first developed use. According to the historical Sanborn Maps, a gasoline tank is present at the corner of 4th Avenue and 10th Street during the years 1926-1951.

MECC recommended further evaluation to determine if any documentation is available or if additional investigation (Phase II) is warranted. Subsequent documentation regarding the gasoline tank shown on the 1926-1951 Sanborn Maps was not provided.

3.0 PHASE II ESA FIELD INVESTIGATION

The objective of this Phase II ESA was to assess subsurface quality in relation to historic and current on-site filling station operations at the site.

The following scope of work was completed to assess subsurface conditions:

Task	Objective
Geophysical Survey	Determine if any subsurface anomalies indicative of underground storage tanks (USTs) and to clear underground utilities
Soil Sampling	Characterize site soil quality for impacts related to filling station operations

On-site work was completed on January 15, 2019. Sample collection locations are depicted on Figure 2.

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3.1 Geophysical Survey

A geophysical survey was performed to identify evidence of subsurface anomalies and to mark on-site utilities in proposed subsurface work areas. The survey was performed using a variety of remote sensing equipment/methods including a magnetometer to identify ferrous metallic objects, ground penetrating radar (GPR) to identify changes in soil density and a pipe locating device to trace piping runs. The geophysical survey was performed by Delta Geophysics, Inc. of Catasauqua, Pennsylvania.

As described in the PBS records included in the Phase I ESA, 4 4,000-gallon USTs are currently in use at the site and were identified during the geophysical survey to clear boring locations.

Nine suspect (USTs) were identified that are currently not in use. Four suspect UST anomalies are centralized under the canopy between the active dispensers. Five suspect UST anomalies are located at the western portion of the site.

A metal anomaly not indicative of a UST was identified at northern portion of the site. A suspect UST was not identified at the northern portion of the site where the gas tank was shown on the historic Sanborn Maps.

All on site utilities were cleared before intrusive activities.

3.2 Soil Investigation

Soil borings were advanced to assess soil conditions at the site. Boring locations were selected based on potential areas identified during the geophysical survey. Soil borings were advanced with direct push technology (Geoprobe®) by Coastal Environmental Solutions, Inc. of Medford, New York.

Six soil borings were advanced. Soil samples were collected continuously from each boring location, logged and field screened with a PID for the presence of VOCs. Elevated field sensory (PID), olfactory or visible evidence of impacts to soil were observed in each of the borings ranging from 22.9 ppm in SB01 to 5,285 ppm in SB04. Soil was observed to consist of silty fine and medium sand. Groundwater was not encountered during this investigation. Soil boring logs are provided as Appendix A.

The following table describes the boring location, area of concern associated with each boring, and sample collected for laboratory analysis.

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Boring	Area of Concern	Highest Soil PID Readings (ppm)	Boring Depth (feet)	Soil Analytical Sample Interval(s)
SB01	Area of former UST (Sanborn Map) and metal anomaly	22.9	25	18-20 feet
SB02	Area of former UST (Sanborn Map) and metal anomaly	425.9	20	4-6 feet
SB03	Area of former UST (Sanborn Map) and metal anomaly	2,195	22	12-14 feet
SB04	West of the five suspect USTs	5,285	30	16-18 feet
SB05	West of the five suspect USTs	3,963	20	10-15 feet
SB06	South of the five suspect USTs and west of the currently in use USTs	4,955	24.5	18-20 feet

Soil retained for laboratory analysis was placed into laboratory supplied glassware and submitted under chain of custody to York Analytical Laboratories of Stratford, Connecticut, a New York State Department of Health (NYSDOH) ELAP certified laboratory. Soil samples were analyzed for:

- CP-51 VOCs via EPA Method 8260, and
- CP-51 SVOCs via EPA Method 8270

4.0 ANALYTICAL RESULTS AND DATA DISCUSSION

Soil analytical results were compared to NYSDEC CP-51 Soil Cleanup Levels (SCLs) for petroleum impacted soil and NYSDEC Part 375 Soil Cleanup Objectives (SCOs).

Soil analytical results reported concentrations SVOCs as non-detect or below SCLs and SCOs in the six soil sample analyzed.

VOCs above SCLs were reported in five of the six soil samples. VOCs above Commercial SCOs were reported in two of the six samples analyzed.

Analytical results and laboratory report are presented in Appendix B.

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5.0 CONCLUSIONS AND RECOMMENDATIONS

Castleton has prepared the following Phase II ESA report to document the work performed at 4001-4011 4th Avenue, Brooklyn, New York. The investigation was performed based upon review of the Phase I ESA by MECC dated January 7, 2019.

The objectives of this work were to determine if the sites historic and current usage as a gasoline station has impacted the subsurface. The objective was met through the performance of a geophysical survey and the collection and laboratory analysis of soil samples.

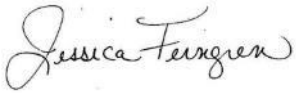
The geophysical survey identified the presence of the 4 in use USTs, nine suspect USTs that are currently not in use, and one metal anomaly that is not indicative of a UST.

Six soil boring were advanced, and six soil samples collected for laboratory analysis. Analytical results reported concentrations of VOCs above applicable standards in five of the six soil samples analyzed.

Castleton recommends the following:

- Notification of these findings be made to NYSDEC
- The suspect USTs be assessed and, if are present, properly removed as per NYSDEC protocols
- Petroleum impacts to soil be delineated and remediated under the NYSDEC Spills Program

6.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS



Frank P. Castellano, PG
Principal

Jessica Ferngren, PG
Sr. Project Manager

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CASTLETON
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FIGURES

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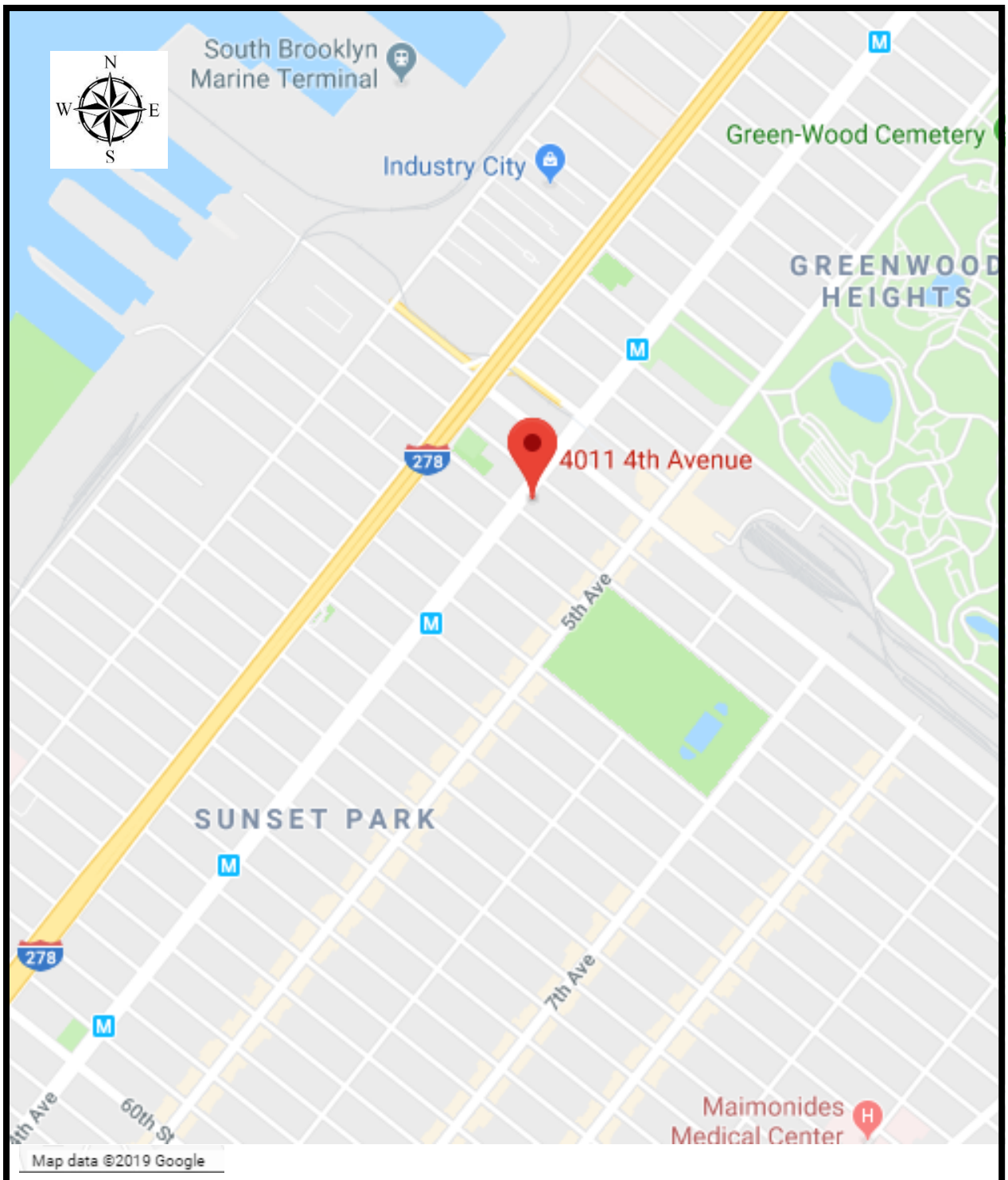

Figure 1 – Vicinity Map

4001-4011 4th Avenue

Brooklyn, New York

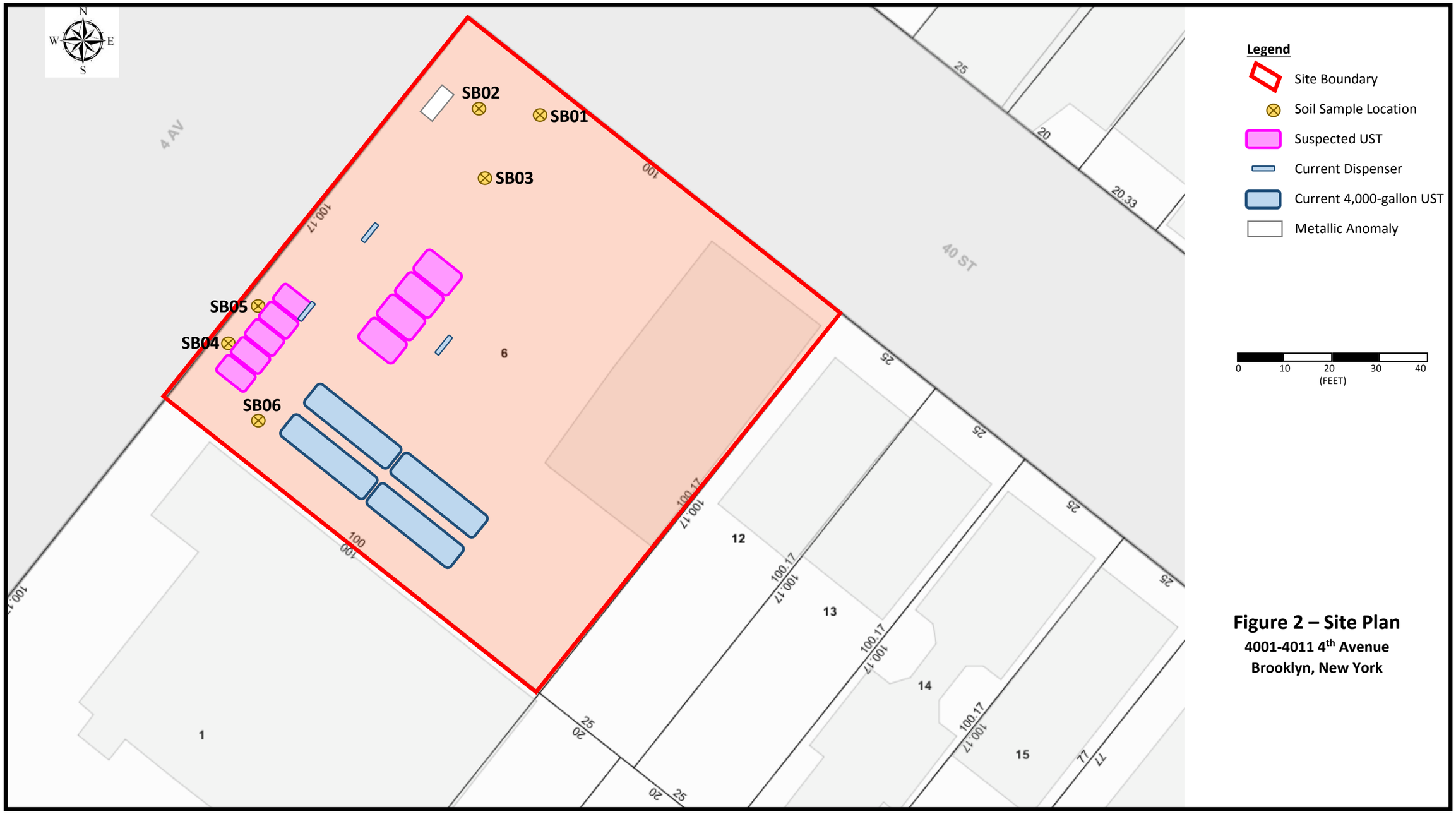

Figure 2 – Site Plan
4001-4011 4th Avenue
Brooklyn, New York

APPENDIX A

Locations are approximate

Boring # **SB01**	MW#	Page 1	of 1
PROJECT: 4001-4011 4th Avenue			
JOB # MEIN1901			
LOGGED BY:	CL	PRJ. MNGR.:	JF
DRILLING CONTRACTOR: Coastal Environmental Solutions			
DRILL METHOD: GeoProbe 6610DT			
DRILLER: Tom			
Borehole diameter/drill bit type: **Macrocore (2" diameter)**		total depth	**25 ft**
		elevation	**NA**
HAMMER WT: NA		DROP: NA	
START TIME: 9:25		DATE: 1/15/2019	
COMPLETION TIME: 9:50		DATE: 1/15/2019	
BACKFILL TIME: 12:30		DATE: 1/15/2019	

Sample Depth	Advance (ft)	Recovered (ft)	Soil Description Unified Soil Classification System	Notes	Casing depth: NA / Screen depth: NA
0-5 ft	5	4	Asphalt Brown silty fine SAND, trace fine gravel	PID = 0.0 ppm.	
5-10 ft	5	3	Brown silty fine SAND, trace fine gravel	PID = 8.2 ppm.	
10-15 ft	5	3.5	Brown silty fine SAND, trace fine gravel	PID = 0.8 ppm.	
15-20 ft	5	1.5	Brown silty fine SAND, trace fine gravel Perched water @ 20-21 feet	PID = 22.9 ppm.	
20-25 ft	5	3	Brown clayey SAND, trace fine gravel	PID = 0.0 ppm.	

Locations are approximate

Boring # **SB02**	MW#	Page 1	of 1
PROJECT: 4001-4011 4th Avenue			
JOB # MEIN1901			
LOGGED BY:	CL	PRJ. MNGR.:	JF
DRILLING CONTRACTOR: Coastal Environmental Solutions			
DRILL METHOD: GeoProbe 6610DT			
DRILLER: Tom			
Borehole diameter/drill bit type: **Macrocore (2" diameter)**		total depth	**20 ft**
		elevation	**NA**
HAMMER WT: NA		DROP: NA	
START TIME: 9:50		DATE: 1/15/2019	
COMPLETION TIME: 10:10		DATE: 1/15/2019	
BACKFILL TIME: 12:30		DATE: 1/15/2019	

Sample Depth	Advance (ft)	Recovered (ft)	Soil Description Unified Soil Classification System	Notes	Casing depth: NA / Screen depth: NA
0-5 ft	5	3	Asphalt Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 23.4 ppm.	
5-10 ft	5	2.5	Brown silty fine SAND, trace fine gravel, brick	PID = 423.4 ppm.	
10-15 ft	5	2	Brown silty fine SAND, trace fine gravel, brick	PID = 0.0 ppm.	
15-20 ft	5	3	Brown silty fine SAND, trace fine gravel, brick	PID = 0.0 ppm.	

Locations are approximate

Boring # **SB03**	MW#	Page 1	of 1
PROJECT: 4001-4011 4th Avenue			
JOB # MEIN1901			
LOGGED BY:	CL	PRJ. MNGR.:	JF
DRILLING CONTRACTOR: Coastal Environmental Solutions			
DRILL METHOD: GeoProbe 6610DT			
DRILLER: Tom			
Borehole diameter/drill bit type: **Macrocore (2" diameter)**		total depth	**22 ft**
		elevation	**NA**
HAMMER WT: NA		DROP: NA	
START TIME: 10:10		DATE: 1/15/2019	
COMPLETION TIME: 11:00		DATE: 1/15/2019	
BACKFILL TIME: 12:30		DATE: 1/15/2019	

Sample Depth	Advance (ft)	Recovered (ft)	Soil Description Unified Soil Classification System	Notes	Casing depth: NA / Screen depth: NA
0-5 ft	5	0.5	Asphalt Black silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 23.4 ppm.	
5-10 ft	5	3.5	Black silty fine SAND, trace fine gravel, brick - Petroleum odor Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 423.4 ppm.	
10-15 ft	5	4	Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 0.0 ppm.	
15-20 ft	5	2.5	Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 0.0 ppm.	
20-22 ft	2	0.5	Brown silty fine SAND, trace fine gravel, brick - Petroleum odor Refusal @ 22'	PID = 0.0 ppm.	

Locations are approximate

Boring # **SB04**	MW#	Page 1	of 1
PROJECT: 4001-4011 4th Avenue			
JOB # MEIN1901			
LOGGED BY:	CL	PRJ. MNGR.:	JF
DRILLING CONTRACTOR: Coastal Environmental Solutions			
DRILL METHOD: GeoProbe 6610DT			
DRILLER: Tom			
Borehole diameter/drill bit type: **Macrocore (2" diameter)**		total depth	**30 ft**
		elevation	**NA**
HAMMER WT: NA		DROP: NA	
START TIME: 11:00		DATE: 1/15/2019	
COMPLETION TIME: 11:40		DATE: 1/15/2019	
BACKFILL TIME: 12:30		DATE: 1/15/2019	

Sample Depth	Advance (ft)	Recovered (ft)	Soil Description Unified Soil Classification System	Notes
0-5 ft	5	0.5	Asphalt Dark brown silty fine SAND, brick - Petroleum odor	PID = 126.7 ppm.
5-10 ft	5	2	Brown silty fine SAND, brick - Petroleum odor	PID = 148.9 ppm.
10-15 ft	5	2	Brown silty fine SAND, brick - Petroleum odor	PID = 3,414 ppm.
15-20 ft	5	2.5	Brown silty fine SAND, brick - Petroleum odor	PID = 5,285 ppm.
20-25 ft	5	3	Brown silty fine SAND, brick - Petroleum odor	PID = 4,675 ppm.
25-30 ft	5	2.5	Brown silty fine SAND, brick - Petroleum odor	PID = 368.4 ppm.

Casing depth: NA
Screen depth: NA

Locations are approximate

Boring # **SB05**	MW#	Page 1	of 1
PROJECT: 4001-4011 4th Avenue			
JOB # MEIN1901			
LOGGED BY:	CL	PRJ. MNGR.:	JF
DRILLING CONTRACTOR: Coastal Environmental Solutions			
DRILL METHOD: GeoProbe 6610DT			
DRILLER: Tom			
Borehole diameter/drill bit type: **Macrocore (2" diameter)**		total depth	**20 ft**
		elevation	**NA**
HAMMER WT: NA		DROP: NA	
START TIME: 11:40		DATE: 1/15/2019	
COMPLETION TIME: 12:00		DATE: 1/15/2019	
BACKFILL TIME: 12:30		DATE: 1/15/2019	

Sample Depth	Advance (ft)	Recovered (ft)	Soil Description Unified Soil Classification System	Notes	Casing depth: NA / Screen depth: NA
0-5 ft	5	1	Concrete Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 2,634 ppm.	
5-10 ft	5	2	Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 2,391 ppm.	
10-15 ft	5	0.5	Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 3,963 ppm.	
15-20 ft	5	0.5	Brown silty fine SAND, trace fine gravel, brick - Petroleum odor	PID = 1,516 ppm.	

Locations are approximate

Boring # **SB06**	MW#	Page 1	of 1
PROJECT: 4001-4011 4th Avenue			
JOB # MEIN1901			
LOGGED BY:	CL	PRJ. MNGR.:	JF
DRILLING CONTRACTOR: Coastal Environmental Solutions			
DRILL METHOD: GeoProbe 6610DT			
DRILLER: Tom			
Borehole diameter/drill bit type: **Macrocore (2" diameter)**		total depth	**24.5 ft**
		elevation	**NA**
HAMMER WT: NA		DROP: NA	
START TIME: 12:00		DATE: 1/15/2019	
COMPLETION TIME: 12:20		DATE: 1/15/2019	
BACKFILL TIME: 12:30		DATE: 1/15/2019	

Sample Depth	Advance (ft)	Recovered (ft)	Soil Description Unified Soil Classification System	Notes	Casing depth: NA / Screen depth: NA
0-5 ft	5	0.5	Concrete Tan silty fine SAND, trace fine gravel, brick	PID = 53.7 ppm.	
5-10 ft	5	0.5	Brown silty fine SAND, trace fine gravel	PID = 10.7 ppm.	
10-15 ft	5	1.5	Brown silty fine SAND, trace fine gravel	PID = 248.6 ppm.	
15-20 ft	5	2	Brown silty fine SAND, trace fine gravel	PID = 4,955 ppm.	
20-24.5 ft	4.5	0.5	Brown silty fine SAND, trace fine gravel	PID = 4,815 ppm.	

CASTLETON ENVIRONMENTAL

APPENDIX B

Sample ID York ID Sampling Date Client Matrix		NYSDEC CP/SCO Table 2-Gasoline	NYSDEC CP/SCO Table 3-Fuel Oil	NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives - Restricted Residential	NYSDEC Part 375 Restricted Use Soil Cleanup Objectives- Commercial	SB01 19A0642-01 1/15/2019 9:50:00 AM Soil		SB02 19A0642-02 1/15/2019 10:10:00 AM Soil		SB03 19A0642-03 1/15/2019 11:00:00 AM Soil		SB04 19A0642-04 1/15/2019 11:40:00 AM Soil		SB05 19A0642-05 1/15/2019 12:00:00 PM Soil		SB06 19A0642-06 1/15/2019 12:20:00 PM Soil	
Compound	**CAS Number**						Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
Volatile Organics, CP-51 (formerly STARS) List		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Dilution Factor							1		100		200		10000		1000		5000	
1,2,4-Trimethylbenzene	95-63-6	3.6	3.6	3.6	52	190	0.00650		**4.400**	D	**22**	D	**1,200**	D	**57**	D	**360**	D
1,3,5-Trimethylbenzene	108-67-8	8.4	8.4	8.4	52	190	0.00290	J	0.170		**9.100**	D	**830**	D	**19**	D	**57**	D
Benzene	71-43-2	0.06	0.06	0.06	4.8	44	0.00680		0.00370	J	**1.200**	D	**20**	D	**2.400**	D	**3.600**	D
Ethyl Benzene	100-41-4	1	1	1	41	390	0.00310	J	0.100		**10**	D	**1,100**	D	**21**	D	**77**	D
Isopropylbenzene	98-82-8	2.3	2.3	~	~	~	0.00220	U	0.0780		**3**	D	**48**	D	**3.700**	D	**9.600**	D
Methyl tert-butyl ether (MTBE)	1634-04-4	0.93	~	0.93	100	500	0.0560		0.00350	J	0.0460		0.270	U	0.220	U	0.180	U
Naphthalene	91-20-3	12	12	12	100	500	0.00310	J	0.190		0.140		**88**	BD	6.300	BD	**23**	BD
n-Butylbenzene	104-51-8	12	12	12	100	500	0.00220	U	0.0930		0.200		**31**	D	2.700	D	6.800	D
n-Propylbenzene	103-65-1	3.9	3.9	3.9	100	500	0.00220	U	0.130		**4.800**	D	**170**	D	**11**	D	**34**	D
o-Xylene	95-47-6	~	~	~	~	~	0.00220	U	0.00250	U	3.700	D	650	D	32	D	120	D
p- & m- Xylenes	179601-23-1	~	~	~	~	~	0.00540	J	0.0130		22	D	1,600	D	82	D	350	DE
p-Isopropyltoluene	99-87-6	10	10	~	~	~	0.00220	U	0.170		2.900	D	**15**	D	1.400	D	2.300	D
sec-Butylbenzene	135-98-8	11	11	11	100	500	0.00220	U	0.110		2.100	D	**21**	D	1.600	D	3.900	D
tert-Butylbenzene	98-06-6	5.9	5.9	5.9	100	500	0.00220	U	0.0340		0.120		0.270	U	0.220	U	0.180	U
Toluene	108-88-3	0.7	0.7	0.7	100	500	0.00220	U	0.00360	J	**8.300**	D	**1,500**	D	**64**	D	**370**	D
Xylenes, Total	1330-20-7	0.26	0.26	0.26	100	500	0.00650	U	0.0130	J	**26**	D	**2,300**	D	**110**	D	**480**	DE
Semi-Volatiles, CP-51 (formerly STARS) List		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg		mg/Kg	
Dilution Factor							2		2		2		2		2		2	
Acenaphthene	83-32-9	~	20	20	100	500	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Acenaphthylene	208-96-8	~	100	100	100	500	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Anthracene	120-12-7	~	100	100	100	500	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Benzo(a)anthracene	56-55-3	~	1	1	1	5.6	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Benzo(a)pyrene	50-32-8	~	1	1	1	1	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Benzo(b)fluoranthene	205-99-2	~	1	1	1	5.6	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Benzo(g,h,i)perylene	191-24-2	~	100	100	100	500	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Benzo(k)fluoranthene	207-08-9	~	0.8	0.8	3.9	56	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Chrysene	218-01-9	~	1	1	3.9	56	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Dibenzo(a,h)anthracene	53-70-3	~	0.33	0.33	0.33	0.56	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Fluoranthene	206-44-0	~	100	100	100	500	0.0450	U	0.0870	JD	0.0560	JD	0.0540	U	0.0450	U	0.0460	U
Fluorene	86-73-7	~	30	30	100	500	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Indeno(1,2,3-cd)pyrene	193-39-5	~	0.5	0.5	0.5	5.6	0.0450	U	0.0450	U	0.0440	U	0.0540	U	0.0450	U	0.0460	U
Naphthalene	91-20-3	12	12	12	100	500	0.0450	U	0.180	D	1.600	D	1.500	D	2.900	DE	0.120	D
Phenanthrene	85-01-8	~	100	100	100	500	0.0450	U	0.100	D	0.0740	JD	0.0540	U	0.0450	U	0.0460	U
Pyrene	129-00-0	~	100	100	100	500	0.0450	U	0.0880	JD	0.0470	JD	0.0540	U	0.0450	U	0.0460	U
Total Solids							%		%		%		%		%		%	
Dilution Factor							1		1		1		1		1		1	
% Solids	solids	~	~	~	~	~	91		93.100		93.200		77.100		91.200		90.300	

NOTES:

Any Regulatory Exceedences are color coded by Regulation

Q is the Qualifier Column with definitions as follows:

D=result is from an analysis that required a dilution

J=analyte detected at or above the MDL (method detection limit) but below the RL (Reporting Limit) - data is estimated

U=analyte not detected at or above the level indicated

B=analyte found in the analysis batch blank

E=result is estimated and cannot be accurately reported due to levels encountered or interferences

P=this flag is used for pesticide and PCB (Aroclor) target compounds when there is a % difference for detected concentrations that exceed method dictated limits between the two GC columns used for analysis

NT=this indicates the analyte was not a target for this sample

~=this indicates that no regulatory limit has been established for this analyte

Technical Report

prepared for:

Castleton Environmental
54 George Street
Babylon NY, 11702
Attention: Jessica Ferngren

Report Date: 01/23/2019
Client Project ID: MEIN1901
York Project (SDG) No.: 19A0642

CT Cert. No. PH-0723 New Jersey Cert. No. CT005 and NY037 New York Cert. Nos. 10854 and 12058 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 132-02 89th AVENUE RICHMOND HILL, NY 11418
www.YORKLAB.com (203) 325-1371 FAX (203) 357-0166 ClientServices@yorklab.com

Report Date: 01/23/2019
Client Project ID: MEIN1901
York Project (SDG) No.: 19A0642

Castleton Environmental
54 George Street
Babylon NY, 11702
Attention: Jessica Ferngren

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on January 16, 2019 with a temperature of 1.5 C. The project was identified as your project: **MEIN1901**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Sample and Analysis Qualifiers section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the Sample and Data Qualifiers Relating to This Work Order section of this report and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
19A0642-01	SB01	Soil	01/15/2019	01/16/2019
19A0642-02	SB02	Soil	01/15/2019	01/16/2019
19A0642-03	SB03	Soil	01/15/2019	01/16/2019
19A0642-04	SB04	Soil	01/15/2019	01/16/2019
19A0642-05	SB05	Soil	01/15/2019	01/16/2019
19A0642-06	SB06	Soil	01/15/2019	01/16/2019

General Notes for York Project (SDG) No.: 19A0642

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All analyses conducted met method or Laboratory SOP requirements. See the Sample and Data Qualifiers Section for further information.
6. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
7. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.
8. Analyses conducted at York Analytical Laboratories, Inc. Stratford, CT are indicated by NY Cert. No. 10854; those conducted at York Analytical Laboratories, Inc., Richmond Hill, NY are indicated by NY Cert. No. 12058.

Approved By: 

Date: 01/23/2019

Benjamin Gulizia
Laboratory Director

Sample Information

Client Sample ID: **SB01** **York Sample ID:** **19A0642-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 9:50 am	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**6.5**		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
108-67-8	**1,3,5-Trimethylbenzene**	**2.9**	J	ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
71-43-2	**Benzene**	**6.8**		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
100-41-4	**Ethyl Benzene**	**3.1**	J	ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
1634-04-4	**Methyl tert-butyl ether (MTBE)**	**56**		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
91-20-3	**Naphthalene**	**3.1**	J	ug/kg dry	2.2	8.6	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 NELAC-NY10854,NELAC-NY12058,PADEP,NJI	LLJ
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
95-47-6	o-Xylene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
179601-23-1	**p- & m- Xylenes**	**5.4**	J	ug/kg dry	4.3	8.6	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
108-88-3	Toluene	ND		ug/kg dry	2.2	4.3	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.5	13	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:28 CTDOH,NELAC-NY10854,NELAC-NY12058,NJ	LLJ

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*102 %*	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*102 %*	*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*109 %*	*76-130*

Sample Information

Client Sample ID: **SB01** **York Sample ID:** **19A0642-01**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 9:50 am	01/16/2019

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	Naphthalene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	45	91	2	EPA 8270D	01/22/2019 07:32	01/22/2019 15:29	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*54.7 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*71.8 %*	*21-113*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*66.4 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: SB01 **York Sample ID:** 19A0642-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 9:50 am	01/16/2019

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	* % Solids	91.0		%	0.100	1	SM 2540G Certifications: CTDOH	01/22/2019 11:58	01/22/2019 16:28	MAC

Sample Information

Client Sample ID: SB02 **York Sample ID:** 19A0642-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 10:10 am	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	1,2,4-Trimethylbenzene	4400		ug/kg dry	250	500	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/21/2019 11:58	LLJ
108-67-8	1,3,5-Trimethylbenzene	170	IS-HI	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
71-43-2	Benzene	3.7	J	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
100-41-4	Ethyl Benzene	100		ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
98-82-8	Isopropylbenzene	78	IS-HI	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
1634-04-4	Methyl tert-butyl ether (MTBE)	3.5	J	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
91-20-3	Naphthalene	190	IS-HI	ug/kg dry	2.5	10	1	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,PADEP,NJI	01/18/2019 08:45	01/18/2019 19:56	LLJ
104-51-8	n-Butylbenzene	93	IS-HI	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
103-65-1	n-Propylbenzene	130	IS-HI	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
95-47-6	o-Xylene	ND		ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
179601-23-1	p- & m- Xylenes	13		ug/kg dry	5.0	10	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
99-87-6	p-Isopropyltoluene	170	IS-HI	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
135-98-8	sec-Butylbenzene	110	IS-HI	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ
98-06-6	tert-Butylbenzene	34	IS-HI	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/18/2019 08:45	01/18/2019 19:56	LLJ

Sample Information

Client Sample ID: **SB02** **York Sample ID:** **19A0642-02**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 10:10 am	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-88-3	**Toluene**	**3.6**	J	ug/kg dry	2.5	5.0	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:56 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	LLJ
1330-20-7	**Xylenes, Total**	**13**	J	ug/kg dry	7.5	15	1	EPA 8260C Certifications:	01/18/2019 08:45	01/18/2019 19:56 CTDOH,NELAC-NY10854,NELAC-NY12058,NJ	LLJ

	Surrogate Recoveries	Result		Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*122 %*		*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*90.5 %*		*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*246 %*	IS-HI, S-03	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
208-96-8	Acenaphthylene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
120-12-7	Anthracene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
218-01-9	Chrysene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
206-44-0	**Fluoranthene**	**87**	J	ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
86-73-7	Fluorene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 NELAC-NY10854,NJDEP,PADEP	OW
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW
91-20-3	**Naphthalene**	**180**		ug/kg dry	45	89	2	EPA 8270D Certifications:	01/22/2019 07:32	01/22/2019 21:49 CTDOH,NELAC-NY10854,NJDEP,PADEP	OW

Sample Information

Client Sample ID: SB02 **York Sample ID:** 19A0642-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 10:10 am	01/16/2019

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	**Phenanthrene**	**100**		ug/kg dry	45	89	2	EPA 8270D	01/22/2019 07:32	01/22/2019 21:49	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	**Pyrene**	**88**	J	ug/kg dry	45	89	2	EPA 8270D	01/22/2019 07:32	01/22/2019 21:49	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*61.4 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*73.5 %*	*21-113*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*75.9 %*	*24-116*

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**93.1**		%	0.100	1	SM 2540G	01/22/2019 11:58	01/22/2019 16:28	MAC
							Certifications: CTDOH			

Sample Information

Client Sample ID: SB03 **York Sample ID:** 19A0642-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 11:00 am	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**22000**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
108-67-8	**1,3,5-Trimethylbenzene**	**9100**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
71-43-2	**Benzene**	**1200**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
100-41-4	**Ethyl Benzene**	**10000**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
98-82-8	**Isopropylbenzene**	**3000**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
1634-04-4	**Methyl tert-butyl ether (MTBE)**	**46**	IS-HI	ug/kg dry	2.6	5.3	1	EPA 8260C	01/18/2019 08:45	01/18/2019 20:23	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
91-20-3	**Naphthalene**	**140**		ug/kg dry	2.6	11	1	EPA 8260C	01/18/2019 08:45	01/18/2019 20:23	LLJ
								Certifications: NELAC-NY10854,NELAC-NY12058,PADEP,NJI			

Sample Information

Client Sample ID: SB03 **York Sample ID:** 19A0642-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 11:00 am	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	**n-Butylbenzene**	**200**		ug/kg dry	2.6	5.3	1	EPA 8260C	01/18/2019 08:45	01/18/2019 20:23	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
103-65-1	**n-Propylbenzene**	**4800**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
95-47-6	**o-Xylene**	**3700**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
179601-23-1	**p- & m- Xylenes**	**22000**		ug/kg dry	1100	2100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
99-87-6	**p-Isopropyltoluene**	**2900**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
135-98-8	**sec-Butylbenzene**	**2100**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
98-06-6	**tert-Butylbenzene**	**120**		ug/kg dry	2.6	5.3	1	EPA 8260C	01/18/2019 08:45	01/18/2019 20:23	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
108-88-3	**Toluene**	**8300**		ug/kg dry	530	1100	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
1330-20-7	**Xylenes, Total**	**26000**		ug/kg dry	1600	3200	200	EPA 8260C	01/18/2019 08:45	01/21/2019 16:56	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJ			

	Surrogate Recoveries	Result		Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*388 %*	IS-HI, S-03	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*104 %*		*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*1100 %*	S-03	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB03 **York Sample ID:** 19A0642-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 11:00 am	01/16/2019

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	**Fluoranthene**	**56**	J	ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**1600**		ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	**Phenanthrene**	**74**	J	ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	**Pyrene**	**47**	J	ug/kg dry	44	88	2	EPA 8270D	01/22/2019 07:32	01/22/2019 22:36	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*78.2 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*73.7 %*	*21-113*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*83.8 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	* **% Solids**	**93.2**		%	0.100	1	SM 2540G	01/22/2019 11:58	01/22/2019 16:28	MAC
							Certifications:	CTDOH		

Sample Information

Client Sample ID: SB04 **York Sample ID:** 19A0642-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 11:40 am	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **SB04** **York Sample ID:** **19A0642-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 11:40 am	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**1200000**		ug/kg dry	27000	54000	10000	EPA 8260C	01/21/2019 09:52	01/22/2019 12:27	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
108-67-8	**1,3,5-Trimethylbenzene**	**830000**		ug/kg dry	14000	27000	5000	EPA 8260C	01/21/2019 09:52	01/21/2019 17:22	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
71-43-2	**Benzene**	**20000**	IS-HI	ug/kg dry	270	540	100	EPA 8260C	01/21/2019 09:52	01/21/2019 12:52	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
100-41-4	**Ethyl Benzene**	**1100000**		ug/kg dry	14000	27000	5000	EPA 8260C	01/21/2019 09:52	01/21/2019 17:22	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
98-82-8	**Isopropylbenzene**	**48000**		ug/kg dry	2700	5400	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 15:35	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND	IS-HI	ug/kg dry	270	540	100	EPA 8260C	01/21/2019 09:52	01/21/2019 12:52	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
91-20-3	**Naphthalene**	**88000**	B	ug/kg dry	2700	11000	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 15:35	LLJ
								Certifications: NELAC-NY10854,NELAC-NY12058,PADEP,NJI			
104-51-8	**n-Butylbenzene**	**31000**		ug/kg dry	2700	5400	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 15:35	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
103-65-1	**n-Propylbenzene**	**170000**		ug/kg dry	2700	5400	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 15:35	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
95-47-6	**o-Xylene**	**650000**		ug/kg dry	27000	54000	10000	EPA 8260C	01/21/2019 09:52	01/22/2019 12:27	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
179601-23-1	**p- & m- Xylenes**	**1600000**		ug/kg dry	54000	110000	10000	EPA 8260C	01/21/2019 09:52	01/22/2019 12:27	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
99-87-6	**p-Isopropyltoluene**	**15000**		ug/kg dry	270	540	100	EPA 8260C	01/21/2019 09:52	01/21/2019 12:52	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
135-98-8	**sec-Butylbenzene**	**21000**		ug/kg dry	2700	5400	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 15:35	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
98-06-6	tert-Butylbenzene	ND		ug/kg dry	270	540	100	EPA 8260C	01/21/2019 09:52	01/21/2019 12:52	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
108-88-3	**Toluene**	**1500000**		ug/kg dry	27000	54000	10000	EPA 8260C	01/21/2019 09:52	01/22/2019 12:27	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
1330-20-7	**Xylenes, Total**	**2300000**		ug/kg dry	81000	160000	10000	EPA 8260C	01/21/2019 09:52	01/22/2019 12:27	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJ			

	Surrogate Recoveries	Result		Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*96.5 %*	IS-HI	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*110 %*		*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*174 %*	S-03	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: **SB04** **York Sample ID:** **19A0642-04**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 11:40 am	01/16/2019

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
208-96-8	Acenaphthylene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
120-12-7	Anthracene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**1500**		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	54	110	2	EPA 8270D	01/22/2019 07:32	01/22/2019 23:24	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*53.5 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*77.7 %*	*21-113*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*82.0 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst

Sample Information

Client Sample ID: SB04 **York Sample ID:** 19A0642-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 11:40 am	01/16/2019

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	* % Solids	77.1		%	0.100	1	SM 2540G Certifications: CTDOH	01/22/2019 11:58	01/22/2019 16:28	MAC

Sample Information

Client Sample ID: SB05 **York Sample ID:** 19A0642-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 12:00 pm	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	1,2,4-Trimethylbenzene	57000		ug/kg dry	2200	4400	1000	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 16:02	LLJ
108-67-8	1,3,5-Trimethylbenzene	19000		ug/kg dry	2200	4400	1000	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 16:02	LLJ
71-43-2	Benzene	2400		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ
100-41-4	Ethyl Benzene	21000		ug/kg dry	2200	4400	1000	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 16:02	LLJ
98-82-8	Isopropylbenzene	3700		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ
91-20-3	Naphthalene	6300	B	ug/kg dry	220	870	100	EPA 8260C Certifications: NELAC-NY10854,NELAC-NY12058,PADEP,NJI	01/21/2019 09:52	01/21/2019 13:46	LLJ
104-51-8	n-Butylbenzene	2700		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ
103-65-1	n-Propylbenzene	11000		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ
95-47-6	o-Xylene	32000		ug/kg dry	2200	4400	1000	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 16:02	LLJ
179601-23-1	p- & m- Xylenes	82000		ug/kg dry	4400	8700	1000	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 16:02	LLJ
99-87-6	p-Isopropyltoluene	1400		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ
135-98-8	sec-Butylbenzene	1600		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ
98-06-6	tert-Butylbenzene	ND		ug/kg dry	220	440	100	EPA 8260C Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 09:52	01/21/2019 13:46	LLJ

Sample Information

Client Sample ID: **SB05** **York Sample ID:** **19A0642-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 12:00 pm	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
108-88-3	**Toluene**	**64000**		ug/kg dry	2200	4400	1000	EPA 8260C Certifications:	01/21/2019 09:52 CTDOH,NELAC-NY10854,NELAC-NY12058,PA	01/21/2019 16:02	LLJ
1330-20-7	**Xylenes, Total**	**110000**		ug/kg dry	6500	13000	1000	EPA 8260C Certifications:	01/21/2019 09:52 CTDOH,NELAC-NY10854,NELAC-NY12058,NJ	01/21/2019 16:02	LLJ

	Surrogate Recoveries	Result		Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*88.1 %*		*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*100 %*		*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*139 %*	S-03	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
208-96-8	Acenaphthylene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
120-12-7	Anthracene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
218-01-9	Chrysene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
206-44-0	Fluoranthene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
86-73-7	Fluorene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW
91-20-3	**Naphthalene**	**2900**		ug/kg dry	45	90	2	EPA 8270D Certifications:	01/22/2019 07:32 CTDOH,NELAC-NY10854,NJDEP,PADEP	01/23/2019 00:11	OW

Sample Information

Client Sample ID: **SB05** **York Sample ID:** **19A0642-05**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 12:00 pm	01/16/2019

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
85-01-8	Phenanthrene	ND		ug/kg dry	45	90	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:11	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
129-00-0	Pyrene	ND		ug/kg dry	45	90	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:11	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*69.5 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*80.1 %*	*21-113*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*85.1 %*	*24-116*

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**91.2**		%	0.100	1	SM 2540G	01/22/2019 11:58	01/22/2019 16:28	MAC
							Certifications: CTDOH			

Sample Information

Client Sample ID: **SB06** **York Sample ID:** **19A0642-06**

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 12:20 pm	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-63-6	**1,2,4-Trimethylbenzene**	**360000**		ug/kg dry	8900	18000	5000	EPA 8260C	01/21/2019 09:52	01/21/2019 17:50	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
108-67-8	**1,3,5-Trimethylbenzene**	**57000**		ug/kg dry	1800	3500	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 16:29	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
71-43-2	**Benzene**	**3600**	IS-HI	ug/kg dry	180	350	100	EPA 8260C	01/21/2019 09:52	01/21/2019 14:41	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
100-41-4	**Ethyl Benzene**	**77000**		ug/kg dry	1800	3500	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 16:29	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
98-82-8	**Isopropylbenzene**	**9600**		ug/kg dry	180	350	100	EPA 8260C	01/21/2019 09:52	01/21/2019 14:41	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
1634-04-4	Methyl tert-butyl ether (MTBE)	ND	IS-HI	ug/kg dry	180	350	100	EPA 8260C	01/21/2019 09:52	01/21/2019 14:41	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
91-20-3	**Naphthalene**	**23000**	B	ug/kg dry	1800	7100	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 16:29	LLJ
								Certifications: NELAC-NY10854,NELAC-NY12058,PADEP,NJI			

Sample Information

Client Sample ID: SB06 **York Sample ID:** 19A0642-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 12:20 pm	01/16/2019

Volatile Organics, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
104-51-8	**n-Butylbenzene**	**6800**		ug/kg dry	180	350	100	EPA 8260C	01/21/2019 09:52	01/21/2019 14:41	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
103-65-1	**n-Propylbenzene**	**34000**		ug/kg dry	1800	3500	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 16:29	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
95-47-6	**o-Xylene**	**120000**		ug/kg dry	1800	3500	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 16:29	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
179601-23-1	**p- & m- Xylenes**	**350000**	VOA-E	ug/kg dry	3500	7100	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 16:29	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
99-87-6	**p-Isopropyltoluene**	**2300**		ug/kg dry	180	350	100	EPA 8260C	01/21/2019 09:52	01/21/2019 14:41	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
135-98-8	**sec-Butylbenzene**	**3900**		ug/kg dry	180	350	100	EPA 8260C	01/21/2019 09:52	01/21/2019 14:41	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
98-06-6	tert-Butylbenzene	ND		ug/kg dry	180	350	100	EPA 8260C	01/21/2019 09:52	01/21/2019 14:41	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
108-88-3	**Toluene**	**370000**		ug/kg dry	8900	18000	5000	EPA 8260C	01/21/2019 09:52	01/21/2019 17:50	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,PA			
1330-20-7	**Xylenes, Total**	**480000**	VOA-E	ug/kg dry	5300	11000	1000	EPA 8260C	01/21/2019 09:52	01/21/2019 16:29	LLJ
								Certifications: CTDOH,NELAC-NY10854,NELAC-NY12058,NJ			

	Surrogate Recoveries	Result		Acceptance Range
17060-07-0	*Surrogate: SURR: 1,2-Dichloroethane-d4*	*108 %*	IS-HI	*77-125*
2037-26-5	*Surrogate: SURR: Toluene-d8*	*103 %*		*85-120*
460-00-4	*Surrogate: SURR: p-Bromofluorobenzene*	*139 %*	S-03	*76-130*

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
208-96-8	Acenaphthylene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
120-12-7	Anthracene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
50-32-8	Benzo(a)pyrene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications: CTDOH,NELAC-NY10854,NJDEP,PADEP			

Sample Information

Client Sample ID: SB06 **York Sample ID:** 19A0642-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
19A0642	MEIN1901	Soil	January 15, 2019 12:20 pm	01/16/2019

Semi-Volatiles, CP-51 (formerly STARS) List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550C

CAS No.	Parameter	Result	Flag	Units	Reported to LOD/MDL	LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
218-01-9	Chrysene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
206-44-0	Fluoranthene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
86-73-7	Fluorene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	NELAC-NY10854,NJDEP,PADEP		
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
91-20-3	**Naphthalene**	**120**		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
85-01-8	Phenanthrene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		
129-00-0	Pyrene	ND		ug/kg dry	46	91	2	EPA 8270D	01/22/2019 07:32	01/23/2019 00:59	OW
								Certifications:	CTDOH,NELAC-NY10854,NJDEP,PADEP		

	Surrogate Recoveries	Result	Acceptance Range
4165-60-0	*Surrogate: SURR: Nitrobenzene-d5*	*55.6 %*	*22-108*
321-60-8	*Surrogate: SURR: 2-Fluorobiphenyl*	*79.8 %*	*21-113*
1718-51-0	*Surrogate: SURR: Terphenyl-d14*	*77.2 %*	*24-116*

Total Solids

Log-in Notes:

Sample Notes:

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	Reported to LOQ	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	*** % Solids**	**90.3**		%	0.100	1	SM 2540G	01/22/2019 11:58	01/22/2019 16:28	MAC
							Certifications:	CTDOH		

Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
19A0642-01	SB01	40mL Vial with Stir Bar-Cool 4° C
19A0642-02	SB02	40mL Vial with Stir Bar-Cool 4° C
19A0642-03	SB03	40mL Vial with Stir Bar-Cool 4° C
19A0642-04	SB04	40mL Vial with Stir Bar-Cool 4° C
19A0642-05	SB05	40mL Vial with Stir Bar-Cool 4° C
19A0642-06	SB06	40mL Vial with Stir Bar-Cool 4° C

Sample and Data Qualifiers Relating to This Work Order

VOA-E	The concentration reported for this analyte is an estimated value above the linear range of the instrument for EPA SW846-5035/8260 (>200ppb). Re-analysis using 5035/8260 medium level prep. resulted in a detection below the reporting limit (<500ppb).
S-03	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. This effect was confirmed by reanalysis.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL/LOD) or in the case of a TIC, the result is an estimated concentration.
IS-HI	The internal std associated with this target compound did not meet acceptance criteria (area >200% CCV) at the stated dilution due to matrix effects. Sample was rerun to confirm matrix effects.
CCV-E	The value reported is ESTIMATED. The value is estimated due to its behavior during continuing calibration verification (>20% Difference for average Rf or >20% Drift for quadratic fit).
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants.

Definitions and Other Explanations

*	Analyte is not certified or the state of the samples origination does not offer certification for the Analyte.
ND	NOT DETECTED - the analyte is not detected at the Reported to level (LOQ/RL or LOD/MDL)
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
LOQ	LIMIT OF QUANTITATION - the minimum concentration of a target analyte that can be reported within a specified degree of confidence. This is the lowest point in an analyte calibration curve that has been subjected to all steps of the processing/analysis and verified to meet defined criteria. This is based upon NELAC 2009 Standards and applies to all analyses.
LOD	LIMIT OF DETECTION - a verified estimate of the minimum concentration of a substance in a given matrix that an analytical process can reliably detect. This is based upon NELAC 2009 Standards and applies to all analyses conducted under the auspices of EPA SW-846.
MDL	METHOD DETECTION LIMIT - a statistically derived estimate of the minimum amount of a substance an analytical system can reliably detect with a 99% confidence that the concentration of the substance is greater than zero. This is based upon 40 CFR Part 136 Appendix B and applies only to EPA 600 and 200 series methods.
Reported to	This indicates that the data for a particular analysis is reported to either the LOD/MDL, or the LOQ/RL. In cases where the "Reported to" is located above the LOD/MDL, any value between this and the LOQ represents an estimated value which is "J" flagged accordingly. This applies to volatile and semi-volatile target compounds only.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two. For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the LOD/MDL, with values between the LOD/MDL and the LOQ being "J" flagged as estimated results.

For analyses by EPA SW-846-8270D, the Limit of Quantitation (LOQ) reported for benzidine is based upon the lowest standard used for calibration and is not a verified LOQ due to this compound's propensity for oxidative losses during extraction/concentration procedures and non-reproducible chromatographic performance.

York Analytical Laboratories, Inc.
120 Research Drive, Stratford, CT 06615 | 132-02 89th Ave, Queens, NY 11418
clientservices@yorklab.com
www.yorklab.com

Field Chain-of-Custody Record

NOTE: YORK's Standard Terms & Conditions are listed on the back side of this document.
This document serves as your written authorization for YORK to proceed with the analyses requested below.
Your signature binds you to YORK's Standard Terms & Conditions.

YORK Project No.: 19A0642

Page 1 of 1

YOUR Information	Report To:	Invoice To:	YOUR Project Number	Turn-Around Time
Company: CastleHeben Environmental	Company:	Company:	MEIN1901	RUSH - Next Day
Address: 54 George St Babylon, NY	Address: SAME	Address: SAME	YOUR Project Name: MEIN1901	RUSH - Two Day
Phone: 631 [illegible] 1818	Phone:	Phone:		RUSH - Three Day
Contact: Jessica Terngren	Contact:	Contact:		RUSH - Four Day
E-mail: jessica@castleheben.com	E-mail:	E-mail:	YOUR PO#:	Standard (5-7 Day) X

Please print clearly and legibly. All information must be complete. Samples will not be logged in and the turn-around-time clock will not begin until any questions by YORK are resolved.

Samples Collected by: (print your name above and sign below)
Charles Lambert
Chl Lbt

Matrix Codes
S - soil / solid
GW - groundwater
DW - drinking water
WW - wastewater
O - Oil | Other

Samples From
New York X
New Jersey
Connecticut
Pennsylvania
Other

Report / EDD Type (circle selections)
~~Summary Report~~ | CT RCP | ~~Standard Excel EDD~~
QA Report | CT RCP DQA/DUE | EQuIS (Standard)
NY ASP A Package | NJDEP Reduced Deliverables | NYSDEC EQuIS
NY ASP B Package | NJDKQP | NJDEP SRP HazSite
Other:

YORK Reg. Comp.
Compared to the following Regulation(s): (please fill in)

Sample Identification	Sample Matrix	Date/Time Sampled	Analysis Requested	Container Description
SB01	S	1/15/19 9:50	CP-51 VOCs via 8260, CP51 SVOCs via 8270	terracore 4oz, 8oz jar
SB02		10:10		
SB03		11:00		
SB04		11:40		
SB05		12:00		
SB06		12:20		

Comments:

Preservation: (check all that apply)
HCl ___ MeOH ___ HNO_3 ___ H_2SO_4 ___ NaOH ___ ZnAc ___
Ascorbic Acid ___ Other: ___

Special Instruction
Field Filtered ___
Lab to Filter ___

Samples Relinquished by / Company	Date/Time	Samples Received by / Company
[signature]	1/16/19 [illegible]	[signature]
Samples Received by / Company	Date/Time	Samples Relinquished by / Company
Samples Relinquished by / Company	Date/Time	Samples Received by / Company

Date/Time	Samples Relinquished by / Company	Date/Time
1/16/19 [illegible]		
Date/Time	Samples Received by / Company	Date/Time
Date/Time	Samples Received in LAB by / Date/Time	Temp. Received at Lab
	[signature] 1/16/19 1647	1.5 Degrees C

Attachment-C
Lab Data Package

American Analytical Laboratories, LLC.
56 Toledo Street
Farmingdale, New York 11735
TEL: (631) 454-6100 FAX: (631) 454-8027
Website: www.American-Analytical.com

May 13, 2020

Justin Halpin
WRS d.b.a Berninger Environmental
17 Old Dock Road
Yaphank, NY 11980
TEL: (631) 589-6521
FAX: (631) 589-6528

RE: BP Gas; 4001-4010 4th Avenue, Brooklyn, Order No.: 2005010

Dear Justin Halpin:

American Analytical Laboratories, LLC. received 2 sample(s) on 5/1/2020 for the analyses presented in the following report.

Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report. The results reported herein relate only to the items tested or to the samples as received by the laboratory. This report may not be reproduced, except in full, without the approval of American Analytical Laboratories, LLC and is not considered complete without a cover page and chain of custody documentation. The limits (LOQ) provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

There were no problems with the analyses and all data for associated QC met laboratory specifications. If there are any exceptions a Case Narrative is provided in the report or the data is qualified either on the sample results or in the QC section of the report. This package has been reviewed by American Analytical Laboratories' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely,

Lori Beyer

Lori Beyer
Lab Director
American Analytical Laboratories, LLC.

American Analytical Laboratories, LLC.
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Farmingdale, New York 11735
TEL: (631) 454-6100 FAX: (631) 454-8027
Website: www.American-Analytical.com

Workorder Sample Summary

WO#: **2005010**

13-May-20

CLIENT: WRS d.b.a Berninger Environmental

Project: BP Gas; 4001-4010 4th Avenue, Brooklyn, NY

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
2005010-001A	B-4 @ 27.5-30'		4/29/2020 11:30:00 AM	5/1/2020 11:15:00 AM	Soil
2005010-002A	B-5 @ 30-32.5'		4/29/2020 1:00:00 PM	5/1/2020 11:15:00 AM	Soil

CHAIN OF CUSTODY

AMERICAN ANALYTICAL LABORATORIES

56 Toledo Street, Farmingdale NY 11735
(T) 631-454-6100 (F) 631-454-8027
www.american-analytical.com

CERTIFICATIONS
NY ELAP - 11418 PA DEP - 68-00573
NJ DEP - NY050 CT DOH - PH-0205

Client Information

Company Name: BEI
Address: 17 Old Dock Rd.
City: Yaphank State: NY Zip: 11980
Project Contact: Justin H.
Phone #: 631-589-6521
E-mail: jhalpin2uses.com

Project Information

Project Name: BP Gas
Street: 4001-4010 4th Avenue
City: Brooklyn State: NY Zip:
Project # / Purchase Order #: 15487
Sampler's Name / Company: Justin H. / BEI
Sampler's Signature:

Analytical Test / Information

8260 (VOC's)

LAB SAMPLE # (LAB USE ONLY)	Client Sample ID	Sample Type	Matrix Code	Date	Time	Glass / Plastic	Total # of bottles	Sample Containers: Number of Each Preserved Bottle: NONE	HCl	NaOH	HNO_3	H_2SO_4	DI Water (5035A)	MeOH	OTHER	8260 (VOC's)
2005010-001	B-4 @ 27.5-30'	G	S	4/29/20	11:30	G	1	X								X
002	B-5 @ 30-32.5'	G	S	↓	11:00	G	1	X								X

Turnaround Time (Business Days)

Standard
- [x] 7-10 Business Days
- [ ] 3 Day *RUSH*
- [ ] 5 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 1 Day *RUSH*

Please contact laboratory for rush service availability

SAMPLE TYPE

G = Grab
C = Composite
B = Blank

MATRIX CODE

L = Liquid
S = Soil
O = Oil
W = Wipe
PC = Paint Chip
SL = Sludge
SD = Solid
M = Misc

ELECTRONIC DELIVERABLES

NYCRR Part 375 - please circle
Unres/ Comm/ Industrial/ Residential/ Res Residential/ PGW
NJ Soil Clean Up Criteria
SCDOH Action Levels
CP 51 - Gas / Fuel
TCLP Hazardous Waste
TOGS
NYSDEC EQUIS

Comments / Remarks

Pot 32/09

Cooler Temp: 2.4°C

Sample custody must be documented below, each time samples change possession, with a signature, date, and time.

RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE / TIME	PRINTED NAME
	5/1/20 11:15	Toby Wedgwood	P Masi	5/1/20 11:15	P Masi
RELINQUISHED BY (SIGNATURE)	DATE / TIME	PRINTED NAME	RECEIVED BY LAB (SIGNATURE)	DATE / TIME	PRINTED NAME

American Analytical Laboratories, LLC.
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Farmingdale, New York 11735
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Website: www.American-Analytical.com

Sample Log-In Check List

Client Name: Berninger Work Order Number: 2005010 RcptNo: 1

Logged by:	Lori Beyer	5/1/2020 11:15:00 AM	Lori Beyer
Completed By:	Lori Beyer	5/1/2020 11:16:32 AM	Lori Beyer
Reviewed By:	Phyllis Masi	5/4/2020	Phyllis Masi

Chain of Custody

1.	Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2.	How was the sample delivered?	Client		

Log In

3.	Coolers are present?	Yes ☑	No ☐	NA ☐
4.	Shipping container/cooler in good condition?	Yes ☑	No ☐	
	Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
	No. Seal Date:	Signed By:		
5.	Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes ☑	No ☐	
8.	Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9.	Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
10.	Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11.	Is the headspace in the VOA vials less than 1/4 inch or 6 mm?	Yes ☐	No ☐	No VOA Vials ☑
12.	Were any sample containers received broken?	Yes ☐	No ☑	
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15.	Is it clear what analyses were requested?	Yes ☑	No ☐	
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____
By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding: _____
Client Instructions: _____

18. Additional remarks:

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By

American Analytical Laboratories, LLC.
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Farmingdale, New York 11735
TEL: (631) 454-6100 FAX: (631) 454-8027
Website: www.American-Analytical.com

Case Narrative

WO#: **2005010**
Date: **5/13/2020**

CLIENT: WRS d.b.a Berninger Environmental
Project: BP Gas; 4001-4010 4th Avenue, Brooklyn, NY

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846 and additional methods as detailed throughout the text of the report. All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives with exceptions notated in this Narrative discussion.

Soil sample results analyzed for Volatile Organics via preparation method SW846 Method 5035A by the Low Level procedures potentially may be estimated, "J" (biased low) since the samples for this test were not collected according to the 5035A Method. Analysis was performed from intact soil jar. Volatile LCS are analyzed with preservatives - HCL/Methanol depending on level of analysis (high/low) similar to sample analysis. Outliers can be attributed to the presence of chemical preservatives. 2-Chloroethyl vinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Sample B-4 @ 27.5-30' required reanalysis at high level due to heavy matrix interferences.

The following parameters (if included in this report) are not offered by NY ELAP: VOA 8260 Soil; 1,2,4,5-Tetramethylbenzene, Chlorodifluoromethane, Diisopropyl ether, Ethanol, Freon-114, p-Diethylbenzene, p-Ethyltoluene, Limonene. VOA 8260 Liquid; 1,2,4,5-Tetramethylbenzene, Chlorodifluoromethane, Freon-114, p-Diethylbenzene, p-Ethyltoluene, Limonene. Pesticides 8081 Soil; DBCP. Herbicides 8151 Soil; 3,5-Dichlorobenzoic Acid, 4-Nitrophenol, Acifluorfen, Bentazon, Chloramben, DCPA, Picloram, SM 2540G Total Volatile Solids, Soil TKN, Soil Organic Nitrogen, Total Phosphorus in soil, Percent Moisture, pH in non-potable water and temperature at which pH is measured, SM 4500-SO3 B Sulfite in Liquid, Total Sulfur in Soil, Acid Soluble Chloride by ASTMC1152, Water Soluble Chloride by ASTMC1218, Chlorine Demand by SM 2350 B, Total Residual Chlorine in Liquid and Reactivity to Sulfide and Reactivity to Cyanide.

The test results meet the requirements of the NYSDOH and NELAC standards, except where noted. The information contained in this analytical report is the sole property of American Analytical Laboratories, LLC. or the client for which this report was issued. The results contained in this report are only representative of the samples received. The sample receipt checklist is included as part of this lab report. Conditions can vary at different times and at different sampling conditions. American Analytical is not responsible for the use or interpretation of the data included herein.

American Analytical Laboratories, LLC.
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Website: www.American-Analytical.com

Definition Only

WO#: **2005010**
Date: **5/13/2020**

Definitions:

Sample Result and QC Summary Qualifiers - Level I and Level II Reports
ND - Not detected at the reporting limit/Limit of Quantitation

B - The analyte was detected in the associated method blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <5x the blank value as artifact.

E - The value is above the quantitation range

D - Analyte concentration was obtained from diluted analysis or from analysis using reduced sample volume.

J - The analyte was detected below the limit of quantitation but greater than the established Limit of Detection (LOD). There is greater uncertainty associated with these results and data should be considered as estimated.

U - The compound was analyzed for but not detected.

H - Holding time for preparation or analysis has been exceeded.

S - Spike recovery is outside accepted recovery limits.

R - RPD is outside accepted recovery range.

P - Secondary column exceeds 40% difference for GC test.

* - Calibration exceeds method requirement. Due to the large number of analytes for organic testing, the method allows 10% of analytes to have %RSD and/or %D to be >20%.
LOD - Limit of Detection; the lowest level the analyte can be determined to be statistically different from a blank.
LOQ - Limit of Quantitation; the lowest amount of analyte in a sample that can be quantitatively determined with suitable precision and accuracy.
PQL - Practical Quantitation Limit; the lowest level that can be reliably achieved within the specific limits of Precision and accuracy. Listed on the QC Summary Forms.
m - Analyte was manually integrated for GC/MS.
+ - Concentration exceeds regulatory level for TCLP

American Analytical Laboratories, LLC.

Date: *13-May-20*

ELAP ID : 11418

CLIENT:	WRS d.b.a Berninger Environmental	**Client Sample ID:**	B-4 @ 27.5-30'
Lab Order:	2005010	**Collection Date:**	4/29/2020 11:30:00 AM
Project:	BP Gas; 4001-4010 4th Avenue, Brooklyn, NY	**Matrix:**	SOIL
Lab ID:	2005010-001A		

Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			**D2216**				Analyst: **JaP**
Percent Moisture	10.6	0	1.00		wt%	1	5/5/2020 9:00:00 AM
VOLATILE SW-846 METHOD 8260D			**SW8260D**		**SW5035A**		Analyst: **IR**
1,1,1,2-Tetrachloroethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,1,1-Trichloroethane	4.0	1.1	5.7	J	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,1,2,2-Tetrachloroethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,1,2-Trichloroethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,1-Dichloroethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,1-Dichloroethene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,1-Dichloropropene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2,3-Trichlorobenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2,3-Trichloropropane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2,4,5-Tetramethylbenzene	5100	56	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM
1,2,4-Trichlorobenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2,4-Trimethylbenzene	28000	280	1400	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
1,2-Dibromo-3-chloropropane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2-Dibromoethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2-Dichlorobenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2-Dichloroethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,2-Dichloropropane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,3,5-Trimethylbenzene	9600	280	1400	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
1,3-Dichlorobenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,3-dichloropropane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,4-Dichlorobenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
1,4-Dioxane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
2,2-Dichloropropane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
2-Butanone	ND	5.7	11	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
2-Chloroethyl vinyl ether	ND	11	23	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
2-Chlorotoluene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
2-Hexanone	ND	5.7	11	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
2-Propanol	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
4-Chlorotoluene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM

American Analytical Laboratories, LLC.

Date: *13-May-20*

ELAP ID : 11418

CLIENT:	WRS d.b.a Berninger Environmental	**Client Sample ID:**	B-4 @ 27.5-30'
Lab Order:	2005010	**Collection Date:**	4/29/2020 11:30:00 AM
Project:	BP Gas; 4001-4010 4th Avenue, Brooklyn, NY	**Matrix:**	SOIL
Lab ID:	2005010-001A		

Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
VOLATILE SW-846 METHOD 8260D			**SW8260D**		**SW5035A**		Analyst: **IR**
4-Isopropyltoluene	3000	56	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM
4-Methyl-2-pentanone	ND	5.7	11	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Acetone	ND	5.7	11	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Benzene	850	56	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM
Bromobenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Bromochloromethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Bromodichloromethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Bromoform	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Bromomethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Carbon disulfide	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Carbon tetrachloride	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Chlorobenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Chlorodifluoromethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Chloroethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Chloroform	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Chloromethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
cis-1,2-Dichloroethene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
cis-1,3-Dichloropropene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Cyclohexane	8700	110	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM
Dibromochloromethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Dibromomethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Dichlorodifluoromethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Diisopropyl ether	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Ethanol	ND	57	57	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Ethylbenzene	9500	56	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM
Freon-114	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Hexachlorobutadiene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Isopropylbenzene	1900	56	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM
m,p-Xylene	34000	560	2800	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
Methyl Acetate	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Methyl tert-butyl ether	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Methylene chloride	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
n-Butylbenzene	2400	56	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM

American Analytical Laboratories, LLC.

Date: *13-May-20*

ELAP ID : 11418

CLIENT:	WRS d.b.a Berninger Environmental	**Client Sample ID:**	B-4 @ 27.5-30'
Lab Order:	2005010	**Collection Date:**	4/29/2020 11:30:00 AM
Project:	BP Gas; 4001-4010 4th Avenue, Brooklyn, NY	**Matrix:**	SOIL
Lab ID:	2005010-001A		

Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
VOLATILE SW-846 METHOD 8260D			**SW8260D**		**SW5035A**		Analyst: **IR**
n-Propylbenzene	10000	56	280	D	µg/Kg-dry	50	5/12/2020 5:59:00 AM
Naphthalene	210	1.1	5.7		µg/Kg-dry	1	5/7/2020 7:10:00 AM
o-Xylene	13000	280	1400	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
p-Diethylbenzene	10000	280	1400	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
p-Ethyltoluene	21000	280	1400	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
sec-Butylbenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Styrene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
t-Butyl alcohol	ND	2.9	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
tert-Butylbenzene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Tetrachloroethene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Toluene	17000	280	1400	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
trans-1,2-Dichloroethene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
trans-1,3-Dichloropropene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Trichloroethene	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Trichlorofluoromethane	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Vinyl acetate	210	1.1	5.7		µg/Kg-dry	1	5/7/2020 7:10:00 AM
Vinyl chloride	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Xylenes, Total	47000	850	4200	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
Methylcyclohexane	29000	560	1400	D	µg/Kg-dry	250	5/12/2020 10:48:00 PM
Acrolein	ND	14	29	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM
Acrylonitrile	ND	1.1	5.7	U	µg/Kg-dry	1	5/7/2020 7:10:00 AM

American Analytical Laboratories, LLC.

Date: *13-May-20*

ELAP ID : 11418

CLIENT:	WRS d.b.a Berninger Environmental	**Client Sample ID:**	B-5 @ 30-32.5'
Lab Order:	2005010	**Collection Date:**	4/29/2020 1:00:00 PM
Project:	BP Gas; 4001-4010 4th Avenue, Brooklyn, NY	**Matrix:**	SOIL
Lab ID:	2005010-002A		

Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			**D2216**				Analyst: **JaP**
Percent Moisture	10.2	0	1.00		wt%	1	5/5/2020 9:00:00 AM
VOLATILE SW-846 METHOD 8260D			**SW8260D**		**SW5035A**		Analyst: **IR**
1,1,1,2-Tetrachloroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,1,1-Trichloroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,1,2,2-Tetrachloroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,1,2-Trichloroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,1-Dichloroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,1-Dichloroethene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,1-Dichloropropene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2,3-Trichlorobenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2,3-Trichloropropane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2,4,5-Tetramethylbenzene	1.7	1.1	5.6	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2,4-Trichlorobenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2,4-Trimethylbenzene	13	1.1	5.6		µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2-Dibromo-3-chloropropane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2-Dibromoethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2-Dichlorobenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2-Dichloroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,2-Dichloropropane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,3,5-Trimethylbenzene	2.6	1.1	5.6	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,3-Dichlorobenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,3-dichloropropane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,4-Dichlorobenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
1,4-Dioxane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
2,2-Dichloropropane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
2-Butanone	ND	5.6	11	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
2-Chloroethyl vinyl ether	ND	11	22	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
2-Chlorotoluene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
2-Hexanone	ND	5.6	11	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
2-Propanol	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
4-Chlorotoluene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM

American Analytical Laboratories, LLC.

Date: *13-May-20*

ELAP ID : 11418

CLIENT:	WRS d.b.a Berninger Environmental	**Client Sample ID:**	B-5 @ 30-32.5'
Lab Order:	2005010	**Collection Date:**	4/29/2020 1:00:00 PM
Project:	BP Gas; 4001-4010 4th Avenue, Brooklyn, NY	**Matrix:**	SOIL
Lab ID:	2005010-002A		

Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
VOLATILE SW-846 METHOD 8260D			**SW8260D**		**SW5035A**		Analyst: **IR**
4-Isopropyltoluene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
4-Methyl-2-pentanone	ND	5.6	11	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Acetone	19	5.6	11		µg/Kg-dry	1	5/7/2020 3:08:00 PM
Benzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Bromobenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Bromochloromethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Bromodichloromethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Bromoform	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Bromomethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Carbon disulfide	2.3	1.1	5.6	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Carbon tetrachloride	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Chlorobenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Chlorodifluoromethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Chloroethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Chloroform	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Chloromethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
cis-1,2-Dichloroethene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
cis-1,3-Dichloropropene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Cyclohexane	ND	2.2	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Dibromochloromethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Dibromomethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Dichlorodifluoromethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Diisopropyl ether	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Ethanol	ND	56	56	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Ethylbenzene	2.3	1.1	5.6	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Freon-114	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Hexachlorobutadiene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Isopropylbenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
m,p-Xylene	9.6	2.2	11	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Methyl Acetate	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Methyl tert-butyl ether	30	1.1	5.6		µg/Kg-dry	1	5/7/2020 3:08:00 PM
Methylene chloride	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
n-Butylbenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM

American Analytical Laboratories, LLC.

Date: *13-May-20*

ELAP ID : 11418

CLIENT:	WRS d.b.a Berninger Environmental	**Client Sample ID:**	B-5 @ 30-32.5'
Lab Order:	2005010	**Collection Date:**	4/29/2020 1:00:00 PM
Project:	BP Gas; 4001-4010 4th Avenue, Brooklyn, NY	**Matrix:**	SOIL
Lab ID:	2005010-002A		

Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
VOLATILE SW-846 METHOD 8260D			**SW8260D**		**SW5035A**		Analyst: **IR**
n-Propylbenzene	1.6	1.1	5.6	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Naphthalene	9.9	1.1	5.6		µg/Kg-dry	1	5/7/2020 3:08:00 PM
o-Xylene	6.0	1.1	5.6		µg/Kg-dry	1	5/7/2020 3:08:00 PM
p-Diethylbenzene	2.3	1.1	5.6	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
p-Ethyltoluene	7.7	1.1	5.6		µg/Kg-dry	1	5/7/2020 3:08:00 PM
sec-Butylbenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Styrene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
t-Butyl alcohol	ND	2.8	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
tert-Butylbenzene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Tetrachloroethene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Toluene	5.4	1.1	5.6	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
trans-1,2-Dichloroethene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
trans-1,3-Dichloropropene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Trichloroethene	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Trichlorofluoromethane	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Vinyl acetate	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Vinyl chloride	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Xylenes, Total	16	3.4	17	J	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Methylcyclohexane	ND	2.2	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Acrolein	ND	14	28	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM
Acrylonitrile	ND	1.1	5.6	U	µg/Kg-dry	1	5/7/2020 3:08:00 PM

Table-1
Tabulated Soil Data

American Analytical Laboratories, LLC. 2005010
WorkOrder: 2005010
Client: WRS d.b.a Berninger Environmental
Project: BP Gas; 4001-4010 4th Avenue, Brooklyn, NY

		Client Sample ID:		B-4 @ 27.5-30'		B-5 @ 30-32.5'		DEC Part 375	DEC Part 375
		Laboratory ID:		2005010-001		2005010-002		Unrestricted Use/	Restricted
		Sampling Date:		04/29/2020		04/29/2020		*-CP-51 Protection	Residential
Cas #:	**Procedure:**	**Analyte:**	**Units:**		**Q**		**Q**	**of GW / Eco Res.**	
E-11870	PERCENT MOISTURE	Percent Moisture	wt%	10.6		10.2		**NA**	**NA**
630-20-6	VOLATILE SW-846 METHOD 8260D	1,1,1,2-Tetrachloroethane	PPB	1.1	U	1.1	U	**NA**	**NA**
71-55-6	VOLATILE SW-846 METHOD 8260D	1,1,1-Trichloroethane	PPB	4.0	J	1.1	U	**680**	**100,000**
79-34-5	VOLATILE SW-846 METHOD 8260D	1,1,2,2-Tetrachloroethane	PPB	1.1	U	1.1	U	**600***	**NA**
76-13-1	VOLATILE SW-846 METHOD 8260D	1,1,2-Trichloro-1,2,2-trifluoroethane	PPB	1.1	U	1.1	U	**NA**	**NA**
79-00-5	VOLATILE SW-846 METHOD 8260D	1,1,2-Trichloroethane	PPB	1.1	U	1.1	U	**NA**	**NA**
75-34-3	VOLATILE SW-846 METHOD 8260D	1,1-Dichloroethane	PPB	1.1	U	1.1	U	**270**	**26,000**
75-35-4	VOLATILE SW-846 METHOD 8260D	1,1-Dichloroethene	PPB	1.1	U	1.1	U	**330**	**100,000**
563-58-6	VOLATILE SW-846 METHOD 8260D	1,1-Dichloropropene	PPB	1.1	U	1.1	U	**NA**	**NA**
87-61-6	VOLATILE SW-846 METHOD 8260D	1,2,3-Trichlorobenzene	PPB	1.1	U	1.1	U	**20,000***	**NA**
96-18-4	VOLATILE SW-846 METHOD 8260D	1,2,3-Trichloropropane	PPB	1.1	U	1.1	U	**340***	**NA**
95-93-2	VOLATILE SW-846 METHOD 8260D	1,2,4,5-Tetramethylbenzene	PPB	5100	D	1.7	J	**NA**	**NA**
120-82-1	VOLATILE SW-846 METHOD 8260D	1,2,4-Trichlorobenzene	PPB	1.1	U	1.1	U	**3,400***	**NA**
95-63-6	VOLATILE SW-846 METHOD 8260D	**1,2,4-Trimethylbenzene**	PPB	**28000**	D	13		***3,600***	**52,000**
96-12-8	VOLATILE SW-846 METHOD 8260D	1,2-Dibromo-3-chloropropane	PPB	1.1	U	1.1	U	**NA**	**NA**
106-93-4	VOLATILE SW-846 METHOD 8260D	1,2-Dibromoethane	PPB	1.1	U	1.1	U	**NA**	**NA**
95-50-1	VOLATILE SW-846 METHOD 8260D	1,2-Dichlorobenzene	PPB	1.1	U	1.1	U	**1,100**	**100,000**
107-06-2	VOLATILE SW-846 METHOD 8260D	1,2-Dichloroethane	PPB	1.1	U	1.1	U	**20**	**3,100**
78-87-5	VOLATILE SW-846 METHOD 8260D	1,2-Dichloropropane	PPB	1.1	U	1.1	U	**700,000***	**NA**
108-67-8	VOLATILE SW-846 METHOD 8260D	**1,3,5-Trimethylbenzene**	PPB	**9600**	D	2.6	J	***8,400***	**52,000**
541-73-1	VOLATILE SW-846 METHOD 8260D	1,3-Dichlorobenzene	PPB	1.1	U	1.1	U	**2,400**	**49,000**
142-28-9	VOLATILE SW-846 METHOD 8260D	1,3-dichloropropane	PPB	1.1	U	1.1	U	**300***	**NA**
106-46-7	VOLATILE SW-846 METHOD 8260D	1,4-Dichlorobenzene	PPB	1.1	U	1.1	U	**1,800**	**13,000**
123-91-1	VOLATILE SW-846 METHOD 8260D	1,4-Dioxane	PPB	1.1	U	1.1	U	**100**	**13,000**
594-20-7	VOLATILE SW-846 METHOD 8260D	2,2-Dichloropropane	PPB	1.1	U	1.1	U	**NA**	**NA**
78-93-3	VOLATILE SW-846 METHOD 8260D	2-Butanone	PPB	5.7	U	5.6	U	**300***	**NA**
110-75-8	VOLATILE SW-846 METHOD 8260D	2-Chloroethyl vinyl ether	PPB	11	U	11	U	**NA**	**NA**
95-49-8	VOLATILE SW-846 METHOD 8260D	2-Chlorotoluene	PPB	1.1	U	1.1	U	**NA**	**NA**
591-78-6	VOLATILE SW-846 METHOD 8260D	2-Hexanone	PPB	5.7	U	5.6	U	**NA**	**NA**
67-63-0	VOLATILE SW-846 METHOD 8260D	2-Propanol	PPB	1.1	U	1.1	U	**NA**	**NA**
106-43-4	VOLATILE SW-846 METHOD 8260D	4-Chlorotoluene	PPB	1.1	U	1.1	U	**NA**	**NA**
99-87-6	VOLATILE SW-846 METHOD 8260D	4-Isopropyltoluene	PPB	3000	D	1.1	U	**10,000**	**NA**
108-10-1	VOLATILE SW-846 METHOD 8260D	4-Methyl-2-pentanone	PPB	5.7	U	5.6	U	**100***	**NA**
67-64-1	VOLATILE SW-846 METHOD 8260D	Acetone	PPB	5.7	U	19		**50**	**100,000**
71-43-2	VOLATILE SW-846 METHOD 8260D	**Benzene**	PPB	**850**	D	1.1	U	***60***	**4,800**
108-86-1	VOLATILE SW-846 METHOD 8260D	Bromobenzene	PPB	1.1	U	1.1	U	**NA**	**NA**
74-97-5	VOLATILE SW-846 METHOD 8260D	Bromochloromethane	PPB	1.1	U	1.1	U	**NA**	**NA**
75-27-4	VOLATILE SW-846 METHOD 8260D	Bromodichloromethane	PPB	1.1	U	1.1	U	**NA**	**NA**
75-25-2	VOLATILE SW-846 METHOD 8260D	Bromoform	PPB	1.1	U	1.1	U	**NA**	**NA**
74-83-9	VOLATILE SW-846 METHOD 8260D	Bromomethane	PPB	1.1	U	1.1	U	**NA**	**NA**
75-15-0	VOLATILE SW-846 METHOD 8260D	Carbon disulfide	PPB	1.1	U	2.3	J	**2,700***	**NA**
56-23-5	VOLATILE SW-846 METHOD 8260D	Carbon tetrachloride	PPB	1.1	U	1.1	U	**760**	**2,400**
108-90-7	VOLATILE SW-846 METHOD 8260D	Chlorobenzene	PPB	1.1	U	1.1	U	**1,100**	**100,000**
75-45-6	VOLATILE SW-846 METHOD 8260D	Chlorodifluoromethane	PPB	1.1	U	1.1	U	**NA**	**NA**
75-00-3	VOLATILE SW-846 METHOD 8260D	Chloroethane	PPB	1.1	U	1.1	U	**NA**	**NA**
67-66-3	VOLATILE SW-846 METHOD 8260D	Chloroform	PPB	1.1	U	1.1	U	**370**	**49,000**
74-87-3	VOLATILE SW-846 METHOD 8260D	Chloromethane	PPB	1.1	U	1.1	U	**NA**	**NA**
156-59-2	VOLATILE SW-846 METHOD 8260D	cis-1,2-Dichloroethene	PPB	1.1	U	1.1	U	**250**	**100,000**
10061-01-5	VOLATILE SW-846 METHOD 8260D	cis-1,3-Dichloropropene	PPB	1.1	U	1.1	U	**NA**	**NA**
110-82-7	VOLATILE SW-846 METHOD 8260D	Cyclohexane	PPB	8700	D	2.2	U	**NA**	**NA**
124-48-1	VOLATILE SW-846 METHOD 8260D	Dibromochloromethane	PPB	1.1	U	1.1	U	**10,000***	**NA**
74-95-3	VOLATILE SW-846 METHOD 8260D	Dibromomethane	PPB	1.1	U	1.1	U	**NA**	**NA**
75-71-8	VOLATILE SW-846 METHOD 8260D	Dichlorodifluoromethane	PPB	1.1	U	1.1	U	**NA**	**NA**
108-20-3	VOLATILE SW-846 METHOD 8260D	Diisopropyl ether	PPB	1.1	U	1.1	U	**NA**	**NA**
64-17-5	VOLATILE SW-846 METHOD 8260D	Ethanol	PPB	57	U	56	U	**NA**	**NA**
100-41-4	VOLATILE SW-846 METHOD 8260D	**Ethylbenzene**	PPB	**9500**	D	2.3	J	***1,000***	**41,000**
76-14-2	VOLATILE SW-846 METHOD 8260D	Freon-114	PPB	1.1	U	1.1	U	**NA**	**NA**
87-68-3	VOLATILE SW-846 METHOD 8260D	Hexachlorobutadiene	PPB	1.1	U	1.1	U	**NA**	**NA**
98-82-8	VOLATILE SW-846 METHOD 8260D	Isopropylbenzene	PPB	1900	D	1.1	U	**2,300**	**NA**
179601-23-1	VOLATILE SW-846 METHOD 8260D	**m,p-Xylene**	PPB	**34000**	D	9.6	J	***260***	**100,000**
79-20-9	VOLATILE SW-846 METHOD 8260D	Methyl Acetate	PPB	1.1	U	1.1	U	**NA**	**NA**
1634-04-4	VOLATILE SW-846 METHOD 8260D	Methyl tert-butyl ether	PPB	1.1	U	30		**930**	**100,000**
75-09-2	VOLATILE SW-846 METHOD 8260D	Methylene chloride	PPB	1.1	U	1.1	U	**50**	**100,000**
104-51-8	VOLATILE SW-846 METHOD 8260D	n-Butylbenzene	PPB	2400	D	1.1	U	**12,000**	**NA**
103-65-1	VOLATILE SW-846 METHOD 8260D	**n-Propylbenzene**	PPB	**10000**	D	1.6	J	***3,900***	**100,000**
91-20-3	VOLATILE SW-846 METHOD 8260D	Naphthalene	PPB	210		9.9		**12,000**	**NA**
95-47-6	VOLATILE SW-846 METHOD 8260D	**o-Xylene**	PPB	**13000**	D	6.0		***260***	**100,000**
105-05-5	VOLATILE SW-846 METHOD 8260D	p-Diethylbenzene	PPB	10000	D	2.3	J	**NA**	**NA**
622-96-8	VOLATILE SW-846 METHOD 8260D	p-Ethyltoluene	PPB	21000	D	7.7		**NA**	**NA**
135-98-8	VOLATILE SW-846 METHOD 8260D	sec-Butylbenzene	PPB	1.1	U	1.1	U	**11,000**	**100,000**
100-42-5	VOLATILE SW-846 METHOD 8260D	Styrene	PPB	1.1	U	1.1	U	**300,000***	**NA**
75-65-0	VOLATILE SW-846 METHOD 8260D	t-Butyl alcohol	PPB	2.9	U	2.8	U	**NA**	**NA**
98-06-6	VOLATILE SW-846 METHOD 8260D	tert-Butylbenzene	PPB	1.1	U	1.1	U	**5,900**	**100,000**
127-18-4	VOLATILE SW-846 METHOD 8260D	Tetrachloroethene	PPB	1.1	U	1.1	U	**1,300**	**19,000**
108-88-3	VOLATILE SW-846 METHOD 8260D	**Toluene**	PPB	**17000**	D	5.4	J	***700***	**100,000**
156-60-5	VOLATILE SW-846 METHOD 8260D	trans-1,2-Dichloroethene	PPB	1.1	U	1.1	U	**190**	**100,000**
10061-02-6	VOLATILE SW-846 METHOD 8260D	trans-1,3-Dichloropropene	PPB	1.1	U	1.1	U	**NA**	**NA**
79-01-6	VOLATILE SW-846 METHOD 8260D	Trichloroethene	PPB	1.1	U	1.1	U	**470**	**21,000**
75-69-4	VOLATILE SW-846 METHOD 8260D	Trichlorofluoromethane	PPB	1.1	U	1.1	U	**NA**	**NA**
108-05-4	VOLATILE SW-846 METHOD 8260D	Vinyl acetate	PPB	210		1.1	U	**NA**	**NA**
75-01-4	VOLATILE SW-846 METHOD 8260D	Vinyl chloride	PPB	1.1	U	1.1	U	**20**	**900**
108-87-2	VOLATILE SW-846 METHOD 8260D	Methylcyclohexane	PPB	29000	D	2.2	U	**NA**	**NA**
107-02-8	VOLATILE SW-846 METHOD 8260D	Acrolein	PPB	14	U	14	U	**NA**	**NA**
107-13-1	VOLATILE SW-846 METHOD 8260D	Acrylonitrile	PPB	1.1	U	1.1	U	**NA**	**NA**