ATLANTIC AVENUE PROPERTIES
1053, 1057, 1059, AND 1065 ATLANTIC AVE
BROOKLYN, NEW YORK
TAX MAP ID: BLOCK 2020; LOTS 73, 74, AND 68

PHASE II
ENVIRONMENTAL SITE ASSESSMENT
(ASTM 1903-11)

PREPARED FOR:

BEB Capital
26 Harbor Park Drive
Port Washington, NY 11050

PREPARED BY:

P.W. Grosser Consulting, Inc.
630 Johnson Avenue, Suite 7
Bohemia, New York 11716
Phone: 631-589-6353
Fax: 631-589-8705

Jennifer Lewis, PG, Sr. Project Manager — JenniferL@pwgrosser.com
James P. Rhodes, PG, COO — JimR@pwgrosser.com
PWGC Project Number: TOT1901

APRIL 2019 – REVISED SEPTEMBER 2019

PWGC
CLIENT DRIVEN SOLUTIONS

PHASE II ENVIRONMENTAL SITE ASSESSMENT
1053, 1057, 1059, AND 1065 ATLANTIC AVENUE, BROOKLYN, NEW YORK

TABLE OF CONTENTS **PAGE**

PHASE II ENVIRONMENTAL SITE ASSESSMENT
1053, 1057, 1059, AND 1065 ATLANTIC AVENUE, BROOKLYN, NEW YORK

FIGURES

TABLES

APPENDICES

ACRONYM	DEFINITION
ASP	Analytical Services Protocol
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
DER	Department of Environmental Remediation
ELAP	Environmental Laboratory Approval Program
EM	Electromagnetic
ESA	Environmental Site Assessment
GQS	Groundwater Quality Standard
GV	Guidance Value
NYCRR	New York Codes, Rules, and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PCB	Polychlorinated Biphenyl
PID	Photo-ionization Detector
PWGC	P.W. Grosser Consulting, Inc.
QA/QC	Quality Assurance / Quality Control
REC	Recognized Environmental Condition
SCO	Soil Cleanup Objective
SVOC	Semi-volatile Organic Compound
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VISL	USEPA Vapor Intrusion Screening Levels
VOC	Volatile Organic Compound

1.0 INTRODUCTION

BEB Capital (Client) retained P.W. Grosser Consulting, Inc. (PWGC) to prepare a Phase II Environmental Site Assessment (ESA) for the property located at 1053, 1057, 1059, and 1065 Atlantic Avenue, Brooklyn, New York. The purpose of the Phase II ESA was to further evaluate recognized environmental conditions (RECs) identified in the Phase I ESA prepared by PWGC in March 2019 to obtain sound, scientifically valid data concerning actual property conditions.

Work was conducted in accordance with the American Society for Testing and Materials (ASTM) Standard E 1903-11 (Standard Practices for Environmental Site Assessment: Phase II Environmental Site Assessment Process) and in substantial conformance with the New York State Department of Environmental Conservation's (NYSDEC's) Division of Environmental Remediation's (DER's) Technical Guidance for Site Investigation and Remediation, May 2010 (DER-10).

2.0 BACKGROUND

2.1 Site Description and Features

The subject property consists of three parcels located at 1053, 1057, 1059, and 1063 Atlantic Avenue, Brooklyn, New York in the Bedford-Stuyvesant neighborhood of Brooklyn, New York. The site is located in the Borough of Brooklyn and Kings County. The property is identified in the New York City Tax Map as 02020-0074, 0073, and 0068.

The subject property includes:

- 1053 and 1057 Atlantic Avenue (Lot 74) measures approximately 5,120 square feet and is occupied by a one-story building with 2 commercial units. There is a small paved rear yard behind 1053 Atlantic Avenue that contains a walk-in freezer and storage;
- 1059 Atlantic Avenue (Lot 73) measures approximately 1,679 square feet and is improved with a concrete paved lot; and,
- 1065 Atlantic Avenue (Lot 68) measures approximately 5,720 square feet and is occupied by a two-story building with a garage on the first floor and office space, storage and an artist's loft on the second floor. The building occupies the entirety of the lot.

A Site Location Map is included as **Figure 1** and a Site Plan is included as **Figure 2**.

2.2 Physical Setting

The topography of the site and surrounding area was reviewed from the USGS 7.5-minute series topographic map for the Brooklyn, New York quadrangle. The property elevation is approximately 79 feet above the National Geodetic Vertical Datum (NGVD). Regional physiographic conditions are summarized below.

Based upon the borings advanced at an adjacent property by PWGC, the depth to groundwater beneath the site is approximately 75 feet below existing grade. Regional groundwater flow is estimated to be toward the northwest.

2.3 Site History and Land Use

Historical usage of the subject property includes the following:

- 1053 Atlantic Avenue (Lot 74) indicates that it was first developed prior to 1888 and used for commercial and industrial purposes from approximately 1888 to present. Historical usage of the subject property indicative of potential RECs include the following:
    - Auto painting and auto repair from 1965 to 2007.
- 1059 Atlantic Avenue (Lot 73) indicates that it was first developed prior to 1888 and used for commercial and industrial purposes from approximately 1888 to 1965 and has been a vacant lot from approximately 1976 to present. Historical usage of the subject property indicative of potential RECs include the following:
    - Auto repair facility from 1932 to 1965.
- 1065 Atlantic Avenue (Lot 68) indicates that it was first developed between 1888 and 1908 and used for commercial and industrial purposes from at least 1908 to present. Historical usage of the subject property indicative of potential RECs include the following:
    - Battery/Auto repair services from 1932 to present.

2.4 Adjacent Property Land Use

Historical usage of properties in the surrounding area indicative of potential RECs include the following:

- Adjacent/nearby properties with historical industrial usage.
- Adjacent/nearby properties historically or currently utilized as auto repair/sales/painting shops.
- Nearby properties historically utilized as gasoline service stations.

2.5 Summary of Previous Assessments

2.5.1 Phase II Environmental Site Assessment Report (March 2016)

PWGC was provided a copy of a Limited Phase II ESA dated March 2016 prepared by Associated Environmental Services, Ltd for the property located at 1065 Atlantic Avenue. PWGC's review of the Phase II ESA revealed that five soil borings were conducted at the site and samples were collected from 5 to 8 feet in each boring. The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and RCRA metals. VOCs were not detected at concentrations exceeding detection limits in each sample, SVOCs were not detected at concentrations exceeding detection limits in four samples with minor detections in the fifth

sample that did not exceed New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs), and metals were detected in each sample at concentrations less than Unrestricted Use SCOs.

2.5.2 Phase I Environmental Site Assessment Report (April 2019)

PWGC conducted a Phase I ESA in April 2019. PWGC identified the following RECs for the subject property:

- The 1053, 1057, 1059 and 1065 Atlantic sites all appeared to have been historically used for auto repair/painting facilities, with 1065 Atlantic still being utilized as an auto repair facility until the present day. Current operations include the storage and use of hazardous substances and petroleum products at the 1065 Atlantic site. Identified historical usages are likely to have used/stored hazardous substances and/or petroleum products at the sites, as well. Based on the historical usage of the sites for industrial purposes, this represented a REC.
- Five single piston underground hydraulic lifts were identified within the auto repair facility at the 1065 Atlantic Avenue site. Three of these lifts are still in use and two of the lifts are out of service. The subsurface structures affiliated with hydraulic lifts have the potential to leak. The condition of the subsurface structures of the lifts could not be verified. The two out of service lifts do not appear to have undergone proper abandonment. The presence of underground hydraulic lifts of unknown condition represented a REC.
- Two 275-gallon heating oil ASTs were identified in the basement of the 1065 Atlantic Avenue site. The ASTs appeared to have no evidence of leaking or a release, other than minor corrosion to the tank bodies. Both tanks reside on an in-tact concrete slab with minimal evidence of staining; however, the two ASTs are connected via approximately six feet of underground fill line which fills the one AST from the other. The fill line runs through the subsurface soils under the building and has the potential to leak. The condition of the fill line could not be verified during the site inspection. The presence of the underground fill line of unknown condition represented a REC.

3.0 WORK PERFORMED AND RATIONALE

3.1 Scope of Assessment

The Phase II ESA included the following tasks:

- Geophysical Survey
- Soil Quality Evaluation
- Soil Vapor Intrusion Investigation

3.2 Geophysical Survey

On April 10, 2019, PWGC and Delta Geophysics, Inc. (Delta) of Catasauqua, Pennsylvania mobilized to the subject property to perform a geophysical survey. The purpose of the geophysical survey was to determine the absence/presence of subsurface anomalies at the subject property. Descriptions of the geophysical methods are described below.

3.2.1 Electromagnetic Survey

Delta utilized a Fisher M-Scope TW-6 electromagnetic (EM) instrument. The Fisher M-Scope TW-6 uses the principle of EM induction to measure the variability of electrical conductivity of subsurface materials and the presence of buried metal objects. Significant contrasts in the electrical properties between non-indigenous materials and surrounding soil enable accurate delineation of buried waste materials, fill, and geologic features. The large EM response to metal makes this technique particularly well suited to identifying buried metal objects such as underground storage tanks (USTs), metallic wastes, buried drums, pipelines, reinforced building foundations, and other metal components of buried structures. It is, however, equally sensitive to metal objects on the ground surface.

3.2.2 Ground Penetrating Radar Survey

Following the electromagnetic survey, Delta utilized an SIR-3000 Ground Penetrating Radar (GPR) unit with a 400 Mhz antenna to further investigate the metallic anomalies. GPR is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

3.2.3 Survey Findings

Based on the survey of the accessible areas of the interior and exterior portions of the three lots, no evidence of former or current USTs was observed. An underground line was identified, which was associated with the exterior fill port for the ASTs located in the basement of 1065 Atlantic (Lot 68).

The complete Geophysical Survey, including further detail regarding the methodology and findings, is included in **Appendix A**.

3.3 Soil Quality Evaluation

To characterize soil quality, soil borings were installed throughout the subject property. Boring locations were focused in areas of potential concern as identified by the Phase I ESA and geophysical survey. A total of seven soil borings were installed during the investigation. Soil boring locations are illustrated on **Figure 2**.

3.3.1 Soil Boring Protocol

Coastal Environmental Solutions (Coastal) of Medford, New York provided environmental drilling services during the investigation. A Geoprobe 54LT was utilized to install the environmental soil borings. Prior to performing each soil boring, 10-mil polyethylene sheeting, sufficiently large to hold the anticipated number of soil cores was laid on the ground in the area where each soil boring was performed.

Soils were collected continuously from ground surface to an approximate depth of 12 feet below surface grade (bgs) or refusal, as detailed on **Table 1**.

The soil cores were placed on the 10-mil polyethylene sheeting in the order they came out of the ground. The acetate liners were cut open and the soil core was screened for the presence of volatile organic vapors, which are commonly associated with petroleum products and industrial solvents, utilizing a photo-ionization detector (PID). Each soil core was classified by a hydrogeologist using the Unified Soil Classification System (USCS). A soil boring log was developed for each location (**Appendix B**) and includes the characterization and screening data along with photo-documentation.

Soil characterization indicated that historic fill is present to approximately 9-feet bgs. PID results were mostly zero parts per million (ppm) with a max reading of 13.7 ppm in SB018. There were no odors detected in any of the borings except a slight petroleum odor in SB021. Native soils were mostly poorly graded, medium to coarse grained sands or clayey sands.

3.3.2 Sample Collection Protocol

Sample locations were chosen based on field conditions, geophysical results and site access. The sampling interval was based on field screening results - samples were collected from the two-foot interval exhibiting the highest degree of contamination from each boring or, if contamination was not observed, from the 4- to 6-foot interval. Borings conducted in the basements of the buildings were advanced using a hand auger and samples were collected from the 0 to 2-foot interval beneath the concrete slab (approximately 10 to 12 feet bgs).

Samples were analyzed for the following chemical analyses:

- Volatile Organic Compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260 Full List or CP-51 List for petroleum related compounds only (SB021 only);
- Semi-Volatile Organic Compounds (SVOCs) by USEPA Method 8270, CP-51 List;
- Polychlorinated biphenyls (PCBs) by USEPA Method 8082 (SB015 only); and,
- RCRA Metals by USEPA Methods 6010/7196/7471/9012.

Choosing the full list of VOCs or the truncated CP-51 list for petroleum related compounds only was based upon the purpose of collecting the soil sample. The sample collected from SB021 was located adjacent to an underground fuel oil line; therefore, the sample was only analyzed for the petroleum compounds. The sample collected from SB015 included PCB analysis as hydraulic oil historically contained PCBs in addition to petroleum products.

Samples collected for volatile organic analysis were collected directly from the acetate liners utilizing terra-core sampling devices. The remaining sample volumes were transferred to a stainless-steel bowl and homogenized. Once homogenized, samples were transferred to laboratory supplied glassware and packed in a cooler with ice and shipped under proper chain-of-custody procedures to Alpha Analytical Laboratory (Alpha), a New York State

Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory, for the above analyses following NYSDEC Analytical Services Protocol (ASP)-Category A Deliverables.

3.3.3 Soil Analytical Results

Soil analytical results were compared to the NYSDEC's Title 6 New York Codes, Rules, and Regulations (NYCRR) Part 375 and Final Commissioner Policy, CP-51 Soil Cleanup Objectives (SCOs) for Unrestricted Use, Restricted Residential Use, Commercial Use, and Protection of Groundwater.

Historic Usage

Three samples (SB018, SB019, and SB020) were collected from the site and analyzed for VOCs, SVOCs (CP-51), and RCRA metals in order to determine if historical usage has impacted the subsurface. The sample collected from SB018 (5 to 7 feet bgs), which corresponded to the highest PID reading and odor, contained a concentration of Naphthalene that exceeded Restricted Residential and Protection of Groundwater SCOs and several SVOCs (total SVOCs were 2,897 mg/kg) that exceeded Unrestricted, Restricted Residential, and/or Commercial Use SCOs. Lead and mercury were also detected in this sample at concentrations exceeding Unrestricted Use SCOs.

The sample collected from SB019 beneath the basement slab (approximately 10 to 12 feet bgs) contained a concentration of trichloroethene (TCE) which exceeded the Unrestricted and Protection of Groundwater SCOs, indicating that source material is present. Several SVOCs (total SVOCs were 236 mg/kg) were also present at concentrations exceeding Unrestricted Use or Commercial Use SCOs. Lead and mercury were also detected in this sample at concentrations exceeding Unrestricted Use and Restricted Residential SCOs, respectively.

The sample collected from SB020 beneath the basement slab (approximately 10 to 12 feet bgs) did not contain VOCs or SVOCs at concentrations greater than detection limits. Metals did not exceed Unrestricted Use SCOs.

Based on the location of the exceedances, it appears that VOC, SVOC, and metals impacts at the subject property are highest in the western portion of the property, Lots 73 and 74. Samples from SB018 and SB019 were collected in the basement of 1053 Atlantic (Lot 74) and within the former basement area of 1059 Atlantic (Lot 73). There is historic fill within the areas of these two boring locations, which may be contributing to the elevated concentrations of SVOCs and RCRA Metals seen in these locations. The detection of TCE is not typically related

to historic fill and, although a specific source has not been identified, TCE is commonly used in commercial automotive applications and is likely related to historic usage of the site.

Hydraulic Lifts

One sample (SB015) was collected from the area near the active and inactive hydraulic lifts located on 1065 Atlantic (Lot 68). Two additional borings were conducted in this area and were field screened for impacts. The three borings did not exhibit evidence of impact and SB015 was chosen for analysis based on its central location. The sample was collected from a depth of 4 to 6 feet bgs as that is the likely depth of hydraulic lift pistons. VOCs (with the exception of acetone, a typical laboratory contaminant), SVOCs, and PCBs were not detected at concentrations exceeding detection limits. Metals were not detected at concentrations exceeding Unrestricted Use SCOs.

Underground Fill Line

One sample (SB021) was collected from the area adjacent to the underground fill line and the two ASTs located in the basement of 1065 Atlantic (Lot 68). The sample was analyzed for VOCs (CP-51) and SVOCs (CP-51). VOCs and SVOCs were not detected at concentrations exceeding their respective Unrestricted and/or Restricted-Residential SCOs.

Analytical results are detailed in **Tables 2 through 4**; **Figure 3** shows the soil sample results that exceeded Unrestricted and/or Restricted-Residential; and, the complete laboratory analytical report is included in **Appendix C**.

3.4 Soil Vapor Intrusion Investigation

To evaluate potential vapor intrusion at the subject property, a soil vapor intrusion investigation was performed. Sample locations were chosen by identifying potential pathways to the subsurface, such as cracks in the concrete slab, and installing the soil vapor probes several feet away from these cracks to prevent short-circuiting of the samples.

3.4.1 Sampling Protocol

Sampling was conducted in accordance with the NYSDOH "Guidance for Evaluating Soil Vapor Intrusion in New York State," (NYSDOH Guidance) October 2006. Temporary soil vapor probes were installed immediately

beneath the concrete slab for SS004 and SS005 and to a depth of 5-feet bgs for SV001 and sealed to prevent ambient air intrusion. SV001 was installed on Lot 73 which did not contain any buildings; therefore, installation is conducted at a deeper depth to prevent short-circuiting with ambient air. Prior to sampling the integrity of the sampling port seals was tested using tracer gas analysis. The environment surrounding the seal was enriched with the tracer gas, helium, as readings were collected through the sampling probe with a portable helium detector. Tracer gas readings collected from each soil vapor probe were acceptable indicating the seals were intact and the sampling probes were acceptable for sample collection.

After the initial tracer gas test was performed, one to three volumes of the sample tubing was purged prior to collecting samples. Flow rates for both purging and collecting did not exceed 0.2 liters per minute to minimize potential indoor air infiltration during sampling.

Sub-slab and soil vapor samples were collected into 2.7-liter Summa® vacuum canisters fitted with 2-hour flow controllers. The samplers were batch certified clean by the laboratory. Proper quality assurance (QA) / quality control (QC) protocol was followed during the collection of soil gas samples to ensure that cross-contamination in the field did not occur. Canister sampling data sheets are included as **Appendix D**. The samples were submitted to Alpha for analysis of VOCs by USEPA Method TO-15.

3.4.2 Analytical Results

As New York State has not developed standards or guidance levels for soil vapor concentrations, soil vapor sample analytical data were compared to the USEPA Vapor Intrusion Screening Levels (VISLs) for default residential target sub-slab and near source gas concentration criteria, compiled August 2019, as specified at https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator. Analytical data are summarized in **Table 5** and **Figure 4** shows the soil vapor sample results that exceeded the EPA's VISLs. A copy of the laboratory analytical report is included as **Appendix C**.

VOCs did not exceed their respective VISLs with the following exceptions:

- Chloroform ranged from non-detect to 9.38 µg/m^3,
- TCE ranged from 6.18 µg/m^3 to 386 µg/m^3, and
- Tetrachloethene (PCE) ranged from non-detect to 492 µg/m^3

Cis-1,2-dichloroethylene (DCE) and vinyl chloride (VC), typical breakdown products of PCE, were not observed at concentrations greater than detection limits. The sub-slab TCE concentrations observed indicate that mitigation of a potential soil vapor intrusion concern is recommended by NYSDOH.

Although a direct comparison of results from the soil vapor sample, SV001, to the sub-slab or near source VISLs is not possible for the soil vapor sample, DCE, PCE, and VC were not detected at concentrations exceeding detection limits. TCE was detected at a concentration of 6.18 µg/m^3.

4.0 CONCLUSIONS AND RECOMMENDATIONS

PWGC has performed a Phase II ESA in conformance with the scope and limitations of ASTM Practice E1903-11 for the subject property. The Phase II ESA consisted of the following tasks:

- Geophysical Survey
- Soil Quality Evaluation
- Soil Vapor Intrusion Investigation

The scope of the Phase II investigation for the subject property on April 10, 2019 included a geophysical survey, seven soil borings and analysis of five soil samples, two sub-slab vapor samples, and one soil vapor sample. The investigation was conducted to determine if subsurface anomalies, impacts from historical usage, presence of hydraulic lifts, or the presence of an underground fill line for fuel oil ASTs have impacted the subsurface of the subject property.

Based on the results of the geophysical survey, it does not appear that anomalies consistent with USTs are present on the subject property.

Results of the investigation indicated that VOCs, including TCE, PCE, and naphthalene, are present on the site in concentrations that exceed their respective Unrestricted Use and Protection of Groundwater SCOs in the soil. The soil vapor investigation also identified TCE and PCE at concentrations exceeding USEPA VISLs. Based on this information, PWGC has concluded that there is CVOC impact (mainly TCE) at the subject property that appears to be related to historic on-site activities. Generally, VOCs associated with petroleum impact were not observed at concentrations exceeding Unrestricted Use SCOs with the exception of naphthalene in one boring.

SVOCs were detected at concentrations that exceeded the Unrestricted Use, Restricted-Residential, and/or Commercial Use SCOs in soils generally corresponding to the depths that historic fill was observed. The presence of SVOCs in this shallow interval appears to be related to the presence of historic fill material and not petroleum contamination as there was minimal evidence of petroleum impact in these borings.

Metals at concentrations exceeding Unrestricted and/or Restricted-Residential SCOs were not detected except for lead and mercury which is consistent with what is typically observed in historic fill material.

The boring conducted adjacent to the underground fill line did not reveal evidence of impact relating to the presence of the fill line. In addition, the boring conducted adjacent to the hydraulic lift area did not reveal evidence of impact relating to the presence of the hydraulic lifts.

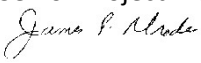
Based on the information presented in this report, PWGC offers the following recommendations:

- Redevelopment and rezoning of the subject property will likely be impacted by the presence of VOCs in the soil and soil vapor. This may include enrolling the site as an E-designation site or in the Brownfield Cleanup Program. Enrollment in either of these programs will likely include additional investigation to determine the source of, and a remediation plan to address, the VOCs and metals detected in the subsurface. PWGC recommends that any future redevelopment plans also include a vapor barrier and/or a subsurface depressurization system to mitigate the migration of VOCs into the indoor air of the new structures.
- Historic fill is present in the subsurface of the subject property from approximately 0 to 9-feet bgs. This material will require additional handling and disposal during redevelopment.

5.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of 40 CFR 312. I have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR 312.

Jennifer Lewis, PG
Senior Project Manager



James P. Rhodes, PG
Chief Operating Officer

Report Completion Date: April 26, 2019, Revised September 2019

6.0 REFERENCES

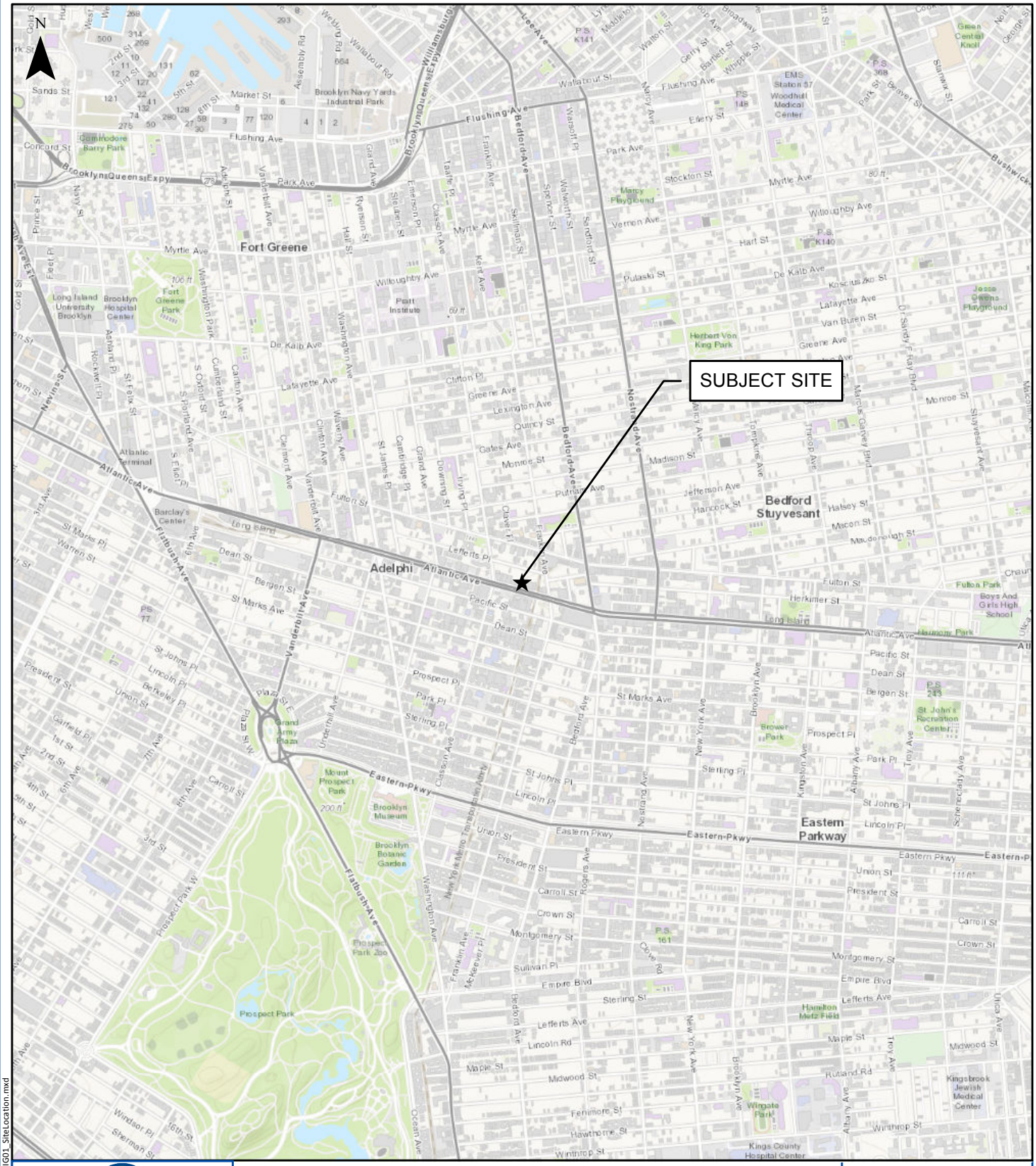
- 6 NYCRR Part 375 Environmental Remediation Programs Subparts 375-1 to 375-4 & 375-6.
- 6 NYCRR Part 703 Surface Water and Groundwater Quality Standards and Groundwater Effluent Limitations.
- DER-10 / Technical Guidance for Site Investigation and Remediation.
- Standard practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process, ASTM Standard E 1903-11.

7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based on the data described in this report. These opinions have been arrived at in accordance with currently accepted engineering and hydrogeologic standards and practices applicable to this location and are subject to the following inherent limitations:

1. The data presented in this report are from visual inspections and examination of records prepared by others. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration of the site, analysis of data, and re-evaluation of the findings, observations, and conclusions presented in this report.
2. The data reported and the findings, observations, and conclusions expressed are limited by the scope of work. The scope of work was defined by the request of the client.
3. No warranty or guarantee, whether expressed or implied, is made with respect to the data reported, findings, observations, or conclusions. These are based solely upon site conditions in existence at the time of the investigation, and other information obtained and reviewed by PWGC.
4. The conclusions presented in this report are professional opinions based on data described in this report. They are intended only for the purpose, site location, and project indicated. This report is not a definitive study of contamination at the site and should not be interpreted as such.
5. This report is based, in part, on information supplied to PWGC by third-party sources. While efforts have been made to substantiate this third-party information, PWGC cannot attest to the completeness or accuracy of information provided by others.

FIGURES



Document Path: W:\Projects\S-Z\TOT\1901\maps\FIG01_SiteLocation.mxd

PWGC
CLIENT DRIVEN SOLUTIONS
P.W. Grosser Consulting Engineer & Hydrogeologist, PC
630 Johnson Ave., Suite 7
Bohemia, NY 11716
Ph: 631-589-6353 • Fax: 631-589-8705
pwgc.info@pwgrosser.com

SITE LOCATION

1053, 1057, 1059 & 1065
Atlantic Avenue, Brooklyn, NY

0 ¼ ½ ¾ 1 Miles

Project:	TOT1901
Date:	2/11/2019
Designed by:	HRM
Drawn by:	TS
Approved by:	HRM
Figure No:	1

PWGC
CLIENT DRIVEN SOLUTIONS
P.W. Grosser Consulting Engineer & Hydrogeologist, PC
630 Johnson Ave., Suite 7
Bohemia, NY 11716
Ph: 631-589-6353 • Fax: 631-589-8705
pwgc.info@pwgrosser.com

DRAWING PREPARED FOR:

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	TOT1901	Designed by:	HRM
Date:	4/26/2019	Drawn by:	PH
Scale:	AS SHOWN	Approved by:	HRM

Site Plan

1053, 1057,
1059 & 1065 Atlantic Avenue
Brooklyn, NY

FIGURE NO:

2

Document Path: W:\Projects\S-Z\TOT\1901\maps\Additional Properties\FIG02_SitePlan.mxd

N

SB019	
Sample Depth:	10-12'
Sampling Date:	4/10/2019
Volatiles (TCL) by EPA 8260	
Trichloroethene	19
Metals, Total RCRA EPA 6010/7471	
Lead, Total	390
Mercury, Total	1.71
Semi-VOCs- CP-51 by EPA 8270 GC/MS	
Benzo(a)anthracene	21
Benzo(a)pyrene	17
Benzo(b)fluoranthene	19
Benzo(k)fluoranthene	5.8
Chrysene	21
Dibenzo(a,h)anthracene	2.2
Indeno(1,2,3-cd)pyrene	9

SB018	
Sample Depth:	5-7'
Sampling Date:	4/10/2019
Volatiles (TCL) by EPA 8260	
Naphthalene	320
Metals, Total RCRA EPA 6010/7471	
Lead, Total	289
Mercury, Total	0.372
Semi-VOCs- CP-51 by EPA 8270 GC/MS	
Acenaphthene	64
Anthracene	140
Benzo(a)anthracene	230
Benzo(a)pyrene	200
Benzo(b)fluoranthene	250
Benzo(k)fluoranthene	82
Chrysene	220
Dibenzo(a,h)anthracene	26
Fluoranthene	470
Fluorene	72
Indeno(1,2,3-cd)pyrene	110
Phenanthrene	490
Pyrene	400

- Drain Pit
- Hydraulic Lift - active
- Hydraulic Lift - inactive
- Drum (waste oil)
- Soil Boring
- Sub-slab Vapor Sample
- SV
- Underground Fill Line
- Site Boundary
- Basement
- Dynamometer
- Inspection Pit
- Sump
- AST
- Tax lot boundary

Lot 74
Lot 73
Lot 68
SB019
SS005
SB020
SB018
SV001
SB015
SB016
SS004
SB017
SB021
1053
1057
1059
1065
Atlantic Avenue

Highlighted text denotes concentrations exceeding NYSDEC Unrestricted Use SCOs
Highlighted text denotes concentrations exceeding NYSDEC Unrestricted and Restricted Residential Use SCOs

0 20 40 60 80 Feet

Document Path: W:\Projects\S-Z\TOT\1901\maps\Additional Properties\FIG03_SoilResults.mxd

PWGC
CLIENT DRIVEN SOLUTIONS
P.W. Grosser Consulting Engineer & Hydrogeologist, PC
630 Johnson Ave., Suite 7
Bohemia, NY 11716
Ph: 631-589-6353 • Fax: 631-589-8705
pwgc.info@pwgrosser.com

DRAWING PREPARED FOR:

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	TOT1901	Designed by:	HRM
Date:	4/26/2019	Drawn by:	PH
Scale:	AS SHOWN	Approved by:	HRM

Soil Boring Exceedances

1053, 1057,
1059 & 1065 Atlantic Avenue
Brooklyn, NY

FIGURE NO:

3

N

Drain Pit	Site Boundary
Hydraulic Lift - active	Basement
Hydraulic Lift - inactive	Dynamometer
Drum (waste oil)	Inspection Pit
Soil Boring	Sump
Sub-slab Vapor Sample	AST
SV	Tax lot boundary
Underground Fill Line	

SS-005	
Sampling Date:	3/22/2019
Volatile Organics in Air TO-15 (ug/m3)	
Chloroform	9.38
cis-1,2-Dichloroethene	0.793 U
Tetrachloroethene	6.46
Trichloroethene	386
Vinyl chloride	0.511 U

SS-004	
Sampling Date:	3/22/2019
Volatile Organics in Air TO-15 (ug/m3)	
cis-1,2-Dichloroethene	48.4 U
Tetrachloroethene	492
Trichloroethene	66.1
Vinyl chloride	31.2 U

SV-001	
Sampling Date:	3/22/2019
Volatile Organics in Air TO-15 (ug/m3)	
cis-1,2-Dichloroethene	2.64 U
Tetrachloroethene	4.52 U
Trichloroethene	6.18
Vinyl chloride	1.71 U

Lot 74
Lot 73
Lot 68
1053
1057
1059
1065
Atlantic Avenue
SB019
SS005
SB020
SV001
SB018
SB015
SB016
SS004
SB017
SB021

Highlighted text denotes concentrations exceeding NYSDEC Unrestricted Use SCOs
Highlighted text denotes concentrations exceeding NYSDEC Unrestricted and Restricted Residential Use SCOs

Feet
0 20 40 60 80

Document Path: W:\Projects\S-Z\TOT\1901\maps\Additional Properties\FIG04_Groundwater&SoilVapor_Results.mxd

PWGC
CLIENT DRIVEN SOLUTIONS
P.W. Grosser Consulting Engineer & Hydrogeologist, PC
630 Johnson Ave., Suite 7
Bohemia, NY 11716
Ph: 631-589-6353 • Fax: 631-589-8705
pwgc.info@pwgrosser.com

DRAWING PREPARED FOR:

REVISION	DATE	INITIAL	COMMENTS

DRAWING INFORMATION:

Project:	TOT1901	Designed by:	HRM
Date:	4/26/2019	Drawn by:	PH
Scale:	AS SHOWN	Approved by:	HRM

Soil Vapor Exceedances

1053, 1057,
1059 & 1065 Atlantic Avenue
Brooklyn, NY

FIGURE NO:

4

TABLES

Table 1
Soil Boring Details

1053, 1057, 1059 and 1065 Atlantic Avenue, Brooklyn, NY

Soil Boring ID	Date	Location	Sample Interval (Feet bgs)	Analysis	Depth of Refusal (Feet bgs)
SB015	04/10/19	Hydraulic Lifts at 1065 Atlantic (Lot 68)	4-6	VOC, SVOC (CP-51), Metals (RCRA), PCB	8
SB016	04/10/19	Hydraulic Lifts at 1065 Atlantic (Lot 68)	0-2	NA	10
SB017	04/10/19	Hydraulic Lifts at 1065 Atlantic (Lot 68)	4-6	NA	10
SB018	04/10/19	1059 Atlantic (Lot 73) Location of former building	5-7	VOC, SVOC (CP-51), Metals (RCRA)	11
SB019	04/10/19	Basement of 1057 Atlantic (Lot 74)	Basement + 0-2 = ~10-12	VOC, SVOC (CP-51), Metals (RCRA)	4
SB020	04/10/19	Basement of 1053 Atlantic (Lot 74)	Basement + 0-2 = ~10-12	VOC, SVOC (CP-51), Metals (RCRA)	2.5
SB021	04/10/19	Basement of 1065 Atlantic (Lot 68) near underground petroleum fill line	Basement + 0-2 = ~10-12	VOC (CP-51), SVOC (CP-51)	2

Notes:

NA - Not Analyzed

Table 2
Soil Analytical Results - VOCs

Client Sample ID: Sample Depth: Laboratory ID: Sampling Date:	NYSDEC SCOs Unrestricted Use [1]	NYSDEC SCOs Restricted Residential Use [2]	NYSDEC SCOs Commercial Use [2]	NYSDEC SCOs Protection of Groundwater [2]	SB015 4-6' L1914587-01 4/10/2019	SB018 5-7' L1914587-02 4/10/2019	SB019 10-12' * L1914587-03 4/10/2019	SB020 10-12' * L1914587-04 4/10/2019	SB021 10-12' * L1914588-04 4/10/2019
VOCs by USEPA method 8260 in mg/kg									
1,1,1,2-Tetrachloroethane	NS	NS	NS	NS	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
1,1,1-Trichloroethane	0.68	100	500	0.68	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
1,1,2,2-Tetrachloroethane	NS	NS	NS	0.6	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
1,1,2-Trichloroethane	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
1,1-Dichloroethane	0.27	26	240	0.27	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
1,1-Dichloroethene	0.33	100	500	0.33	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
1,1-Dichloropropene	NS	NS	NS	NS	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
1,2,3-Trichlorobenzene	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
1,2,3-Trichloropropane	NS	NS	NS	0.34	0.003 U	5 U	0.19 U	0.0023 U	- -
1,2,4,5-Tetramethylbenzene	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
1,2,4-Trichlorobenzene	NS	NS	NS	3.4	0.003 U	5 U	0.19 U	0.0023 U	- -
1,2,4-Trimethylbenzene	3.6	52	190	3.6	0.003 U	1.6 J	0.19 U	0.0023 U	0.0018 J
1,2-Dibromo-3-chloropropane	NS	NS	NS	NS	0.0044 U	7.5 U	0.28 U	0.0034 U	- -
1,2-Dibromoethane	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
1,2-Dichlorobenzene	1.1	100.0	500.0	1.1	0.003 U	5 U	0.19 U	0.0023 U	- -
1,2-Dichloroethane	0.02	3.1	30	0.02	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
1,2-Dichloroethene, Total	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
1,2-Dichloropropane	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
1,3,5-Trimethylbenzene	8.4	52	190	8.4	0.003 U	0.76 J	0.19 U	0.0023 U	0.00052 J
1,3-Dichlorobenzene	2.4	49.0	280.0	2.4	0.003 U	5 U	0.19 U	0.0023 U	- -
1,3-Dichloropropane	NS	NS	NS	0.3	0.003 U	5 U	0.19 U	0.0023 U	- -
1,3-Dichloropropene, Total	NS	NS	NS	NS	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
1,4-Dichlorobenzene	1.8	13.0	130.0	1.8	0.003 U	5 U	0.19 U	0.0023 U	- -
1,4-Dioxane	0.1	13	130	0.1	0.12 U	200 U	7.5 U	0.091 U	- -
2,2-Dichloropropane	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
2-Butanone	0.12	100	500	0.3	0.015 U	25 U	0.93 U	0.011 U	- -
2-Hexanone	NS	NS	NS	NS	0.015 U	25 U	0.93 U	0.011 U	- -
4-Methyl-2-pentanone	NS	NS	NS	1	0.015 U	25 U	0.93 U	0.011 U	- -
Acetone	0.05	100	500	0.05	0.046	25 U	0.93 U	0.0092 J	- -
Acrylonitrile	NS	NS	NS	NS	0.0059 U	10 U	0.37 U	0.0045 U	- -
Benzene	0.06	4.8	44	0.06	0.00074 U	1.2 U	0.047 U	0.00057 U	0.0009 U
Bromobenzene	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
Bromochloromethane	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
Bromodichloromethane	NS	NS	NS	NS	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
Bromoform	NS	NS	NS	NS	0.0059 U	10 U	0.37 U	0.0045 U	- -
Bromomethane	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
Carbon disulfide	NS	NS	NS	2.7	0.015 U	25 U	0.93 U	0.011 U	- -
Carbon tetrachloride	0.76	2.4	22	0.76	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
Chlorobenzene	1.1	100	500	1.1	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
Chloroethane	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
Chloroform	0.4	49.0	350.0	0.4	0.0022 U	3.7 U	0.15	0.0017 U	- -
Chloromethane	NS	NS	NS	NS	0.0059 U	10 U	0.37 U	0.0045 U	- -
cis-1,2-Dichloroethene	0.25	100	500	0.25	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
cis-1,3-Dichloropropene	NS	NS	NS	NS	0.00074 U	1.2 U	0.047 U	0.00057 U	- -
Dibromochloromethane	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
Dibromomethane	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
Dichlorodifluoromethane	NS	NS	NS	NS	0.015 U	25 U	0.93 U	0.011 U	- -
Ethyl ether	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
Ethylbenzene	1	41	390	1	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U
Hexachlorobutadiene	NS	NS	NS	NS	0.0059 U	10 U	0.37 U	0.0045 U	- -
Isopropylbenzene	NS	NS	NS	2.3	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U
Methyl tert butyl ether	0.93	100	500	0.93	0.003 U	5 U	0.19 U	0.0023 U	- -
Methylene chloride	0.05	100	500	0.05	0.0074 U	12 U	0.47 U	0.0057 U	- -
n-Butylbenzene	12	100	500	12	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U
n-Propylbenzene	3.9	100	500	3.9	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U
Naphthalene	12	100	500	12	0.0059 U	320	0.61	0.0045 U	0.0072 U
o-Chlorotoluene	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
o-Xylene	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U
p-Chlorotoluene	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
p-Diethylbenzene	NS	NS	NS	NS	0.003 U	0.82 J	0.19 U	0.0023 U	- -
p-Ethyltoluene	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	- -
p-Isopropyltoluene	NS	NS	NS	10	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U
p/m-Xylene	NS	NS	NS	NS	0.003 U	5 U	0.19 U	0.0023 U	0.0036 U
sec-Butylbenzene	11	100	500	11	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U
Styrene	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
tert-Butylbenzene	5.9	100	500	5.9	0.003 U	5 U	0.19 U	0.0023 U	0.0036 U
Tetrachloroethene	1.3	19	150	1.3	0.00037 J	1.2 U	0.26	0.00057 U	- -
Toluene	0.7	100	500	0.7	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0029
trans-1,2-Dichloroethene	0.19	100	500	0.19	0.0022 U	3.7 U	0.14 U	0.0017 U	- -
trans-1,3-Dichloropropene	NS	NS	NS	NS	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
trans-1,4-Dichloro-2-butene	NS	NS	NS	NS	0.0074 U	12 U	0.47 U	0.0057 U	- -
Trichloroethene	0.47	21	200	0.47	0.00074 U	1.2 U	19	0.00057 U	- -
Trichlorofluoromethane	NS	NS	NS	NS	0.0059 U	10 U	0.37 U	0.0045 U	- -
Vinyl acetate	NS	NS	NS	NS	0.015 U	25 U	0.93 U	0.011 U	- -
Vinyl chloride	0.02	0.9	13	0.02	0.0015 U	2.5 U	0.093 U	0.0011 U	- -
Xylenes, Total	0.26	100	500	1.6	0.0015 U	2.5 U	0.093 U	0.0011 U	0.0018 U

Notes:
(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use of Soil Cleanup Objective Table 375-6.8a
(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restricted Use of Soil Cleanup Objective Table 375-6.8b
* The sample was collected from the 0 to 2 feet interval beneath the basement slab. The basement is approximately 10 feet below grade.
NS - No Standard
NA- Not Analyzed
U - The analyte was analyzed for, but was not detected above the reported sample quantification limit.
J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
Highlighted text denotes concentrations exceeding Unrestricted Use or Protection of Groundwater
Highlighted text denotes concentrations exceeding NYSDEC Restricted Residential SCOs
Highlighted text denotes concentrations exceeding NYSDEC Commercial Use SCOs

Table 3
Soil Analytical Results - CP-51 SVOCs

1053, 1057, 1059 and 1065 Atlantic Ave, Brooklyn, NY

Client Sample ID: Sample Depth: Laboratory ID: Sampling Date:	NYSDEC SCOs Unrestricted Use [1]	NYSDEC SCOs Restricted Residential Use [2]	NYSDEC SCOs Commercial Use [2]	NYSDEC SCOs Protection of Groundwater [2]	SB015 4-6' L1914587-01 4/10/2019	SB018 5-7' L1914587-02 4/10/2019	SB019 10-12' * L1914587-03 4/10/2019	SB020 10-12' * L1914587-04 4/10/2019	SB021 10-12' * L1914588-04 4/10/2019
SVOCs by USEPA method 8260 in mg/kg									
Acenaphthene	20	100	500	98	0.14 U	64	2.8	0.15 U	0.14 U
Acenaphthylene	100	100	500	107	0.14 U	16	0.84 J	0.15 U	0.14 U
Anthracene	100	100	500	1,000	0.1 U	140	6.8	0.11 U	0.11 U
Benzo(a)anthracene	1	1	5.6	1	0.1 U	230	21	0.11 U	0.077 J
Benzo(a)pyrene	1	1	1	22	0.14 U	200	17	0.15 U	0.068 J
Benzo(b)fluoranthene	1	1	5.6	2	0.1 U	250	19	0.11 U	0.089 J
Benzo(ghi)perylene	100	100	500	1,000	0.14 U	97	9.7	0.15 U	0.037 J
Benzo(k)fluoranthene	0.8	3.9	56	1.7	0.1 U	82	5.8	0.11 U	0.032 J
Chrysene	1	3.9	56	1	0.1 U	220	21	0.11 U	0.078 J
Dibenzo(a,h)anthracene	0.33	0.33	0.56	1000	0.1 U	26	2.2	0.11 U	0.11 U
Fluoranthene	100	100	500	1,000	0.1 U	470 E	34	0.11 U	0.13
Fluorene	30	100	500	386	0.17 U	72	2	0.18 U	0.18 U
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	8.2	0.14 U	110	9	0.15 U	0.043 J
Phenanthrene	100	100	500	1,000	0.1 U	520 E	40	0.11 U	0.094 J
Pyrene	100	100	500	1,000	0.1 U	400	45	0.11 U	0.12

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use of Soil Cleanup Objective Table 375-6.8a

(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restricted Use of Soil Cleanup Objective Table 375-6.8b

NS - No Standard

U - The analyte was analyzed for, but was not detected above the reported sample quantification limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Highlighted text denotes concentrations exceeding Unrestricted Use or Protection of Groundwater

Highlighted text denotes concentrations exceeding NYSDEC Restricted Residential SCOs

Highlighted text denotes concentrations exceeding NYSDEC Commercial Use SCOs

Table 4
Soil Analytical Results - Total RCRA Metals

1053, 1057, 1059 and 1065 Atlantic Ave, Brooklyn, NY

Client Sample ID: Sample Depth: Laboratory ID: Sampling Date:	NYSDEC SCOs Unrestricted Use [1]	NYSDEC SCOs Restricted Residential Use [2]	NYSDEC SCOs Commercial Use [2]	NYSDEC SCOs Protection of Groundwater [2]	SB015 4-6' L1914587-01 4/10/2019	SB018 5-7' L1914587-02 4/10/2019	SB019 10-12' * L1914587-03 4/10/2019	SB020 10-12' * L1914587-04 4/10/2019
Metals, Total RCRA EPA 6010/7471								
Arsenic, Total	13	16	16	16	1.21	6.06	4.74	1.45
Barium, Total	350	400	400	820	18.7	64.4	147	8.76
Cadmium, Total	2.5	4.3	9.3	7.5	1.57	1.38	0.852	0.59
Chromium, Total [3]	30	180	1,500	NS	9.17	16.8	8.82	9.63
Lead, Total	63	400	1,000	450	3.24	289	390	5.01
Mercury, Total	0.18	0.81	2.8	0.73	0.067 U	0.372	1.71	0.072 U
Selenium, Total	3.9	180	1,500	4	0.284 J	0.673 J	0.542 J	0.184 J
Silver, Total	2	180	1,500	8.3	0.4 U	0.232 J	0.125 J	0.45 U

Notes:

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use of Soil Cleanup Objective Table 375-6.8a

(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restricted Use of Soil Cleanup Objective Table 375-6.8b

(3) Chromium SCOs listed are for trivalent chromium

NS - No Standard

U - The analyte was analyzed for, but was not detected above the reported sample quantification limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Highlighted text denotes concentrations exceeding Unrestricted Use or Protection of Groundwater

Highlighted text denotes concentrations exceeding NYSDEC Restricted Residential SCOs

Highlighted text denotes concentrations exceeding NYSDEC Commercial Use SCOs

Table 5
Soil Vapor Sample Analyical Results - VOCs

1053, 1057, 1059 and 1065 Atlantic Avenue, Brooklyn, NY

Client Sample ID: Laboratory ID: Sampling Date:	EPA-VISL-TSSGC	SS004 L1914646-01 4/10/2019		SS005 L1914646-02 4/10/2019		SV001 L1914646-03 4/10/2019	
Volatile Organics in Air TO-15 (µg/m^3)							
1,1,1-Trichloroethane	17,400	66.6	U	1.09	U	3.64	U
1,1,2,2-Tetrachloroethane	1.61	83.8	U	1.37	U	4.58	U
1,1,2-Trichloroethane	0.695	66.6	U	1.09	U	3.64	U
1,1-Dichloroethane	58.5	49.4	U	0.809	U	2.7	U
1,1-Dichloroethene	695	48.4	U	0.793	U	2.64	U
1,2,4-Trichlorobenzene	6.95	90.6	U	1.48	U	4.95	U
1,2,4-Trimethylbenzene	209	60	U	3.7		7.18	
1,2-Dibromoethane	0.156	93.8	U	1.54	U	5.13	U
1,2-Dichlorobenzene	695	73.3	U	1.2	U	4.01	U
1,2-Dichloroethane	3.6	49.4	U	0.809	U	2.7	U
1,2-Dichloropropane	13.9	56.4	U	0.924	U	3.08	U
1,3,5-Trimethylbenzene	209	60	U	1.02		3.28	U
1,3-Butadiene	3.12	27	U	0.442	U	1.48	U
1,3-Dichlorobenzene	NS	73.3	U	1.2	U	4.01	U
1,4-Dichlorobenzene	8.51	73.3	U	1.2	U	4.01	U
1,4-Dioxane	18.7	44	U	0.721	U	2.4	U
2,2,4-Trimethylpentane	NS	57	U	0.934	U	49.5	
2-Butanone	17,400	90	U	44.2		711	
2-Hexanone	104	50	U	10.5		79.9	
3-Chloropropene	3.48	38.2	U	0.626	U	2.09	U
4-Ethyltoluene	NS	60	U	0.993		3.28	U
4-Methyl-2-pentanone	10,400	125	U	2.1		6.84	U
Acetone	107,000	444		72.7		831	
Benzene	12	39	U	1.39		4.09	
Benzyl chloride	1.91	63.2	U	1.04	U	3.45	U
Bromodichloromethane	2.53	81.7	U	1.34	U	4.47	U
Bromoform	85.1	126	U	2.07	U	6.9	U
Bromomethane	17.4	47.4	U	0.777	U	2.59	U
Carbon disulfide	2,430	38	U	0.657		14.9	
Carbon tetrachloride	15.6	76.7	U	1.26	U	4.2	U
Chlorobenzene	174	56.2	U	0.921	U	3.07	U
Chloroethane	34,800	32.2	U	0.528	U	1.76	U
Chloroform	4.07	59.6	U	9.38		3.26	U
Chloromethane	313	25.2	U	0.413	U	1.38	U
cis-1,2-Dichloroethene	NS	48.4	U	0.793	U	2.64	U
cis-1,3-Dichloropropene	NS	55.4	U	0.908	U	3.03	U
Cyclohexane	20,900	42	U	1.56		6.82	
Dibromochloromethane	NS	104	U	1.7	U	5.68	U
Dichlorodifluoromethane	348	60.3	U	1.75		3.3	U
Ethanol	NS	575	U	11.8		182	
Ethyl Acetate	243	110	U	1.8	U	6.02	U
Ethylbenzene	37.4	53	U	1.74		15.5	
Freon-113	17,400	93.5	U	1.53	U	5.11	U
Freon-114	NS	85.3	U	1.4	U	4.66	U
Heptane	1,390	82.4		1.98		42.6	
Hexachlorobutadiene	4.25	130	U	2.13	U	7.11	U
Isopropanol	695	75	U	1.23	U	53.3	
Methyl tert butyl ether	360	44	U	0.721	U	2.4	U
Methylene chloride	2,090	106	U	1.74	U	5.8	U
n-Hexane	2,430	14,200		2.29		20.8	
o-Xylene	348	53	U	3.09		18.7	
p/m-Xylene	348	106	U	7.64		45.2	
Styrene	3,480	51.9	U	5.75		4.13	
Tertiary butyl Alcohol	NS	92.5	U	1.52	U	13	
Tetrachloroethene	139	492		6.46		4.52	U
Tetrahydrofuran	6,950	90	U	1.47	U	23.7	
Toluene	17,400	219		3.43		20.8	
trans-1,2-Dichloroethene	NS	48.4	U	0.793	U	2.64	U
trans-1,3-Dichloropropene	NS	55.4	U	0.908	U	3.03	U
Trichloroethene	6.95	66.1		386		6.18	
Trichlorofluoromethane	NS	68.6	U	1.47		3.75	U
Vinyl bromide	2.92	53.3	U	0.874	U	2.92	U
Vinyl chloride	5.59	31.2	U	0.511	U	1.71	U

Notes:

EPA VISL Default Residential Target Sub-Slab & Near Source Soil Gas Concentrations Criteria per VISL Calculator, August 2019.

NS - No standard

U - Indicates that the analyte was not detected above the laboratory MDL

Highlighted text denotes concentrations exceeding VISL

Table 6
Soil Analytical Results - PCBs

1053, 1057, 1059 and 1065 Atlantic Ave, Brooklyn, NY

Client Sample ID: Sample Depth: Laboratory ID: Sampling Date:	NYSDEC SCOs Unrestricted Use [1]	NYSDEC SCOs Restricted Residential Use [2]	NYSDEC SCOs Commercial Use [2]	NYSDEC SCOs Protection of Groundwater [2]	SB015 4-6' L1914587-01 4/10/2019
SVOCs by USEPA method 8260 in mg/kg					
Aroclor 1016	0.1	1	1	3	0.0344 U
Aroclor 1221	0.1	1	1	3	0.0344 U
Aroclor 1232	0.1	1	1	3	0.0344 U
Aroclor 1242	0.1	1	1	3.2	0.0344 U
Aroclor 1248	0.1	1	1	3.2	0.0344 U
Aroclor 1254	0.1	1	1	3	0.0344 U
Aroclor 1260	0.1	1	1	3	0.0344 U
Aroclor 1262	0.1	1	1	3.2	0.0344 U
Aroclor 1268	0.1	1	1	3.2	0.0344 U
PCBs, Total	0.1	1	1	3.2	0.0344 U

Notes:

(1) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Unrestricted Use of Soil Cleanup Objective Table 375-6.8a

(2) NYSDEC 6 NYCRR Environmental Remediation Programs Part 375 Restricted Use of Soil Cleanup Objective Table 375-6.8b

NS - No Standard

U - The analyte was analyzed for, but was not detected above the reported sample quantification limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

Highlighted text denotes concentrations exceeding Unrestricted Use or Protection of Groundwater

Highlighted text denotes concentrations exceeding NYSDEC Restricted Residential SCOs

Highlighted text denotes concentrations exceeding NYSDEC Commercial Use SCOs

APPENDIX A
GEOPHYSICAL SURVEY

DELTA Geophysics Inc.

GEOPHYSICAL INVESTIGATION REPORT

SITE LOCATION:

1053, 1059, & 1065 Atlantic Avenue
Brooklyn, New York

PREPARED FOR:

PW Grosser
630 Johnson Ave, Suite 7
Bohemia, New York

PREPARED BY:

Brian Halvorsen
Delta Geophysics Inc.
738 Front Street
Catasauqua, PA 18032

April 25th, 2019

Delta Geophysics, Inc. (Delta) is pleased to provide the results of the geophysical survey conducted at 1053, 1059, & 1065 Atlantic Avenue, Brooklyn, New York.

1.0 INTRODUCTION

On April 10th, 2019 Delta Geophysics personnel performed a limited geophysical investigation at 1053, 1059, & 1065 Atlantic Avenue, Brooklyn, New York. The area of interest was all accessible areas of the properties. The subject properties contained an active automotive garage, a restaurant, and a commercial kitchen. Subsurface conditions were unknown at the time of survey. Surface conditions consisted of concrete.

2.0 SCOPE OF WORK

The survey was conducted to clear client proposed boring locations and mark all detectable utilities around proposed boring locations. A secondary objective was to investigate the subsurface for anomalies consistent with underground storage tanks (UST) and former excavations.

3.0 METHODOLOGY

Selection of survey equipment is dependent site conditions and project objectives. For this project the technician utilized the following equipment to survey the area of concern:

- Geophysical Survey Systems Inc. SIR-3000 cart-mounted Ground Penetrating Radar (GPR) unit with a 400 Mhz antenna.
- Radiodetection RD7000 precision utility locator.
- Fisher M-Scope TW-6 pipe and cable locator.

Ground penetrating radar (commonly called GPR) is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves (generally 10 MHz to 1,000 MHz) to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

The GSSI SIR-3000 GPR can accept a wide variety of antennas which provide various depths of penetration and levels of resolution. The 400 MHz antenna can achieve depths of penetration up to about 20 feet, but this depth may be greatly reduced due to site-specific conditions. Signal penetration decreases with increased soil conductivity. Conductive materials attenuate or absorb the GPR signal. As depth increases the return signal becomes weaker. Penetration is the greatest in unsaturated sands and fine gravels. Clayey, highly saline or saturated soils, areas covered by steel reinforced concrete, foundry slag, of other highly conductive materials significantly reduces GPR depth of penetration.

The GPR was configured to transmit to a depth of approximately 10 feet below the subsurface, but actual signal penetration was limited to approximately 1-3 feet below ground surface (bgs). The limiting factor was signal attenuation from near surface soils.

The RD7000 precision utility locator uses radio emission to trace the location of metal bearing utilities. This radio emission can be active or passive. Active tracing requires the attachment of a

radio transmitter to the utility, passive tracing uses radio emissions that are present on the utility. Underground electrical utilities typically emit radio signals that this device can detect.

The TW-6 is designed to find pipes, cables and other metallic objects such as underground storage tanks. One surveyor can carry both the transmitter and receiver together, making it ideally suited for exploration type searches of ferrous metal masses. Metal detectors of this type operate by generating a magnetic field at the transmitter which causes metallic objects in the subsurface to generate a secondary magnetic field. The induced secondary field is detected by the receiver, which generates an audible tone equal to the strength of the secondary field.

4.0 SURVEY FINDINGS

All accessible areas throughout the survey location was examined during this investigation. The proposed boring locations were examined with the RD7000 for potential subsurface utilities then surveyed with GPR and TW-6 for other potential anomalies. Based on the data gathered all borings were cleared for sampling, and no anomalies were detected.

Basement Investigation

Delta personal examined the basements of all three properties in the survey area to look for potential product piping associated with USTs or former USTs. No evidence of former or current USTs was observed.

Utility Survey

Delta performed a utility survey around client proposed boring locations. The following utilities were identified: storm sewer. All utilities were marked onsite with appropriate colors.

5.0 SURVEY LIMITATIONS

GPR depth of penetration was limited to approximately 1-3 feet bgs. The limiting factor was due to conductive soils and reinforced concrete. The automotive garage at 1065 Atlantic Avenue, was an active facility that contained large amounts of equipment storage and unmovable vehicles that greatly limited the survey area.

6.0 WARRANTIES AND DISCLAIMER

As with any geophysical method, it must be stressed that caution be used during any excavation or intrusive testing in proximity to any anomalies indicated in this report. In addition, the absence of detected signatures does not preclude the possibility that targets may exist. To the extent the client desires more definitive conclusions than are warranted by the currently available facts; it is specifically Delta's intent that the conclusions stated herein will be intended as guidance.

This report is based upon the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. Professional judgments expressed herein are based on the facts currently available within the limit or scope of work, budget and schedule. Delta represents that the services were performed in a manner consistent with currently accepted professional practices employed by geophysical/geological consultants under similar circumstances. No other representations to Client, express or implied, and no warranty or guarantee is included or intended in this agreement, or in any report, document, or otherwise.

This report was prepared pursuant to the contract Delta has with the Client. That contractual relationship included an exchange of information about the property that was unique and between Delta and its client and serves as the basis upon which this report was prepared. Because of the importance of the understandings between Delta and its client, reliance or any use of this report by anyone other than the Client, for whom it was prepared, is prohibited and therefore not foreseeable to Delta.

Reliance or use by any such third party without explicit authorization in the report does not make said third party a third party beneficiary to Delta's contract with the Client. Any such unauthorized reliance on or use of this report, including any of its information or conclusions, will be at the third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

APPENDIX B
SOIL BORING LOGS

PROJECT #:	TOT1901		
SITE ADDRESS:	1053/1057/1059/1065 Atlantic Ave, Brooklyn, NY		
BORING ID:	SB-015	BORING DEPTH (FT): 8	CORE LENGTH (FT): 4
WELL ID:	N/A	BORING DIAMETER (IN): 2	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Coastal Environmental Solutions, Inc.	DATE STARTED: 04/10/2019	DATE FINISHED: 04/10/2019
DRILLING METHOD:	Direct Push	TIME STARTED: 09:15	TIME FINISHED: 09:25
DRILLING EQUIPMENT:	Geoprobe 54LT	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Macrocore	PROJECT MANAGER: Heather Moran-Botta	LOGGED BY: Michael Gaul

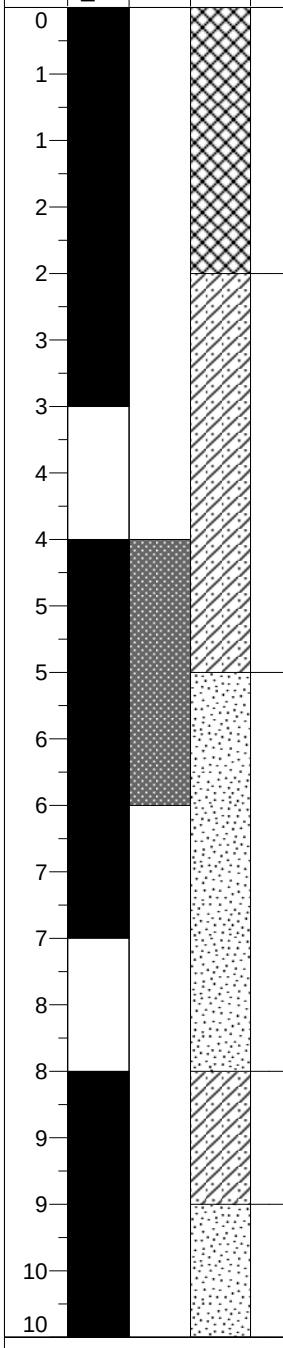
DEPTH (feet)	RECOVERY INTERVAL	SAMPLE INTERVAL	USCS KEY	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				URBAN FILL with concrete, sand and rock fragments: dark brown, dry, no odor	0	0	
2				POORLY GRADED SAND (SP): medium brown, dry, no odor, coarse	0	2	
6				POORLY GRADED SAND (SP): light brown, dry, no odor, coarse	0	6	
8						8	

P.W. Grosser Consulting | **End of Boring Depth (feet):** 8 | **Water Table Symbol:** ▼ | Page 1 of 1

PROJECT #:	TOT1901		
SITE ADDRESS:	1053/1057/1059/1065 Atlantic Ave, Brooklyn, NY		
BORING ID:	SB-016	BORING DEPTH (FT): 10	CORE LENGTH (FT): 4
WELL ID:	N/A	BORING DIAMETER (IN): 2	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Coastal Environmental Solutions, Inc.	DATE STARTED: 04/10/2019	DATE FINISHED: 04/10/2019
DRILLING METHOD:	Direct Push	TIME STARTED: 09:35	TIME FINISHED: 10:15
DRILLING EQUIPMENT:	Geoprobe 54LT	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Macrocore	PROJECT MANAGER: Heather Moran-Botta	LOGGED BY: Michael Gaul

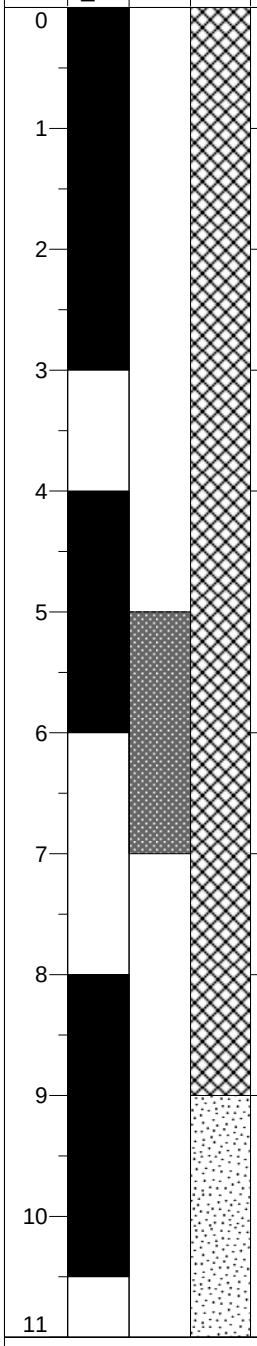
DEPTH (feet)	RECOVERY INTERVAL	SAMPLE INTERVAL	USCS KEY	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–2				URBAN FILL with concrete, sand and rock fragments: variegated gray-brown, dry, no odor	0	0–2	
2–4				CLAYEY SAND (SC) with rock fragments: medium brown, dry, no odor	0	2–4	
4–8				POORLY GRADED SAND (SP) with rock fragments: medium brown, dry, no odor, fine	0	4–8	
8–9				POORLY GRADED SAND (SP): medium brown, dry, no odor, fine	0	8–9	
9–10				POORLY GRADED SAND (SP): variegated gray-brown, dry, no odor, fine	0	9–10	

PROJECT #:	TOT1901		
SITE ADDRESS:	1053/1057/1059/1065 Atlantic Ave, Brooklyn, NY		
BORING ID:	SB-017	BORING DEPTH (FT): 10	CORE LENGTH (FT): 4
WELL ID:	N/A	BORING DIAMETER (IN): 2	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Coastal Environmental Solutions, Inc.	DATE STARTED: 04/10/2019	DATE FINISHED: 04/10/2019
DRILLING METHOD:	Direct Push	TIME STARTED: 10:25	TIME FINISHED: 10:41
DRILLING EQUIPMENT:	Geoprobe 54LT	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Macrocore	PROJECT MANAGER: Heather Moran-Botta	LOGGED BY: Michael Gaul



DEPTH (feet)	RECOVERY INTERVAL	SAMPLE INTERVAL	USCS KEY	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0 – 2				URBAN FILL with gravel, concrete and sand: dark brown, dry, no odor	0	0 – 2	
2 – 5				CLAYEY SAND (SC): medium brown, dry, no odor	0	2 – 5	
5 – 8				POORLY GRADED SAND (SP): medium brown, dry, no odor, fine	0	5 – 8	
8 – 9				CLAYEY SAND (SC): medium brown, dry, no odor	0	8 – 9	
9 – 10				POORLY GRADED SAND (SP): medium brown, dry, no odor, fine	0	9 – 10	

PROJECT #:	TOT1901		
SITE ADDRESS:	1053/1057/1059/1065 Atlantic Ave, Brooklyn, NY		
BORING ID:	SB-018	BORING DEPTH (FT): 11	CORE LENGTH (FT): 4
WELL ID:	N/A	BORING DIAMETER (IN): 2	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Coastal Environmental Solutions, Inc.	DATE STARTED: 04/10/2019	DATE FINISHED: 04/10/2019
DRILLING METHOD:	Direct Push	TIME STARTED: 12:33	TIME FINISHED: 13:10
DRILLING EQUIPMENT:	Geoprobe 54LT	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Macrocore	PROJECT MANAGER: Heather Moran-Botta	LOGGED BY: Michael Gaul



DEPTH (feet)	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0–1	URBAN FILL with brick, asphalt and sand: black, dry, asphalt odor	0.2	0–1	
1–2	URBAN FILL with concrete and sand: light brown, dry, no odor	0	1–2	
2–3	URBAN FILL with sand, asphalt and brick: black, dry, no odor	0	2–3	
3–4	URBAN FILL with sand and brick: medium brown, dry, no odor	0	3–4	
4–5	URBAN FILL with brick: red, dry, no odor	0	4–5	
5–6	URBAN FILL with sand, treated wood and mastic: black, dry, creosote odor	13.7	5–6	
6–7	URBAN FILL with brick: red, dry, no odor	0	6–7	
7–8	URBAN FILL with sand, brick and rock fragments: medium brown, dry, no odor	0	7–8	
8–9	POORLY GRADED SAND (SP): medium brown, dry, no odor, fine	0	8–9	
9–10			9–10	
10–11			10–11	

P.W. Grosser Consulting	**End of Boring Depth (feet):** 11	**Water Table Symbol:** ▼	Page 1 of 1

PROJECT #:	TOT1901		
SITE ADDRESS:	1053/1057/1059/1065 Atlantic Ave, Brooklyn, NY		
BORING ID:	SB-019	BORING DEPTH (FT): 4	CORE LENGTH (FT): N/A
WELL ID:	N/A	BORING DIAMETER (IN): 4	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Coastal Environmental Solutions, Inc.	DATE STARTED: 04/10/2019	DATE FINISHED: 04/10/2019
DRILLING METHOD:	Hand Auger	TIME STARTED: 13:45	TIME FINISHED: 13:50
DRILLING EQUIPMENT:	Hand Auger	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Hand Auger	PROJECT MANAGER: Heather Moran-Botta	LOGGED BY: Michael Gaul

DEPTH (feet)	RECOVERY INTERVAL	SAMPLE INTERVAL	USCS KEY	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				URBAN FILL with brick, concrete and sand: medium brown, dry, no odor	0	0	
1				POORLY GRADED SAND (SP) with cobbles and rock fragments: medium brown, dry, no odor, fine	0	1	
2						2	
3						3	
4						4	

P.W. Grosser Consulting | **End of Boring Depth (feet):** 4 | **Water Table Symbol:** ▼ | Page 1 of 1

PROJECT #:	TOT1901		
SITE ADDRESS:	1053/1057/1059/1065 Atlantic Ave, Brooklyn, NY		
BORING ID:	SB-020	BORING DEPTH (FT): 2.5	CORE LENGTH (FT): N/A
WELL ID:	N/A	BORING DIAMETER (IN): 4	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Coastal Environmental Solutions, Inc.	DATE STARTED: 04/10/2019	DATE FINISHED: 04/10/2019
DRILLING METHOD:	Hand Auger	TIME STARTED: 14:16	TIME FINISHED: 14:20
DRILLING EQUIPMENT:	Hand Auger	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Hand Auger	PROJECT MANAGER: Heather Moran-Botta	LOGGED BY: Michael Gaul

DEPTH (feet)	RECOVERY INTERVAL	SAMPLE INTERVAL	USCS KEY	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				POORLY GRADED SAND (SP): light brown, dry, no odor, fine	0	0	
0						0	
0						0	
1						1	
1						1	
1						1	
1						1	
1						1	
2						2	
2						2	
2						2	
2						2	
2						2	
3						3	

P.W. Grosser Consulting	**End of Boring Depth (feet):** 2.5	**Water Table Symbol:** ▼

PROJECT #:	TOT1901		
SITE ADDRESS:	1053/1057/1059/1065 Atlantic Ave, Brooklyn, NY		
BORING ID:	SB-021	BORING DEPTH (FT): 2	CORE LENGTH (FT): N/A
WELL ID:	N/A	BORING DIAMETER (IN): 4	WELL DIAMETER (IN): N/A
DRILLING CONTRACTOR:	Coastal Environmental Solutions, Inc.	DATE STARTED: 04/10/2019	DATE FINISHED: 04/10/2019
DRILLING METHOD:	Hand Auger	TIME STARTED: 14:30	TIME FINISHED: 14:35
DRILLING EQUIPMENT:	Hand Auger	LATITUDE: N/A	LONGITUDE: N/A
SAMPLING METHOD:	Hand Auger	PROJECT MANAGER: Heather Moran-Botta	LOGGED BY: Michael Gaul

DEPTH (feet)	RECOVERY INTERVAL	SAMPLE INTERVAL	USCS KEY	DESCRIPTION NAME (USCS): color, moist, plasticity, gravel, odor	PID Reading (ppm)	DEPTH (feet)	WELL CONSTRUCTION DETAILS AND/OR DRILLING REMARKS
0				POORLY GRADED SAND (SP) with cobbles and pebbles: medium brown, dry, slight petroleum odor, fine	5	0	
0						0	
0						0	
0						0	
0						0	
1						1	
1						1	
1						1	
1						1	
1						1	
1						1	
1						1	
1						1	
1						1	
1						1	
1						1	
2						2	
2						2	
2						2	
2						2	
2						2	

P.W. Grosser Consulting	**End of Boring Depth (feet):** 2	**Water Table Symbol:** ▼	Page 1 of 1

APPENDIX C
LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

Lab Number:	L1914587
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	Heather Moran-Botta
Phone:	(631) 589-6353
Project Name:	TOT1901
Project Number:	TOT1901
Report Date:	04/24/19

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

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

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1914587-01	SB015 4-6'	SOIL	Not Specified	04/10/19 09:30	04/10/19
L1914587-02	SB018 5-7'	SOIL	Not Specified	04/10/19 13:30	04/10/19
L1914587-03	SB019 0-2'	SOIL	Not Specified	04/10/19 14:15	04/10/19
L1914587-04	SB020 0-2'	SOIL	Not Specified	04/10/19 14:30	04/10/19

Project Name:	TOT1901	**Lab Number:**	L1914587
Project Number:	TOT1901	**Report Date:**	04/24/19

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TOT1901	**Lab Number:**	L1914587
Project Number:	TOT1901	**Report Date:**	04/24/19

Case Narrative (continued)

Report Submission

April 24, 2019: This final report includes the results of all requested analyses.

April 16, 2019: This is a preliminary report.

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

Sample Receipt

At the client's request, the PCB analysis was performed on L1914587-01.

Semivolatile Organics

L1914587-02: The surrogate recoveries are below the acceptance criteria for nitrobenzene-d5 (0%), 2-fluorobiphenyl (0%) and 4-terphenyl-d14 (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 04/24/19

ORGANICS

VOLATILES

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-01
Client ID: SB015 4-6'
Sample Location: Not Specified

Date Collected: 04/10/19 09:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 04/15/19 09:27
Analyst: MV
Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	7.4	3.4	1
1,1-Dichloroethane	ND		ug/kg	1.5	0.21	1
Chloroform	ND		ug/kg	2.2	0.21	1
Carbon tetrachloride	ND		ug/kg	1.5	0.34	1
1,2-Dichloropropane	ND		ug/kg	1.5	0.18	1
Dibromochloromethane	ND		ug/kg	1.5	0.21	1
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.40	1
Tetrachloroethene	0.37	J	ug/kg	0.74	0.29	1
Chlorobenzene	ND		ug/kg	0.74	0.19	1
Trichlorofluoromethane	ND		ug/kg	5.9	1.0	1
1,2-Dichloroethane	ND		ug/kg	1.5	0.38	1
1,1,1-Trichloroethane	ND		ug/kg	0.74	0.25	1
Bromodichloromethane	ND		ug/kg	0.74	0.16	1
trans-1,3-Dichloropropene	ND		ug/kg	1.5	0.40	1
cis-1,3-Dichloropropene	ND		ug/kg	0.74	0.23	1
1,3-Dichloropropene, Total	ND		ug/kg	0.74	0.23	1
1,1-Dichloropropene	ND		ug/kg	0.74	0.24	1
Bromoform	ND		ug/kg	5.9	0.36	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.74	0.24	1
Benzene	ND		ug/kg	0.74	0.24	1
Toluene	ND		ug/kg	1.5	0.80	1
Ethylbenzene	ND		ug/kg	1.5	0.21	1
Chloromethane	ND		ug/kg	5.9	1.4	1
Bromomethane	ND		ug/kg	3.0	0.86	1
Vinyl chloride	ND		ug/kg	1.5	0.50	1
Chloroethane	ND		ug/kg	3.0	0.67	1
1,1-Dichloroethene	ND		ug/kg	1.5	0.35	1
trans-1,2-Dichloroethene	ND		ug/kg	2.2	0.20	1

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-01 Date Collected: 04/10/19 09:30

Client ID: SB015 4-6' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.74	0.20	1
1,2-Dichlorobenzene	ND		ug/kg	3.0	0.21	1
1,3-Dichlorobenzene	ND		ug/kg	3.0	0.22	1
1,4-Dichlorobenzene	ND		ug/kg	3.0	0.25	1
Methyl tert butyl ether	ND		ug/kg	3.0	0.30	1
p/m-Xylene	ND		ug/kg	3.0	0.83	1
o-Xylene	ND		ug/kg	1.5	0.43	1
Xylenes, Total	ND		ug/kg	1.5	0.43	1
cis-1,2-Dichloroethene	ND		ug/kg	1.5	0.26	1
1,2-Dichloroethene, Total	ND		ug/kg	1.5	0.20	1
Dibromomethane	ND		ug/kg	3.0	0.35	1
Styrene	ND		ug/kg	1.5	0.29	1
Dichlorodifluoromethane	ND		ug/kg	15	1.4	1
Acetone	46		ug/kg	15	7.1	1
Carbon disulfide	ND		ug/kg	15	6.7	1
2-Butanone	ND		ug/kg	15	3.3	1
Vinyl acetate	ND		ug/kg	15	3.2	1
4-Methyl-2-pentanone	ND		ug/kg	15	1.9	1
1,2,3-Trichloropropane	ND		ug/kg	3.0	0.19	1
2-Hexanone	ND		ug/kg	15	1.7	1
Bromochloromethane	ND		ug/kg	3.0	0.30	1
2,2-Dichloropropane	ND		ug/kg	3.0	0.30	1
1,2-Dibromoethane	ND		ug/kg	1.5	0.41	1
1,3-Dichloropropane	ND		ug/kg	3.0	0.25	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.74	0.20	1
Bromobenzene	ND		ug/kg	3.0	0.21	1
n-Butylbenzene	ND		ug/kg	1.5	0.25	1
sec-Butylbenzene	ND		ug/kg	1.5	0.22	1
tert-Butylbenzene	ND		ug/kg	3.0	0.17	1
o-Chlorotoluene	ND		ug/kg	3.0	0.28	1
p-Chlorotoluene	ND		ug/kg	3.0	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.4	1.5	1
Hexachlorobutadiene	ND		ug/kg	5.9	0.25	1
Isopropylbenzene	ND		ug/kg	1.5	0.16	1
p-Isopropyltoluene	ND		ug/kg	1.5	0.16	1
Naphthalene	ND		ug/kg	5.9	0.96	1
Acrylonitrile	ND		ug/kg	5.9	1.7	1

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-01 Date Collected: 04/10/19 09:30

Client ID: SB015 4-6' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
n-Propylbenzene	ND		ug/kg	1.5	0.25	1
1,2,3-Trichlorobenzene	ND		ug/kg	3.0	0.48	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.0	0.40	1
1,3,5-Trimethylbenzene	ND		ug/kg	3.0	0.28	1
1,2,4-Trimethylbenzene	ND		ug/kg	3.0	0.49	1
1,4-Dioxane	ND		ug/kg	120	52.	1
p-Diethylbenzene	ND		ug/kg	3.0	0.26	1
p-Ethyltoluene	ND		ug/kg	3.0	0.57	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	3.0	0.28	1
Ethyl ether	ND		ug/kg	3.0	0.50	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	7.4	2.1	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	109		70-130

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-02 D
Client ID: SB018 5-7'
Sample Location: Not Specified

Date Collected: 04/10/19 13:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 04/15/19 09:53
Analyst: MV
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	12000	5700	20
1,1-Dichloroethane	ND		ug/kg	2500	360	20
Chloroform	ND		ug/kg	3700	350	20
Carbon tetrachloride	ND		ug/kg	2500	570	20
1,2-Dichloropropane	ND		ug/kg	2500	310	20
Dibromochloromethane	ND		ug/kg	2500	350	20
1,1,2-Trichloroethane	ND		ug/kg	2500	670	20
Tetrachloroethene	ND		ug/kg	1200	490	20
Chlorobenzene	ND		ug/kg	1200	320	20
Trichlorofluoromethane	ND		ug/kg	10000	1700	20
1,2-Dichloroethane	ND		ug/kg	2500	640	20
1,1,1-Trichloroethane	ND		ug/kg	1200	420	20
Bromodichloromethane	ND		ug/kg	1200	270	20
trans-1,3-Dichloropropene	ND		ug/kg	2500	680	20
cis-1,3-Dichloropropene	ND		ug/kg	1200	390	20
1,3-Dichloropropene, Total	ND		ug/kg	1200	390	20
1,1-Dichloropropene	ND		ug/kg	1200	400	20
Bromoform	ND		ug/kg	10000	610	20
1,1,2,2-Tetrachloroethane	ND		ug/kg	1200	410	20
Benzene	ND		ug/kg	1200	410	20
Toluene	ND		ug/kg	2500	1400	20
Ethylbenzene	ND		ug/kg	2500	350	20
Chloromethane	ND		ug/kg	10000	2300	20
Bromomethane	ND		ug/kg	5000	1400	20
Vinyl chloride	ND		ug/kg	2500	840	20
Chloroethane	ND		ug/kg	5000	1100	20
1,1-Dichloroethene	ND		ug/kg	2500	590	20
trans-1,2-Dichloroethene	ND		ug/kg	3700	340	20

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-02 D
Client ID: SB018 5-7'
Sample Location: Not Specified

Date Collected: 04/10/19 13:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	ND		ug/kg	1200	340	20
1,2-Dichlorobenzene	ND		ug/kg	5000	360	20
1,3-Dichlorobenzene	ND		ug/kg	5000	370	20
1,4-Dichlorobenzene	ND		ug/kg	5000	430	20
Methyl tert butyl ether	ND		ug/kg	5000	500	20
p/m-Xylene	ND		ug/kg	5000	1400	20
o-Xylene	ND		ug/kg	2500	730	20
Xylenes, Total	ND		ug/kg	2500	730	20
cis-1,2-Dichloroethene	ND		ug/kg	2500	440	20
1,2-Dichloroethene, Total	ND		ug/kg	2500	340	20
Dibromomethane	ND		ug/kg	5000	590	20
Styrene	ND		ug/kg	2500	490	20
Dichlorodifluoromethane	ND		ug/kg	25000	2300	20
Acetone	ND		ug/kg	25000	12000	20
Carbon disulfide	ND		ug/kg	25000	11000	20
2-Butanone	ND		ug/kg	25000	5500	20
Vinyl acetate	ND		ug/kg	25000	5400	20
4-Methyl-2-pentanone	ND		ug/kg	25000	3200	20
1,2,3-Trichloropropane	ND		ug/kg	5000	320	20
2-Hexanone	ND		ug/kg	25000	2900	20
Bromochloromethane	ND		ug/kg	5000	510	20
2,2-Dichloropropane	ND		ug/kg	5000	500	20
1,2-Dibromoethane	ND		ug/kg	2500	700	20
1,3-Dichloropropane	ND		ug/kg	5000	420	20
1,1,1,2-Tetrachloroethane	ND		ug/kg	1200	330	20
Bromobenzene	ND		ug/kg	5000	360	20
n-Butylbenzene	ND		ug/kg	2500	420	20
sec-Butylbenzene	ND		ug/kg	2500	360	20
tert-Butylbenzene	ND		ug/kg	5000	290	20
o-Chlorotoluene	ND		ug/kg	5000	480	20
p-Chlorotoluene	ND		ug/kg	5000	270	20
1,2-Dibromo-3-chloropropane	ND		ug/kg	7500	2500	20
Hexachlorobutadiene	ND		ug/kg	10000	420	20
Isopropylbenzene	ND		ug/kg	2500	270	20
p-Isopropyltoluene	ND		ug/kg	2500	270	20
Naphthalene	320000		ug/kg	10000	1600	20
Acrylonitrile	ND		ug/kg	10000	2900	20

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-02 D
Client ID: SB018 5-7'
Sample Location: Not Specified

Date Collected: 04/10/19 13:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
n-Propylbenzene	ND		ug/kg	2500	430	20
1,2,3-Trichlorobenzene	ND		ug/kg	5000	800	20
1,2,4-Trichlorobenzene	ND		ug/kg	5000	680	20
1,3,5-Trimethylbenzene	760	J	ug/kg	5000	480	20
1,2,4-Trimethylbenzene	1600	J	ug/kg	5000	830	20
1,4-Dioxane	ND		ug/kg	200000	88000	20
p-Diethylbenzene	820	J	ug/kg	5000	440	20
p-Ethyltoluene	ND		ug/kg	5000	960	20
1,2,4,5-Tetramethylbenzene	ND		ug/kg	5000	480	20
Ethyl ether	ND		ug/kg	5000	850	20
trans-1,4-Dichloro-2-butene	ND		ug/kg	12000	3500	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	110		70-130

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-03
Client ID: SB019 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:15
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 04/15/19 13:42
Analyst: PK
Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	470	210	1
1,1-Dichloroethane	ND		ug/kg	93	14.	1
Chloroform	150		ug/kg	140	13.	1
Carbon tetrachloride	ND		ug/kg	93	21.	1
1,2-Dichloropropane	ND		ug/kg	93	12.	1
Dibromochloromethane	ND		ug/kg	93	13.	1
1,1,2-Trichloroethane	ND		ug/kg	93	25.	1
Tetrachloroethene	260		ug/kg	47	18.	1
Chlorobenzene	ND		ug/kg	47	12.	1
Trichlorofluoromethane	ND		ug/kg	370	65.	1
1,2-Dichloroethane	ND		ug/kg	93	24.	1
1,1,1-Trichloroethane	ND		ug/kg	47	16.	1
Bromodichloromethane	ND		ug/kg	47	10.	1
trans-1,3-Dichloropropene	ND		ug/kg	93	25.	1
cis-1,3-Dichloropropene	ND		ug/kg	47	15.	1
1,3-Dichloropropene, Total	ND		ug/kg	47	15.	1
1,1-Dichloropropene	ND		ug/kg	47	15.	1
Bromoform	ND		ug/kg	370	23.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	47	15.	1
Benzene	ND		ug/kg	47	15.	1
Toluene	ND		ug/kg	93	51.	1
Ethylbenzene	ND		ug/kg	93	13.	1
Chloromethane	ND		ug/kg	370	87.	1
Bromomethane	ND		ug/kg	190	54.	1
Vinyl chloride	ND		ug/kg	93	31.	1
Chloroethane	ND		ug/kg	190	42.	1
1,1-Dichloroethene	ND		ug/kg	93	22.	1
trans-1,2-Dichloroethene	ND		ug/kg	140	13.	1

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-03 Date Collected: 04/10/19 14:15

Client ID: SB019 0-2' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Trichloroethene	19000		ug/kg	47	13.	1
1,2-Dichlorobenzene	ND		ug/kg	190	13.	1
1,3-Dichlorobenzene	ND		ug/kg	190	14.	1
1,4-Dichlorobenzene	ND		ug/kg	190	16.	1
Methyl tert butyl ether	ND		ug/kg	190	19.	1
p/m-Xylene	ND		ug/kg	190	52.	1
o-Xylene	ND		ug/kg	93	27.	1
Xylenes, Total	ND		ug/kg	93	27.	1
cis-1,2-Dichloroethene	ND		ug/kg	93	16.	1
1,2-Dichloroethene, Total	ND		ug/kg	93	13.	1
Dibromomethane	ND		ug/kg	190	22.	1
Styrene	ND		ug/kg	93	18.	1
Dichlorodifluoromethane	ND		ug/kg	930	85.	1
Acetone	ND		ug/kg	930	450	1
Carbon disulfide	ND		ug/kg	930	420	1
2-Butanone	ND		ug/kg	930	210	1
Vinyl acetate	ND		ug/kg	930	200	1
4-Methyl-2-pentanone	ND		ug/kg	930	120	1
1,2,3-Trichloropropane	ND		ug/kg	190	12.	1
2-Hexanone	ND		ug/kg	930	110	1
Bromochloromethane	ND		ug/kg	190	19.	1
2,2-Dichloropropane	ND		ug/kg	190	19.	1
1,2-Dibromoethane	ND		ug/kg	93	26.	1
1,3-Dichloropropane	ND		ug/kg	190	16.	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	47	12.	1
Bromobenzene	ND		ug/kg	190	14.	1
n-Butylbenzene	ND		ug/kg	93	16.	1
sec-Butylbenzene	ND		ug/kg	93	14.	1
tert-Butylbenzene	ND		ug/kg	190	11.	1
o-Chlorotoluene	ND		ug/kg	190	18.	1
p-Chlorotoluene	ND		ug/kg	190	10.	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	280	93.	1
Hexachlorobutadiene	ND		ug/kg	370	16.	1
Isopropylbenzene	ND		ug/kg	93	10.	1
p-Isopropyltoluene	ND		ug/kg	93	10.	1
Naphthalene	610		ug/kg	370	61.	1
Acrylonitrile	ND		ug/kg	370	110	1

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-03 Date Collected: 04/10/19 14:15

Client ID: SB019 0-2' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
n-Propylbenzene	ND		ug/kg	93	16.	1
1,2,3-Trichlorobenzene	ND		ug/kg	190	30.	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	25.	1
1,3,5-Trimethylbenzene	ND		ug/kg	190	18.	1
1,2,4-Trimethylbenzene	ND		ug/kg	190	31.	1
1,4-Dioxane	ND		ug/kg	7500	3300	1
p-Diethylbenzene	ND		ug/kg	190	16.	1
p-Ethyltoluene	ND		ug/kg	190	36.	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	190	18.	1
Ethyl ether	ND		ug/kg	190	32.	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	470	130	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	107		70-130

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-04
Client ID: SB020 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 04/15/19 14:07
Analyst: PK
Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.7	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.57	0.22	1
Chlorobenzene	ND		ug/kg	0.57	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.5	0.79	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	0.57	0.19	1
Bromodichloromethane	ND		ug/kg	0.57	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.31	1
cis-1,3-Dichloropropene	ND		ug/kg	0.57	0.18	1
1,3-Dichloropropene, Total	ND		ug/kg	0.57	0.18	1
1,1-Dichloropropene	ND		ug/kg	0.57	0.18	1
Bromoform	ND		ug/kg	4.5	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.57	0.19	1
Benzene	ND		ug/kg	0.57	0.19	1
Toluene	ND		ug/kg	1.1	0.62	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.5	1.0	1
Bromomethane	ND		ug/kg	2.3	0.66	1
Vinyl chloride	ND		ug/kg	1.1	0.38	1
Chloroethane	ND		ug/kg	2.3	0.51	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.27	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-04 Date Collected: 04/10/19 14:30

Client ID: SB020 0-2' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.57	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.16	1
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	ND		ug/kg	2.3	0.64	1
o-Xylene	ND		ug/kg	1.1	0.33	1
Xylenes, Total	ND		ug/kg	1.1	0.33	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
1,2-Dichloroethene, Total	ND		ug/kg	1.1	0.16	1
Dibromomethane	ND		ug/kg	2.3	0.27	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	9.2	J	ug/kg	11	5.4	1
Carbon disulfide	ND		ug/kg	11	5.2	1
2-Butanone	ND		ug/kg	11	2.5	1
Vinyl acetate	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
1,2,3-Trichloropropane	ND		ug/kg	2.3	0.14	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.3	0.23	1
2,2-Dichloropropane	ND		ug/kg	2.3	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.32	1
1,3-Dichloropropane	ND		ug/kg	2.3	0.19	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.57	0.15	1
Bromobenzene	ND		ug/kg	2.3	0.16	1
n-Butylbenzene	ND		ug/kg	1.1	0.19	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
tert-Butylbenzene	ND		ug/kg	2.3	0.13	1
o-Chlorotoluene	ND		ug/kg	2.3	0.22	1
p-Chlorotoluene	ND		ug/kg	2.3	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	1.1	1
Hexachlorobutadiene	ND		ug/kg	4.5	0.19	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
Naphthalene	ND		ug/kg	4.5	0.74	1
Acrylonitrile	ND		ug/kg	4.5	1.3	1

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-04 Date Collected: 04/10/19 14:30

Client ID: SB020 0-2' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	0.38	1
1,4-Dioxane	ND		ug/kg	91	40.	1
p-Diethylbenzene	ND		ug/kg	2.3	0.20	1
p-Ethyltoluene	ND		ug/kg	2.3	0.44	1
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.3	0.22	1
Ethyl ether	ND		ug/kg	2.3	0.39	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.7	1.6	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	126		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	110		70-130

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/19 07:46
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04 Batch: WG1226413-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
1,3-Dichloropropene, Total	ND		ug/kg	0.50	0.16
1,1-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	0.74	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/19 07:46
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04 Batch: WG1226413-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	0.20	J	ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
1,2-Dichloroethene, Total	ND		ug/kg	1.0	0.14
Dibromomethane	ND		ug/kg	2.0	0.24
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
Vinyl acetate	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
1,2,3-Trichloropropane	ND		ug/kg	2.0	0.13
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
2,2-Dichloropropane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
1,3-Dichloropropane	ND		ug/kg	2.0	0.17
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	0.13
Bromobenzene	ND		ug/kg	2.0	0.14
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
o-Chlorotoluene	ND		ug/kg	2.0	0.19

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/19 07:46
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01,04 Batch: WG1226413-5					
p-Chlorotoluene	ND		ug/kg	2.0	0.11
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Hexachlorobutadiene	ND		ug/kg	4.0	0.17
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
Acrylonitrile	ND		ug/kg	4.0	1.2
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
1,4-Dioxane	ND		ug/kg	80	35.
p-Diethylbenzene	ND		ug/kg	2.0	0.18
p-Ethyltoluene	ND		ug/kg	2.0	0.38
1,2,4,5-Tetramethylbenzene	ND		ug/kg	2.0	0.19
Ethyl ether	ND		ug/kg	2.0	0.34
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	1.4

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	107		70-130

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/19 07:46
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-03 Batch: WG1226482-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
1,3-Dichloropropene, Total	ND		ug/kg	25	7.9
1,1-Dichloropropene	ND		ug/kg	25	8.0
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	37	J	ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/19 07:46
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-03 Batch: WG1226482-5					
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	10	J	ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
Xylenes, Total	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
1,2-Dichloroethene, Total	ND		ug/kg	50	6.8
Dibromomethane	ND		ug/kg	100	12.
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
Vinyl acetate	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
1,2,3-Trichloropropane	ND		ug/kg	100	6.4
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
2,2-Dichloropropane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
1,3-Dichloropropane	ND		ug/kg	100	8.4
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	6.6
Bromobenzene	ND		ug/kg	100	7.2
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
tert-Butylbenzene	ND		ug/kg	100	5.9
o-Chlorotoluene	ND		ug/kg	100	9.6

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/15/19 07:46
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02-03 Batch: WG1226482-5					
p-Chlorotoluene	ND		ug/kg	100	5.4
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Hexachlorobutadiene	ND		ug/kg	200	8.4
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
Naphthalene	ND		ug/kg	200	32.
Acrylonitrile	ND		ug/kg	200	58.
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
1,4-Dioxane	ND		ug/kg	4000	1800
p-Diethylbenzene	ND		ug/kg	100	8.8
p-Ethyltoluene	ND		ug/kg	100	19.
1,2,4,5-Tetramethylbenzene	ND		ug/kg	100	9.6
Ethyl ether	ND		ug/kg	100	17.
trans-1,4-Dichloro-2-butene	ND		ug/kg	250	71.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	107		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04 Batch: WG1226413-3 WG1226413-4								
Methylene chloride	84		81		70-130	4		30
1,1-Dichloroethane	91		90		70-130	1		30
Chloroform	96		94		70-130	2		30
Carbon tetrachloride	101		97		70-130	4		30
1,2-Dichloropropane	87		85		70-130	2		30
Dibromochloromethane	92		90		70-130	2		30
1,1,2-Trichloroethane	88		88		70-130	0		30
Tetrachloroethene	90		88		70-130	2		30
Chlorobenzene	86		85		70-130	1		30
Trichlorofluoromethane	105		101		70-139	4		30
1,2-Dichloroethane	97		95		70-130	2		30
1,1,1-Trichloroethane	98		95		70-130	3		30
Bromodichloromethane	92		92		70-130	0		30
trans-1,3-Dichloropropene	92		91		70-130	1		30
cis-1,3-Dichloropropene	90		87		70-130	3		30
1,1-Dichloropropene	92		88		70-130	4		30
Bromoform	93		90		70-130	3		30
1,1,2,2-Tetrachloroethane	84		84		70-130	0		30
Benzene	88		86		70-130	2		30
Toluene	88		86		70-130	2		30
Ethylbenzene	88		87		70-130	1		30
Chloromethane	76		74		52-130	3		30
Bromomethane	141		134		57-147	5		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04 Batch: WG1226413-3 WG1226413-4								
Vinyl chloride	87		84		67-130	4		30
Chloroethane	100		96		50-151	4		30
1,1-Dichloroethene	88		84		65-135	5		30
trans-1,2-Dichloroethene	90		86		70-130	5		30
Trichloroethene	88		87		70-130	1		30
1,2-Dichlorobenzene	86		86		70-130	0		30
1,3-Dichlorobenzene	88		88		70-130	0		30
1,4-Dichlorobenzene	87		87		70-130	0		30
Methyl tert butyl ether	95		92		66-130	3		30
p/m-Xylene	86		85		70-130	1		30
o-Xylene	86		85		70-130	1		30
cis-1,2-Dichloroethene	88		86		70-130	2		30
Dibromomethane	91		91		70-130	0		30
Styrene	85		84		70-130	1		30
Dichlorodifluoromethane	71		67		30-146	6		30
Acetone	101		99		54-140	2		30
Carbon disulfide	87		85		59-130	2		30
2-Butanone	87		87		70-130	0		30
Vinyl acetate	92		91		70-130	1		30
4-Methyl-2-pentanone	85		85		70-130	0		30
1,2,3-Trichloropropane	89		90		68-130	1		30
2-Hexanone	82		82		70-130	0		30
Bromochloromethane	93		91		70-130	2		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04 Batch: WG1226413-3 WG1226413-4								
2,2-Dichloropropane	100		98		70-130	2		30
1,2-Dibromoethane	88		87		70-130	1		30
1,3-Dichloropropane	89		87		69-130	2		30
1,1,1,2-Tetrachloroethane	90		88		70-130	2		30
Bromobenzene	89		86		70-130	3		30
n-Butylbenzene	87		86		70-130	1		30
sec-Butylbenzene	86		85		70-130	1		30
tert-Butylbenzene	86		84		70-130	2		30
o-Chlorotoluene	100		100		70-130	0		30
p-Chlorotoluene	87		87		70-130	0		30
1,2-Dibromo-3-chloropropane	87		86		68-130	1		30
Hexachlorobutadiene	91		93		67-130	2		30
Isopropylbenzene	87		86		70-130	1		30
p-Isopropyltoluene	86		85		70-130	1		30
Naphthalene	84		85		70-130	1		30
Acrylonitrile	91		92		70-130	1		30
n-Propylbenzene	87		86		70-130	1		30
1,2,3-Trichlorobenzene	88		89		70-130	1		30
1,2,4-Trichlorobenzene	89		88		70-130	1		30
1,3,5-Trimethylbenzene	87		86		70-130	1		30
1,2,4-Trimethylbenzene	86		85		70-130	1		30
1,4-Dioxane	102		105		65-136	3		30
p-Diethylbenzene	85		85		70-130	0		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01,04 Batch: WG1226413-3 WG1226413-4								
p-Ethyltoluene	87		86		70-130	1		30
1,2,4,5-Tetramethylbenzene	84		83		70-130	1		30
Ethyl ether	94		91		67-130	3		30
trans-1,4-Dichloro-2-butene	91		89		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		114		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	108		108		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-03 Batch: WG1226482-3 WG1226482-4								
Methylene chloride	84		81		70-130	4		30
1,1-Dichloroethane	91		90		70-130	1		30
Chloroform	96		94		70-130	2		30
Carbon tetrachloride	101		97		70-130	4		30
1,2-Dichloropropane	87		85		70-130	2		30
Dibromochloromethane	92		90		70-130	2		30
1,1,2-Trichloroethane	88		88		70-130	0		30
Tetrachloroethene	90		88		70-130	2		30
Chlorobenzene	86		85		70-130	1		30
Trichlorofluoromethane	105		101		70-139	4		30
1,2-Dichloroethane	97		95		70-130	2		30
1,1,1-Trichloroethane	98		95		70-130	3		30
Bromodichloromethane	92		92		70-130	0		30
trans-1,3-Dichloropropene	92		91		70-130	1		30
cis-1,3-Dichloropropene	90		87		70-130	3		30
1,1-Dichloropropene	92		88		70-130	4		30
Bromoform	93		90		70-130	3		30
1,1,2,2-Tetrachloroethane	84		84		70-130	0		30
Benzene	88		86		70-130	2		30
Toluene	88		86		70-130	2		30
Ethylbenzene	88		87		70-130	1		30
Chloromethane	76		74		52-130	3		30
Bromomethane	141		134		57-147	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914587

Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-03 Batch: WG1226482-3 WG1226482-4								
Vinyl chloride	87		84		67-130	4		30
Chloroethane	100		96		50-151	4		30
1,1-Dichloroethene	88		84		65-135	5		30
trans-1,2-Dichloroethene	90		86		70-130	5		30
Trichloroethene	88		87		70-130	1		30
1,2-Dichlorobenzene	86		86		70-130	0		30
1,3-Dichlorobenzene	88		88		70-130	0		30
1,4-Dichlorobenzene	87		87		70-130	0		30
Methyl tert butyl ether	95		92		66-130	3		30
p/m-Xylene	86		85		70-130	1		30
o-Xylene	86		85		70-130	1		30
cis-1,2-Dichloroethene	88		86		70-130	2		30
Dibromomethane	91		91		70-130	0		30
Styrene	85		84		70-130	1		30
Dichlorodifluoromethane	71		67		30-146	6		30
Acetone	101		99		54-140	2		30
Carbon disulfide	87		85		59-130	2		30
2-Butanone	87		87		70-130	0		30
Vinyl acetate	92		91		70-130	1		30
4-Methyl-2-pentanone	85		85		70-130	0		30
1,2,3-Trichloropropane	89		90		68-130	1		30
2-Hexanone	82		82		70-130	0		30
Bromochloromethane	93		91		70-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914587

Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-03 Batch: WG1226482-3 WG1226482-4								
2,2-Dichloropropane	100		98		70-130	2		30
1,2-Dibromoethane	88		87		70-130	1		30
1,3-Dichloropropane	89		87		69-130	2		30
1,1,1,2-Tetrachloroethane	90		88		70-130	2		30
Bromobenzene	89		86		70-130	3		30
n-Butylbenzene	87		86		70-130	1		30
sec-Butylbenzene	86		85		70-130	1		30
tert-Butylbenzene	86		84		70-130	2		30
o-Chlorotoluene	100		100		70-130	0		30
p-Chlorotoluene	87		87		70-130	0		30
1,2-Dibromo-3-chloropropane	87		86		68-130	1		30
Hexachlorobutadiene	91		93		67-130	2		30
Isopropylbenzene	87		86		70-130	1		30
p-Isopropyltoluene	86		85		70-130	1		30
Naphthalene	84		85		70-130	1		30
Acrylonitrile	91		92		70-130	1		30
n-Propylbenzene	87		86		70-130	1		30
1,2,3-Trichlorobenzene	88		89		70-130	1		30
1,2,4-Trichlorobenzene	89		88		70-130	1		30
1,3,5-Trimethylbenzene	87		86		70-130	1		30
1,2,4-Trimethylbenzene	86		85		70-130	1		30
1,4-Dioxane	102		105		65-136	3		30
p-Diethylbenzene	85		85		70-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914587

Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-03 Batch: WG1226482-3 WG1226482-4								
p-Ethyltoluene	87		86		70-130	1		30
1,2,4,5-Tetramethylbenzene	84		83		70-130	1		30
Ethyl ether	94		91		67-130	3		30
trans-1,4-Dichloro-2-butene	91		89		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	114		114		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	100		100		70-130
Dibromofluoromethane	108		108		70-130

SEMIVOLATILES

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-01
Client ID: SB015 4-6'
Sample Location: Not Specified

Date Collected: 04/10/19 09:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/15/19 21:10
Analyst: KR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 04/14/19 08:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	18.	1
Fluoranthene	ND		ug/kg	100	20.	1
Benzo(a)anthracene	ND		ug/kg	100	19.	1
Benzo(a)pyrene	ND		ug/kg	140	42.	1
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Benzo(k)fluoranthene	ND		ug/kg	100	27.	1
Chrysene	ND		ug/kg	100	18.	1
Acenaphthylene	ND		ug/kg	140	26.	1
Anthracene	ND		ug/kg	100	33.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	ND		ug/kg	170	17.	1
Phenanthrene	ND		ug/kg	100	21.	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	20.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	24.	1
Pyrene	ND		ug/kg	100	17.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	77		30-120
4-Terphenyl-d14	54		18-120

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-02 D2
Client ID: SB018 5-7'
Sample Location: Not Specified

Date Collected: 04/10/19 13:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/16/19 11:25
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 04/14/19 08:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Fluoranthene	470000		ug/kg	12000	2300	100
Phenanthrene	490000		ug/kg	12000	2500	100

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-02 D
Client ID: SB018 5-7'
Sample Location: Not Specified

Date Collected: 04/10/19 13:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/16/19 03:29
Analyst: ALS
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 04/14/19 08:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	64000		ug/kg	8100	1000	50
Fluoranthene	470000	E	ug/kg	6100	1200	50
Benzo(a)anthracene	230000		ug/kg	6100	1100	50
Benzo(a)pyrene	200000		ug/kg	8100	2500	50
Benzo(b)fluoranthene	250000		ug/kg	6100	1700	50
Benzo(k)fluoranthene	82000		ug/kg	6100	1600	50
Chrysene	220000		ug/kg	6100	1000	50
Acenaphthylene	16000		ug/kg	8100	1600	50
Anthracene	140000		ug/kg	6100	2000	50
Benzo(ghi)perylene	97000		ug/kg	8100	1200	50
Fluorene	72000		ug/kg	10000	990	50
Phenanthrene	520000	E	ug/kg	6100	1200	50
Dibenzo(a,h)anthracene	26000		ug/kg	6100	1200	50
Indeno(1,2,3-cd)pyrene	110000		ug/kg	8100	1400	50
Pyrene	400000		ug/kg	6100	1000	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	**0**	Q	23-120
2-Fluorobiphenyl	**0**	Q	30-120
4-Terphenyl-d14	**0**	Q	18-120

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-03 D
Client ID: SB019 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:15
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/16/19 03:54
Analyst: ALS
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 04/14/19 08:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	2800		ug/kg	1500	190	10
Fluoranthene	34000		ug/kg	1100	210	10
Benzo(a)anthracene	21000		ug/kg	1100	210	10
Benzo(a)pyrene	17000		ug/kg	1500	450	10
Benzo(b)fluoranthene	19000		ug/kg	1100	310	10
Benzo(k)fluoranthene	5800		ug/kg	1100	290	10
Chrysene	21000		ug/kg	1100	190	10
Acenaphthylene	840	J	ug/kg	1500	280	10
Anthracene	6800		ug/kg	1100	360	10
Benzo(ghi)perylene	9700		ug/kg	1500	220	10
Fluorene	2000		ug/kg	1800	180	10
Phenanthrene	40000		ug/kg	1100	220	10
Dibenzo(a,h)anthracene	2200		ug/kg	1100	210	10
Indeno(1,2,3-cd)pyrene	9000		ug/kg	1500	260	10
Pyrene	45000		ug/kg	1100	180	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	73		30-120
4-Terphenyl-d14	62		18-120

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-04
Client ID: SB020 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/15/19 21:36
Analyst: KR
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 04/14/19 08:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Fluoranthene	ND		ug/kg	110	21.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	70		30-120
4-Terphenyl-d14	67		18-120

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/16/19 02:32
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 04/13/19 18:19

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1226218-1					
Acenaphthene	ND		ug/kg	130	17.
Fluoranthene	ND		ug/kg	98	19.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		25-120
Phenol-d6	77		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	81		10-136
4-Terphenyl-d14	64		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914587

Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1226218-2 WG1226218-3								
Acenaphthene	70		57		31-137	20		50
Fluoranthene	64		52		40-140	21		50
Benzo(a)anthracene	74		62		40-140	18		50
Benzo(a)pyrene	76		65		40-140	16		50
Benzo(b)fluoranthene	69		59		40-140	16		50
Benzo(k)fluoranthene	80		67		40-140	18		50
Chrysene	74		63		40-140	16		50
Acenaphthylene	70		58		40-140	19		50
Anthracene	67		54		40-140	21		50
Benzo(ghi)perylene	71		57		40-140	22		50
Fluorene	70		57		40-140	20		50
Phenanthrene	65		53		40-140	20		50
Dibenzo(a,h)anthracene	69		55		40-140	23		50
Indeno(1,2,3-cd)pyrene	68		55		40-140	21		50
Pyrene	64		53		35-142	19		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	81		67		25-120
Phenol-d6	81		66		10-120
Nitrobenzene-d5	81		67		23-120
2-Fluorobiphenyl	68		56		30-120
2,4,6-Tribromophenol	82		68		10-136
4-Terphenyl-d14	62		50		18-120

PCBS

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-01
Client ID: SB015 4-6'
Sample Location: Not Specified

Date Collected: 04/10/19 09:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 04/16/19 07:23
Analyst: WR
Percent Solids: 95%

Extraction Method: EPA 3546
Extraction Date: 04/14/19 08:49
Cleanup Method: EPA 3665A
Cleanup Date: 04/15/19
Cleanup Method: EPA 3660B
Cleanup Date: 04/15/19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.4	3.06	1	A
Aroclor 1221	ND		ug/kg	34.4	3.45	1	A
Aroclor 1232	ND		ug/kg	34.4	7.29	1	A
Aroclor 1242	ND		ug/kg	34.4	4.64	1	A
Aroclor 1248	ND		ug/kg	34.4	5.16	1	A
Aroclor 1254	ND		ug/kg	34.4	3.76	1	A
Aroclor 1260	ND		ug/kg	34.4	6.36	1	A
Aroclor 1262	ND		ug/kg	34.4	4.37	1	A
Aroclor 1268	ND		ug/kg	34.4	3.56	1	A
PCBs, Total	ND		ug/kg	34.4	3.06	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	96		30-150	B

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 04/15/19 19:25
Analyst: WR

Extraction Method: EPA 3546
Extraction Date: 04/14/19 01:02
Cleanup Method: EPA 3665A
Cleanup Date: 04/14/19
Cleanup Method: EPA 3660B
Cleanup Date: 04/15/19

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1226240-1						
Aroclor 1016	ND		ug/kg	33.0	2.93	A
Aroclor 1221	ND		ug/kg	33.0	3.30	A
Aroclor 1232	ND		ug/kg	33.0	6.99	A
Aroclor 1242	ND		ug/kg	33.0	4.44	A
Aroclor 1248	ND		ug/kg	33.0	4.95	A
Aroclor 1254	ND		ug/kg	33.0	3.61	A
Aroclor 1260	ND		ug/kg	33.0	6.09	A
Aroclor 1262	ND		ug/kg	33.0	4.19	A
Aroclor 1268	ND		ug/kg	33.0	3.42	A
PCBs, Total	ND		ug/kg	33.0	2.93	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	76		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	85		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914587

Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1226240-2 WG1226240-3									
Aroclor 1016	76		72		40-140	5		50	A
Aroclor 1260	72		70		40-140	3		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		67		30-150	A
Decachlorobiphenyl	76		77		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		68		30-150	B
Decachlorobiphenyl	83		81		30-150	B

METALS

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-01 Date Collected: 04/10/19 09:30

Client ID: SB015 4-6' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 95%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.21		mg/kg	0.400	0.083	1	04/15/19 21:30	04/16/19 03:07	EPA 3050B	1,6010D	MC
Barium, Total	18.7		mg/kg	0.400	0.070	1	04/15/19 21:30	04/16/19 03:07	EPA 3050B	1,6010D	MC
Cadmium, Total	1.57		mg/kg	0.400	0.039	1	04/15/19 21:30	04/16/19 03:07	EPA 3050B	1,6010D	MC
Chromium, Total	9.17		mg/kg	0.400	0.038	1	04/15/19 21:30	04/16/19 03:07	EPA 3050B	1,6010D	MC
Lead, Total	3.24		mg/kg	2.00	0.107	1	04/15/19 21:30	04/16/19 03:07	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.067	0.014	1	04/12/19 06:30	04/12/19 12:47	EPA 7471B	1,7471B	GD
Selenium, Total	0.284	J	mg/kg	0.799	0.103	1	04/15/19 21:30	04/16/19 03:07	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.400	0.113	1	04/15/19 21:30	04/16/19 03:07	EPA 3050B	1,6010D	MC

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-02 Date Collected: 04/10/19 13:30

Client ID: SB018 5-7' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	6.06		mg/kg	0.464	0.097	1	04/15/19 21:30	04/16/19 03:11	EPA 3050B	1,6010D	MC
Barium, Total	64.4		mg/kg	0.464	0.081	1	04/15/19 21:30	04/16/19 03:11	EPA 3050B	1,6010D	MC
Cadmium, Total	1.38		mg/kg	0.464	0.046	1	04/15/19 21:30	04/16/19 03:11	EPA 3050B	1,6010D	MC
Chromium, Total	16.8		mg/kg	0.464	0.045	1	04/15/19 21:30	04/16/19 03:11	EPA 3050B	1,6010D	MC
Lead, Total	289		mg/kg	2.32	0.124	1	04/15/19 21:30	04/16/19 03:11	EPA 3050B	1,6010D	MC
Mercury, Total	0.372		mg/kg	0.077	0.016	1	04/12/19 06:30	04/12/19 12:49	EPA 7471B	1,7471B	GD
Selenium, Total	0.673	J	mg/kg	0.929	0.120	1	04/15/19 21:30	04/16/19 03:11	EPA 3050B	1,6010D	MC
Silver, Total	0.232	J	mg/kg	0.464	0.131	1	04/15/19 21:30	04/16/19 03:11	EPA 3050B	1,6010D	MC

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-03 Date Collected: 04/10/19 14:15

Client ID: SB019 0-2' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	4.74		mg/kg	0.430	0.090	1	04/15/19 21:30	04/16/19 03:15	EPA 3050B	1,6010D	MC
Barium, Total	147		mg/kg	0.430	0.075	1	04/15/19 21:30	04/16/19 03:15	EPA 3050B	1,6010D	MC
Cadmium, Total	0.852		mg/kg	0.430	0.042	1	04/15/19 21:30	04/16/19 03:15	EPA 3050B	1,6010D	MC
Chromium, Total	8.82		mg/kg	0.430	0.041	1	04/15/19 21:30	04/16/19 03:15	EPA 3050B	1,6010D	MC
Lead, Total	390		mg/kg	2.15	0.115	1	04/15/19 21:30	04/16/19 03:15	EPA 3050B	1,6010D	MC
Mercury, Total	1.71		mg/kg	0.070	0.015	1	04/12/19 06:30	04/12/19 12:51	EPA 7471B	1,7471B	GD
Selenium, Total	0.542	J	mg/kg	0.861	0.111	1	04/15/19 21:30	04/16/19 03:15	EPA 3050B	1,6010D	MC
Silver, Total	0.125	J	mg/kg	0.430	0.122	1	04/15/19 21:30	04/16/19 03:15	EPA 3050B	1,6010D	MC

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-04 Date Collected: 04/10/19 14:30

Client ID: SB020 0-2' Date Received: 04/10/19

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	1.45		mg/kg	0.450	0.094	1	04/15/19 21:30	04/16/19 03:20	EPA 3050B	1,6010D	MC
Barium, Total	8.76		mg/kg	0.450	0.078	1	04/15/19 21:30	04/16/19 03:20	EPA 3050B	1,6010D	MC
Cadmium, Total	0.590		mg/kg	0.450	0.044	1	04/15/19 21:30	04/16/19 03:20	EPA 3050B	1,6010D	MC
Chromium, Total	9.63		mg/kg	0.450	0.043	1	04/15/19 21:30	04/16/19 03:20	EPA 3050B	1,6010D	MC
Lead, Total	5.01		mg/kg	2.25	0.121	1	04/15/19 21:30	04/16/19 03:20	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.072	0.015	1	04/12/19 06:30	04/12/19 12:53	EPA 7471B	1,7471B	GD
Selenium, Total	0.184	J	mg/kg	0.900	0.116	1	04/15/19 21:30	04/16/19 03:20	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.450	0.127	1	04/15/19 21:30	04/16/19 03:20	EPA 3050B	1,6010D	MC

Project Name: TOT1901 **Lab Number:** L1914587

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-04 Batch: WG1225680-1										
Mercury, Total	ND		mg/kg	0.083	0.018	1	04/12/19 06:30	04/12/19 11:59	1,7471B	GD

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-04 Batch: WG1226624-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	04/15/19 21:30	04/16/19 00:21	1,6010D	MC
Barium, Total	ND		mg/kg	0.400	0.070	1	04/15/19 21:30	04/16/19 00:21	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	04/15/19 21:30	04/16/19 00:21	1,6010D	MC
Chromium, Total	ND		mg/kg	0.400	0.038	1	04/15/19 21:30	04/16/19 00:21	1,6010D	MC
Lead, Total	ND		mg/kg	2.00	0.107	1	04/15/19 21:30	04/16/19 00:21	1,6010D	MC
Selenium, Total	ND		mg/kg	0.800	0.103	1	04/15/19 21:30	04/16/19 00:21	1,6010D	MC
Silver, Total	ND		mg/kg	0.400	0.113	1	04/15/19 21:30	04/16/19 00:21	1,6010D	MC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914587

Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1225680-2 SRM Lot Number: D101-540								
Mercury, Total	110		-		65-135	-		
Total Metals - Mansfield Lab Associated sample(s): 01-04 Batch: WG1226624-2 SRM Lot Number: D101-540								
Arsenic, Total	107		-		83-117	-		
Barium, Total	97		-		83-118	-		
Cadmium, Total	100		-		83-117	-		
Chromium, Total	95		-		81-118	-		
Lead, Total	102		-		83-117	-		
Selenium, Total	103		-		79-121	-		
Silver, Total	102		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1225680-3 QC Sample: L1914578-01 Client ID: MS Sample												
Mercury, Total	ND	0.137	0.161	118		-	-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1226624-3 QC Sample: L1914578-01 Client ID: MS Sample												
Arsenic, Total	3.83	10.1	14.0	100		-	-		75-125	-		20
Barium, Total	55.2	168	202	87		-	-		75-125	-		20
Cadmium, Total	0.546	4.3	4.28	87		-	-		75-125	-		20
Chromium, Total	21.0	16.8	36.3	91		-	-		75-125	-		20
Lead, Total	3.26	43	37.4	79		-	-		75-125	-		20
Selenium, Total	0.199J	10.1	9.26	92		-	-		75-125	-		20
Silver, Total	ND	25.3	24.2	96		-	-		75-125	-		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1225680-4 QC Sample: L1914578-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1226624-4 QC Sample: L1914578-01 Client ID: DUP Sample						
Arsenic, Total	3.83	2.71	mg/kg	**34**	Q	20
Barium, Total	55.2	63.5	mg/kg	14		20
Cadmium, Total	0.546	0.616	mg/kg	12		20
Chromium, Total	21.0	25.5	mg/kg	19		20
Lead, Total	3.26	2.74	mg/kg	17		20
Selenium, Total	0.199J	0.154J	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20

INORGANICS
&
MISCELLANEOUS

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-01
Client ID: SB015 4-6'
Sample Location: Not Specified

Date Collected: 04/10/19 09:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.6		%	0.100	NA	1	-	04/11/19 14:11	121,2540G	RI

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-02
Client ID: SB018 5-7'
Sample Location: Not Specified

Date Collected: 04/10/19 13:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.5		%	0.100	NA	1	-	04/11/19 14:11	121,2540G	RI

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-03
Client ID: SB019 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:15
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.4		%	0.100	NA	1	-	04/11/19 14:11	121,2540G	RI

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

SAMPLE RESULTS

Lab ID: L1914587-04
Client ID: SB020 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:30
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.8		%	0.100	NA	1	-	04/11/19 14:11	121,2540G	RI

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-04 QC Batch ID: WG1225478-1 QC Sample: L1914570-01 Client ID: DUP Sample						
Solids, Total	81.2	80.7	%	1		20

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1914587-01A	Vial MeOH preserved	A	NA		3.8	Y	Absent		NYTCL-8260HLW(14)
L1914587-01B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYTCL-8260HLW(14)
L1914587-01C	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYTCL-8260HLW(14)
L1914587-01D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L1914587-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1914587-01F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		NYCP51-PAH(14),NYTCL-8082(14),HOLD-8082()
L1914587-02A	Vial MeOH preserved	A	NA		3.8	Y	Absent		NYTCL-8260HLW(14)
L1914587-02B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYTCL-8260HLW(14)
L1914587-02C	Vial water preserved	A	NA		3.8	Y	Absent	12-APR-19 03:05	NYTCL-8260HLW(14)
L1914587-02D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L1914587-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1914587-02F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		NYCP51-PAH(14)
L1914587-03A	Vial MeOH preserved	A	NA		3.8	Y	Absent		NYTCL-8260HLW(14)
L1914587-03B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYTCL-8260HLW(14)
L1914587-03C	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYTCL-8260HLW(14)
L1914587-03D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L1914587-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1914587-03F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		NYCP51-PAH(14)
L1914587-04A	Vial MeOH preserved	A	NA		3.8	Y	Absent		NYTCL-8260HLW(14)
L1914587-04B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYTCL-8260HLW(14)

*Values in parentheses indicate holding time in days

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914587
Report Date: 04/24/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1914587-04C	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYTCL-8260HLW(14)
L1914587-04D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L1914587-04E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L1914587-04F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		NYCP51-PAH(14)

*Values in parentheses indicate holding time in days

Project Name:	TOT1901	**Lab Number:**	L1914587
Project Number:	TOT1901	**Report Date:**	04/24/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

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

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

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	TOT1901	**Lab Number:**	L1914587
Project Number:	TOT1901	**Report Date:**	04/24/19

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

Terms

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	TOT1901	**Lab Number:**	L1914587
Project Number:	TOT1901	**Report Date:**	04/24/19

REFERENCES

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

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

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

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

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

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

ALPHA ANALYTICAL

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

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

NEW YORK CHAIN OF CUSTODY

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

Page of

Date Rec'd in Lab: 4/11/19

ALPHA Job #: L1914587

Client Information
Client: P.W. Grosser
Address: 630 Johnson Bohemia NY
Phone: 631 589 6353
Fax:
Email: hmoran-botta@pwgrosser.com

Project Information
Project Name: TOT1401
Project Location:
Project #: TOT1401
(Use Project name as Project #)
Project Manager: Heather Moran Botta
ALPHAQuote #:

Turn-Around Time
Standard [X] Due Date:
Rush (only if pre approved) [ ] # of Days:

Deliverables
[ ] ASP-A [ ] ASP-B
[ ] EQuIS (1 File) [ ] EQuIS (4 File)
[ ] Other

Regulatory Requirement
[ ] NY TOGS [X] NY Part 375
[ ] AWQ Standards [X] NY CP-51
[X] NY Restricted Use [ ] Other
[X] NY Unrestricted Use
[ ] NYC Sewer Discharge

Billing Information
[X] Same as Client Info
PO #

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
[ ] NJ [ ] NY
[ ] Other:

These samples have been previously analyzed by Alpha [ ]

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs	CP-51 SVOCs	RCRA Metals	PCBs	Sample Specific Comments	Total Bottle
14587-01	SB015 4-6'	4/10/19	0930	Soil	MG	x	x	x	x	Hold PCBs only	
-02	SB018 5-7'		1330			x	x	x			
-03	SB019 0-2'		1415			x	x	x			
-04	SB020 0-2'		1430			x	x	x			

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

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

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

Container Type									
Preservative									

Relinquished By:	Date/Time	Received By:	Date/Time
	4/10/19 1615		4/10 1615
	4/10 1642		4/10/19 1922
	4/11/19 0245		4/11/19 0245

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

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

ANALYTICAL REPORT

Lab Number:	L1914588
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	Heather Moran-Botta
Phone:	(631) 589-6353
Project Name:	TOT1901
Project Number:	TOT1901
Report Date:	04/24/19

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

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

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914588
Report Date: 04/24/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1914588-01	SB016 0-2'	SOIL	Not Specified	04/10/19 10:05	04/10/19
L1914588-02	SB016 8-10'	SOIL	Not Specified	04/10/19 10:20	04/10/19
L1914588-03	SB017 4-6'	SOIL	Not Specified	04/10/19 11:00	04/10/19
L1914588-04	SB021 0-2'	SOIL	Not Specified	04/10/19 14:40	04/10/19

Project Name:	TOT1901	**Lab Number:**	L1914588
Project Number:	TOT1901	**Report Date:**	04/24/19

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TOT1901	**Lab Number:**	L1914588
Project Number:	TOT1901	**Report Date:**	04/24/19

Case Narrative (continued)

Report Submission

April 24, 2019: This final report includes the results of all requested analyses.

April 16, 2019: This is a preliminary report.

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

Sample Receipt

L1914588-04: At the client's request, the Volatile Organics and Semivolatile Organics analyses were performed.

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

Authorized Signature: Melissa Cripps

Title: Technical Director/Representative Date: 04/24/19

ORGANICS

VOLATILES

Project Name: TOT1901 **Lab Number:** L1914588

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914588-04
Client ID: SB021 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:40
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 04/16/19 11:10
Analyst: JC
Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Benzene	ND		ug/kg	0.90	0.30	1
Toluene	2.9		ug/kg	1.8	0.98	1
Ethylbenzene	ND		ug/kg	1.8	0.26	1
p/m-Xylene	ND		ug/kg	3.6	1.0	1
o-Xylene	ND		ug/kg	1.8	0.53	1
Xylenes, Total	ND		ug/kg	1.8	0.53	1
n-Butylbenzene	ND		ug/kg	1.8	0.30	1
sec-Butylbenzene	ND		ug/kg	1.8	0.26	1
tert-Butylbenzene	ND		ug/kg	3.6	0.21	1
Isopropylbenzene	ND		ug/kg	1.8	0.20	1
p-Isopropyltoluene	ND		ug/kg	1.8	0.20	1
Naphthalene	ND		ug/kg	7.2	1.2	1
n-Propylbenzene	ND		ug/kg	1.8	0.31	1
1,3,5-Trimethylbenzene	0.52	J	ug/kg	3.6	0.35	1
1,2,4-Trimethylbenzene	1.8	J	ug/kg	3.6	0.60	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	99		70-130

Project Name: TOT1901 **Lab Number:** L1914588

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 04/16/19 08:34
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 04 Batch: WG1226794-5					
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
Xylenes, Total	ND		ug/kg	1.0	0.29
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
tert-Butylbenzene	ND		ug/kg	2.0	0.12
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914588
Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 04 Batch: WG1226794-3 WG1226794-4								
Benzene	110		97		70-130	13		30
Toluene	106		92		70-130	14		30
Ethylbenzene	104		91		70-130	13		30
p/m-Xylene	97		85		70-130	13		30
o-Xylene	96		85		70-130	12		30
n-Butylbenzene	111		96		70-130	14		30
sec-Butylbenzene	106		91		70-130	15		30
tert-Butylbenzene	100		86		70-130	15		30
Isopropylbenzene	104		90		70-130	14		30
p-Isopropyltoluene	100		86		70-130	15		30
Naphthalene	82		78		70-130	5		30
n-Propylbenzene	111		95		70-130	16		30
1,3,5-Trimethylbenzene	105		91		70-130	14		30
1,2,4-Trimethylbenzene	102		89		70-130	14		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	110		108		70-130
Toluene-d8	103		102		70-130
4-Bromofluorobenzene	113		110		70-130
Dibromofluoromethane	100		100		70-130

SEMIVOLATILES

Project Name: TOT1901 **Lab Number:** L1914588

Project Number: TOT1901 **Report Date:** 04/24/19

SAMPLE RESULTS

Lab ID: L1914588-04
Client ID: SB021 0-2'
Sample Location: Not Specified

Date Collected: 04/10/19 14:40
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 04/15/19 22:27
Analyst: KR
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 04/14/19 08:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	19.	1
Fluoranthene	130		ug/kg	110	21.	1
Benzo(a)anthracene	77	J	ug/kg	110	20.	1
Benzo(a)pyrene	68	J	ug/kg	140	44.	1
Benzo(b)fluoranthene	89	J	ug/kg	110	30.	1
Benzo(k)fluoranthene	32	J	ug/kg	110	29.	1
Chrysene	78	J	ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	ND		ug/kg	110	35.	1
Benzo(ghi)perylene	37	J	ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	94	J	ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	43	J	ug/kg	140	25.	1
Pyrene	120		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	69		30-120
4-Terphenyl-d14	58		18-120

Project Name: TOT1901 **Lab Number:** L1914588

Project Number: TOT1901 **Report Date:** 04/24/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 04/16/19 02:32
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 04/13/19 18:19

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1226218-1					
Acenaphthene	ND		ug/kg	130	17.
Fluoranthene	ND		ug/kg	98	19.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		25-120
Phenol-d6	77		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	81		10-136
4-Terphenyl-d14	64		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914588

Report Date: 04/24/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1226218-2 WG1226218-3								
Acenaphthene	70		57		31-137	20		50
Fluoranthene	64		52		40-140	21		50
Benzo(a)anthracene	74		62		40-140	18		50
Benzo(a)pyrene	76		65		40-140	16		50
Benzo(b)fluoranthene	69		59		40-140	16		50
Benzo(k)fluoranthene	80		67		40-140	18		50
Chrysene	74		63		40-140	16		50
Acenaphthylene	70		58		40-140	19		50
Anthracene	67		54		40-140	21		50
Benzo(ghi)perylene	71		57		40-140	22		50
Fluorene	70		57		40-140	20		50
Phenanthrene	65		53		40-140	20		50
Dibenzo(a,h)anthracene	69		55		40-140	23		50
Indeno(1,2,3-cd)pyrene	68		55		40-140	21		50
Pyrene	64		53		35-142	19		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	81		67		25-120
Phenol-d6	81		66		10-120
Nitrobenzene-d5	81		67		23-120
2-Fluorobiphenyl	68		56		30-120
2,4,6-Tribromophenol	82		68		10-136
4-Terphenyl-d14	62		50		18-120

INORGANICS
&
MISCELLANEOUS

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914588
Report Date: 04/24/19

SAMPLE RESULTS

Lab ID: L1914588-04
Client ID: SB021 0-2'
Sample Location: Not Specified

Sample Depth:
Matrix: Soil

Date Collected: 04/10/19 14:40
Date Received: 04/10/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.2		%	0.100	NA	1	-	04/12/19 05:21	121,2540G	YA

Lab Duplicate Analysis

Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914588
Report Date: 04/24/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04 QC Batch ID: WG1225684-1 QC Sample: L1914955-01 Client ID: DUP Sample						
Solids, Total	63.7	67.4	%	6		20

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914588
Report Date: 04/24/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1914588-01A	Vial MeOH preserved	A	NA		3.8	Y	Absent		HOLD-8260HLW(14)
L1914588-01B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	HOLD-8260HLW(14)
L1914588-01C	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	HOLD-8260HLW(14)
L1914588-01D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		HOLD-CONTINGENCY(14)
L1914588-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		HOLD-METAL(180)
L1914588-01F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HOLD-CONTINGENCY(14)
L1914588-02A	Vial MeOH preserved	A	NA		3.8	Y	Absent		HOLD-8260HLW(14)
L1914588-02B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	HOLD-8260HLW(14)
L1914588-02C	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	HOLD-8260HLW(14)
L1914588-02D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		HOLD-CONTINGENCY(14)
L1914588-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		HOLD-METAL(180)
L1914588-02F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HOLD-CONTINGENCY(14)
L1914588-03A	Vial MeOH preserved	A	NA		3.8	Y	Absent		HOLD-8260HLW(14)
L1914588-03B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	HOLD-8260HLW(14)
L1914588-03C	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	HOLD-8260HLW(14)
L1914588-03D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		HOLD-CONTINGENCY(14)
L1914588-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.8	Y	Absent		HOLD-METAL(180)
L1914588-03F	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		HOLD-CONTINGENCY(14)
L1914588-04A	Vial MeOH preserved	A	NA		3.8	Y	Absent		NYCP51-8260HLW(14)
L1914588-04B	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYCP51-8260HLW(14)
L1914588-04C	Vial water preserved	A	NA		3.8	Y	Absent	11-APR-19 10:49	NYCP51-8260HLW(14)
L1914588-04D	Plastic 2oz unpreserved for TS	A	NA		3.8	Y	Absent		TS(7)
L1914588-04E	Glass 120ml/4oz unpreserved	A	NA		3.8	Y	Absent		NYCP51-PAH(14)

*Values in parentheses indicate holding time in days

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914588
Report Date: 04/24/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)

*Values in parentheses indicate holding time in days

Project Name:	TOT1901	**Lab Number:**	L1914588
Project Number:	TOT1901	**Report Date:**	04/24/19

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name:	TOT1901	**Lab Number:**	L1914588
Project Number:	TOT1901	**Report Date:**	04/24/19

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

Terms

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

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

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

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

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	TOT1901	**Lab Number:**	L1914588
Project Number:	TOT1901	**Report Date:**	04/24/19

REFERENCES

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

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

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

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

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

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

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

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

ALPHA ANALYTICAL

NEW YORK CHAIN OF CUSTODY

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

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

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

Page of

Date Rec'd in Lab: 4/11/19

ALPHA Job #: L1914588

Client Information
Client: PW Grosser
Address: 630 Johnson Bohemia NY
Phone: 631 589 6353
Fax:
Email: hmeehan-botta@pwgrosser.com

Project Information
Project Name: TOT 901
Project Location:
Project #: TOT 901
(Use Project name as Project #) ☐
Project Manager: Heather Meehan Botta
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

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

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

Billing Information
☒ Same as Client Info
PO #

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

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

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

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TCL VOCs	CP-51 VOCs	CP-51 SVOCs	RCRA Metals	PCBs	Sample Specific Comments	Total Bottle
14588-01	SB016 0-2'	4/10/19	1005	Soil	MG	x		x	x	x	Hold	
-02	SB010 8-10'		1020			x		x	x	x	Hold	
-03	SB017 4-0'		1100			x		x	x	x	Hold	
-04	SB021 0-2'		1440				x	x			Hold	

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

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

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

Container Type											
Preservative											

Relinquished By:	Date/Time	Received By:	Date/Time
	4/10/19 1615	Pamela Jackson MAL	4/10 1615
	4/10 1842		4/10/19 2220
	4/11/19 0245		4/11/19 0245

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

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

ANALYTICAL REPORT

Lab Number:	L1914646
Client:	P. W. Grosser 630 Johnson Avenue Suite 7 Bohemia, NY 11716
ATTN:	Heather Moran-Botta
Phone:	(631) 589-6353
Project Name:	TOT1901
Project Number:	TOT1901
Report Date:	04/17/19

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1914646-01	SS004	SOIL_VAPOR	1645 ATLANTIC AVE.	04/10/19 13:50	04/10/19
L1914646-02	SS005	SOIL_VAPOR	1645 ATLANTIC AVE.	04/10/19 13:55	04/10/19
L1914646-03	SV001	SOIL_VAPOR	1645 ATLANTIC AVE.	04/10/19 14:17	04/10/19

Project Name:	TOT1901	**Lab Number:**	L1914646
Project Number:	TOT1901	**Report Date:**	04/17/19

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	TOT1901	**Lab Number:**	L1914646
Project Number:	TOT1901	**Report Date:**	04/17/19

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on April 10, 2019. The canister certification results are provided as an addendum.

L1914646-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

L1914646-03: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

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

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 04/17/19

AIR

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-01 D
Client ID: SS004
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 13:50
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/17/19 14:37
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	12.2	--	ND	60.3	--		60.98
Chloromethane	ND	12.2	--	ND	25.2	--		60.98
Freon-114	ND	12.2	--	ND	85.3	--		60.98
Vinyl chloride	ND	12.2	--	ND	31.2	--		60.98
1,3-Butadiene	ND	12.2	--	ND	27.0	--		60.98
Bromomethane	ND	12.2	--	ND	47.4	--		60.98
Chloroethane	ND	12.2	--	ND	32.2	--		60.98
Ethanol	ND	305	--	ND	575	--		60.98
Vinyl bromide	ND	12.2	--	ND	53.3	--		60.98
Acetone	187	61.0	--	444	145	--		60.98
Trichlorofluoromethane	ND	12.2	--	ND	68.6	--		60.98
Isopropanol	ND	30.5	--	ND	75.0	--		60.98
1,1-Dichloroethene	ND	12.2	--	ND	48.4	--		60.98
Tertiary butyl Alcohol	ND	30.5	--	ND	92.5	--		60.98
Methylene chloride	ND	30.5	--	ND	106	--		60.98
3-Chloropropene	ND	12.2	--	ND	38.2	--		60.98
Carbon disulfide	ND	12.2	--	ND	38.0	--		60.98
Freon-113	ND	12.2	--	ND	93.5	--		60.98
trans-1,2-Dichloroethene	ND	12.2	--	ND	48.4	--		60.98
1,1-Dichloroethane	ND	12.2	--	ND	49.4	--		60.98
Methyl tert butyl ether	ND	12.2	--	ND	44.0	--		60.98
2-Butanone	ND	30.5	--	ND	90.0	--		60.98
cis-1,2-Dichloroethene	ND	12.2	--	ND	48.4	--		60.98

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-01 D
Client ID: SS004
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 13:50
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	30.5	--	ND	110	--		60.98
Chloroform	ND	12.2	--	ND	59.6	--		60.98
Tetrahydrofuran	ND	30.5	--	ND	90.0	--		60.98
1,2-Dichloroethane	ND	12.2	--	ND	49.4	--		60.98
n-Hexane	4030	12.2	--	14200	43.0	--		60.98
1,1,1-Trichloroethane	ND	12.2	--	ND	66.6	--		60.98
Benzene	ND	12.2	--	ND	39.0	--		60.98
Carbon tetrachloride	ND	12.2	--	ND	76.7	--		60.98
Cyclohexane	ND	12.2	--	ND	42.0	--		60.98
1,2-Dichloropropane	ND	12.2	--	ND	56.4	--		60.98
Bromodichloromethane	ND	12.2	--	ND	81.7	--		60.98
1,4-Dioxane	ND	12.2	--	ND	44.0	--		60.98
Trichloroethene	12.3	12.2	--	66.1	65.6	--		60.98
2,2,4-Trimethylpentane	ND	12.2	--	ND	57.0	--		60.98
Heptane	20.1	12.2	--	82.4	50.0	--		60.98
cis-1,3-Dichloropropene	ND	12.2	--	ND	55.4	--		60.98
4-Methyl-2-pentanone	ND	30.5	--	ND	125	--		60.98
trans-1,3-Dichloropropene	ND	12.2	--	ND	55.4	--		60.98
1,1,2-Trichloroethane	ND	12.2	--	ND	66.6	--		60.98
Toluene	58.1	12.2	--	219	46.0	--		60.98
2-Hexanone	ND	12.2	--	ND	50.0	--		60.98
Dibromochloromethane	ND	12.2	--	ND	104	--		60.98
1,2-Dibromoethane	ND	12.2	--	ND	93.8	--		60.98
Tetrachloroethene	72.6	12.2	--	492	82.7	--		60.98
Chlorobenzene	ND	12.2	--	ND	56.2	--		60.98
Ethylbenzene	ND	12.2	--	ND	53.0	--		60.98

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-01 D
Client ID: SS004
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 13:50
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	ND	24.4	--	ND	106	--		60.98
Bromoform	ND	12.2	--	ND	126	--		60.98
Styrene	ND	12.2	--	ND	51.9	--		60.98
1,1,2,2-Tetrachloroethane	ND	12.2	--	ND	83.8	--		60.98
o-Xylene	ND	12.2	--	ND	53.0	--		60.98
4-Ethyltoluene	ND	12.2	--	ND	60.0	--		60.98
1,3,5-Trimethylbenzene	ND	12.2	--	ND	60.0	--		60.98
1,2,4-Trimethylbenzene	ND	12.2	--	ND	60.0	--		60.98
Benzyl chloride	ND	12.2	--	ND	63.2	--		60.98
1,3-Dichlorobenzene	ND	12.2	--	ND	73.3	--		60.98
1,4-Dichlorobenzene	ND	12.2	--	ND	73.3	--		60.98
1,2-Dichlorobenzene	ND	12.2	--	ND	73.3	--		60.98
1,2,4-Trichlorobenzene	ND	12.2	--	ND	90.6	--		60.98
Hexachlorobutadiene	ND	12.2	--	ND	130	--		60.98

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	100		60-140
Bromochloromethane	102		60-140
chlorobenzene-d5	101		60-140

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-02
Client ID: SS005
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 13:55
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/17/19 13:36
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.354	0.200	--	1.75	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	6.26	5.00	--	11.8	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	30.6	1.00	--	72.7	2.38	--		1
Trichlorofluoromethane	0.261	0.200	--	1.47	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	0.211	0.200	--	0.657	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	15.0	0.500	--	44.2	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-02
Client ID: SS005
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 13:55
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	1.92	0.200	--	9.38	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	0.650	0.200	--	2.29	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	0.435	0.200	--	1.39	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	0.453	0.200	--	1.56	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	71.8	0.200	--	386	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	0.482	0.200	--	1.98	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	0.513	0.500	--	2.10	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	0.910	0.200	--	3.43	0.754	--		1
2-Hexanone	2.56	0.200	--	10.5	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	0.953	0.200	--	6.46	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	0.401	0.200	--	1.74	0.869	--		1

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-02
Client ID: SS005
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 13:55
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	1.76	0.400	--	7.64	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	1.35	0.200	--	5.75	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	0.712	0.200	--	3.09	0.869	--		1
4-Ethyltoluene	0.202	0.200	--	0.993	0.983	--		1
1,3,5-Trimethylbenzene	0.207	0.200	--	1.02	0.983	--		1
1,2,4-Trimethylbenzene	0.753	0.200	--	3.70	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	88		60-140
Bromochloromethane	91		60-140
chlorobenzene-d5	90		60-140

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-03 D
Client ID: SV001
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 14:17
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15
Analytical Date: 04/17/19 14:06
Analyst: RY

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	0.667	--	ND	3.30	--		3.333
Chloromethane	ND	0.667	--	ND	1.38	--		3.333
Freon-114	ND	0.667	--	ND	4.66	--		3.333
Vinyl chloride	ND	0.667	--	ND	1.71	--		3.333
1,3-Butadiene	ND	0.667	--	ND	1.48	--		3.333
Bromomethane	ND	0.667	--	ND	2.59	--		3.333
Chloroethane	ND	0.667	--	ND	1.76	--		3.333
Ethanol	96.5	16.7	--	182	31.5	--		3.333
Vinyl bromide	ND	0.667	--	ND	2.92	--		3.333
Acetone	350	3.33	--	831	7.91	--		3.333
Trichlorofluoromethane	ND	0.667	--	ND	3.75	--		3.333
Isopropanol	21.7	1.67	--	53.3	4.10	--		3.333
1,1-Dichloroethene	ND	0.667	--	ND	2.64	--		3.333
Tertiary butyl Alcohol	4.30	1.67	--	13.0	5.06	--		3.333
Methylene chloride	ND	1.67	--	ND	5.80	--		3.333
3-Chloropropene	ND	0.667	--	ND	2.09	--		3.333
Carbon disulfide	4.78	0.667	--	14.9	2.08	--		3.333
Freon-113	ND	0.667	--	ND	5.11	--		3.333
trans-1,2-Dichloroethene	ND	0.667	--	ND	2.64	--		3.333
1,1-Dichloroethane	ND	0.667	--	ND	2.70	--		3.333
Methyl tert butyl ether	ND	0.667	--	ND	2.40	--		3.333
2-Butanone	241	1.67	--	711	4.93	--		3.333
cis-1,2-Dichloroethene	ND	0.667	--	ND	2.64	--		3.333

Project Name: TOT1901 ***Lab Number:*** L1914646

Project Number: TOT1901 ***Report Date:*** 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-03 D
Client ID: SV001
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 14:17
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Ethyl Acetate	ND	1.67	--	ND	6.02	--		3.333
Chloroform	ND	0.667	--	ND	3.26	--		3.333
Tetrahydrofuran	8.04	1.67	--	23.7	4.93	--		3.333
1,2-Dichloroethane	ND	0.667	--	ND	2.70	--		3.333
n-Hexane	5.90	0.667	--	20.8	2.35	--		3.333
1,1,1-Trichloroethane	ND	0.667	--	ND	3.64	--		3.333
Benzene	1.28	0.667	--	4.09	2.13	--		3.333
Carbon tetrachloride	ND	0.667	--	ND	4.20	--		3.333
Cyclohexane	1.98	0.667	--	6.82	2.30	--		3.333
1,2-Dichloropropane	ND	0.667	--	ND	3.08	--		3.333
Bromodichloromethane	ND	0.667	--	ND	4.47	--		3.333
1,4-Dioxane	ND	0.667	--	ND	2.40	--		3.333
Trichloroethene	1.15	0.667	--	6.18	3.58	--		3.333
2,2,4-Trimethylpentane	10.6	0.667	--	49.5	3.12	--		3.333
Heptane	10.4	0.667	--	42.6	2.73	--		3.333
cis-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--		3.333
4-Methyl-2-pentanone	ND	1.67	--	ND	6.84	--		3.333
trans-1,3-Dichloropropene	ND	0.667	--	ND	3.03	--		3.333
1,1,2-Trichloroethane	ND	0.667	--	ND	3.64	--		3.333
Toluene	5.53	0.667	--	20.8	2.51	--		3.333
2-Hexanone	19.5	0.667	--	79.9	2.73	--		3.333
Dibromochloromethane	ND	0.667	--	ND	5.68	--		3.333
1,2-Dibromoethane	ND	0.667	--	ND	5.13	--		3.333
Tetrachloroethene	ND	0.667	--	ND	4.52	--		3.333
Chlorobenzene	ND	0.667	--	ND	3.07	--		3.333
Ethylbenzene	3.58	0.667	--	15.5	2.90	--		3.333

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

SAMPLE RESULTS

Lab ID: L1914646-03 D
Client ID: SV001
Sample Location: 1645 ATLANTIC AVE.

Date Collected: 04/10/19 14:17
Date Received: 04/10/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
p/m-Xylene	10.4	1.33	--	45.2	5.78	--		3.333
Bromoform	ND	0.667	--	ND	6.90	--		3.333
Styrene	0.970	0.667	--	4.13	2.84	--		3.333
1,1,2,2-Tetrachloroethane	ND	0.667	--	ND	4.58	--		3.333
o-Xylene	4.31	0.667	--	18.7	2.90	--		3.333
4-Ethyltoluene	ND	0.667	--	ND	3.28	--		3.333
1,3,5-Trimethylbenzene	ND	0.667	--	ND	3.28	--		3.333
1,2,4-Trimethylbenzene	1.46	0.667	--	7.18	3.28	--		3.333
Benzyl chloride	ND	0.667	--	ND	3.45	--		3.333
1,3-Dichlorobenzene	ND	0.667	--	ND	4.01	--		3.333
1,4-Dichlorobenzene	ND	0.667	--	ND	4.01	--		3.333
1,2-Dichlorobenzene	ND	0.667	--	ND	4.01	--		3.333
1,2,4-Trichlorobenzene	ND	0.667	--	ND	4.95	--		3.333
Hexachlorobutadiene	ND	0.667	--	ND	7.11	--		3.333

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	90		60-140
Bromochloromethane	92		60-140
chlorobenzene-d5	93		60-140

Project Name: TOT1901 **Lab Number:** L1914646

Project Number: TOT1901 **Report Date:** 04/17/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/17/19 09:13

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1227262-4								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: TOT1901 **Lab Number:** L1914646

Project Number: TOT1901 **Report Date:** 04/17/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/17/19 09:13

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1227262-4								
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1

Project Name: TOT1901 **Lab Number:** L1914646

Project Number: TOT1901 **Report Date:** 04/17/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15
Analytical Date: 04/17/19 09:13

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab for sample(s): 01-03 Batch: WG1227262-4								
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Lab Control Sample Analysis

Batch Quality Control

Project Name: TOT1901

Project Number: TOT1901

Lab Number: L1914646

Report Date: 04/17/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1227262-3								
Propylene	120		-		70-130	-		
Dichlorodifluoromethane	90		-		70-130	-		
Chloromethane	103		-		70-130	-		
Freon-114	105		-		70-130	-		
Vinyl chloride	103		-		70-130	-		
1,3-Butadiene	117		-		70-130	-		
Bromomethane	101		-		70-130	-		
Chloroethane	106		-		70-130	-		
Ethanol	86		-		40-160	-		
Vinyl bromide	101		-		70-130	-		
Acetone	84		-		40-160	-		
Trichlorofluoromethane	104		-		70-130	-		
Isopropanol	91		-		40-160	-		
1,1-Dichloroethene	105		-		70-130	-		
Tertiary butyl Alcohol	99		-		70-130	-		
Methylene chloride	98		-		70-130	-		
3-Chloropropene	106		-		70-130	-		
Carbon disulfide	96		-		70-130	-		
Freon-113	103		-		70-130	-		
trans-1,2-Dichloroethene	105		-		70-130	-		
1,1-Dichloroethane	106		-		70-130	-		
Methyl tert butyl ether	110		-		70-130	-		
Vinyl acetate	118		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1227262-3								
2-Butanone	106		-		70-130	-		
cis-1,2-Dichloroethene	116		-		70-130	-		
Ethyl Acetate	113		-		70-130	-		
Chloroform	107		-		70-130	-		
Tetrahydrofuran	112		-		70-130	-		
1,2-Dichloroethane	105		-		70-130	-		
n-Hexane	101		-		70-130	-		
1,1,1-Trichloroethane	106		-		70-130	-		
Benzene	104		-		70-130	-		
Carbon tetrachloride	106		-		70-130	-		
Cyclohexane	106		-		70-130	-		
1,2-Dichloropropane	108		-		70-130	-		
Bromodichloromethane	104		-		70-130	-		
1,4-Dioxane	108		-		70-130	-		
Trichloroethene	103		-		70-130	-		
2,2,4-Trimethylpentane	106		-		70-130	-		
Heptane	99		-		70-130	-		
cis-1,3-Dichloropropene	115		-		70-130	-		
4-Methyl-2-pentanone	109		-		70-130	-		
trans-1,3-Dichloropropene	100		-		70-130	-		
1,1,2-Trichloroethane	108		-		70-130	-		
Toluene	105		-		70-130	-		
2-Hexanone	111		-		70-130	-		

Lab Control Sample Analysis
Batch Quality Control

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-03 Batch: WG1227262-3								
Dibromochloromethane	106		-		70-130	-		
1,2-Dibromoethane	107		-		70-130	-		
Tetrachloroethene	104		-		70-130	-		
Chlorobenzene	106		-		70-130	-		
Ethylbenzene	107		-		70-130	-		
p/m-Xylene	108		-		70-130	-		
Bromoform	106		-		70-130	-		
Styrene	109		-		70-130	-		
1,1,2,2-Tetrachloroethane	110		-		70-130	-		
o-Xylene	108		-		70-130	-		
4-Ethyltoluene	103		-		70-130	-		
1,3,5-Trimethylbenzene	106		-		70-130	-		
1,2,4-Trimethylbenzene	110		-		70-130	-		
Benzyl chloride	111		-		70-130	-		
1,3-Dichlorobenzene	107		-		70-130	-		
1,4-Dichlorobenzene	106		-		70-130	-		
1,2-Dichlorobenzene	106		-		70-130	-		
1,2,4-Trichlorobenzene	126		-		70-130	-		
Hexachlorobutadiene	122		-		70-130	-		

Project Name: TOT1901 **Lab Number:** L1914646

Project Number: TOT1901 **Report Date:** 04/17/19

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1914646-01	SS004	01262	SV20	04/10/19	289061		-	-	-	Pass	17.0	16.5	3
L1914646-01	SS004	551	2.7L Can	04/10/19	289061	L1913160-02	Pass	-29.5	-5.4	-	-	-	-
L1914646-02	SS005	0665	SV20	04/10/19	289061		-	-	-	Pass	17.6	16.7	5
L1914646-02	SS005	141	2.7L Can	04/10/19	289061	L1913160-02	Pass	-29.4	-5.2	-	-	-	-
L1914646-03	SV001	01264	SV20	04/10/19	289061		-	-	-	Pass	17.9	16.6	8
L1914646-03	SV001	542	2.7L Can	04/10/19	289061	L1913160-02	Pass	-29.5	-5.9	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1913160
Report Date: 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 04/03/19 19:11
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	5.00	--	ND	9.42	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1913160
Report Date: 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	1.00	--	ND	3.52	--		1
Xylenes, total	ND	0.600	--	ND	0.869	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,2-Dichloroethene (total)	ND	1.00	--	ND	1.00	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1913160
Report Date: 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1913160
Report Date: 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1913160
Report Date: 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

	Results	Qualifier	Units	RDL	Dilution Factor
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	86		60-140
Bromochloromethane	90		60-140
chlorobenzene-d5	84		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1913160
Report Date: 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 04/03/19 19:11
Analyst: TS

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.100	--	ND	0.264	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	0.500	--	ND	1.74	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION **Lab Number:** L1913160

Project Number: CANISTER QC BAT **Report Date:** 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.100	--	ND	0.461	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1913160
Report Date: 04/17/19

Air Canister Certification Results

Lab ID: L1913160-02
Client ID: CAN 454 SHELF 10
Sample Location:

Date Collected: 04/02/19 16:00
Date Received: 04/03/19
Field Prep: Not Specified

Sample Depth:

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	84		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	85		60-140

Project Name: TOT1901
Project Number: TOT1901

Lab Number: L1914646
Report Date: 04/17/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
N/A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1914646-01A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1914646-02A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)
L1914646-03A	Canister - 2.7 Liter	N/A	NA			Y	Absent		TO15-LL(30)

*Values in parentheses indicate holding time in days

Project Name:	TOT1901	**Lab Number:**	L1914646
Project Number:	TOT1901	**Report Date:**	04/17/19

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

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

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

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

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

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

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

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

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

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

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

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

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

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

Footnotes

Report Format: Data Usability Report

Project Name:	TOT1901	**Lab Number:**	L1914646
Project Number:	TOT1901	**Report Date:**	04/17/19

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

Terms

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

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

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

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

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

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

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

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

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

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

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

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

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

ND - Not detected at the reporting limit (RL) for the sample.

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

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

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

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	TOT1901	**Lab Number:**	L1914646
Project Number:	TOT1901	**Report Date:**	04/17/19

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 6860: SCM: Perchlorate

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

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

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

Westborough Facility:

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

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

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

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

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

AIR ANALYSIS

PAGE ____ OF ____

ALPHA ANALYTICAL — CHAIN OF CUSTODY

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

Date Rec'd in Lab: 4/11/14

ALPHA Job #: L1914646

Client Information

Client: PW Grosser
Address: 630 Johnson Ave
Bohemia NY
Phone: 631 589 6353
Fax:
Email: hmoran-botta@pwgrosser.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: TOT1901
Project Location: ?
Project #: TOT1981
Project Manager: Heather Moran Botta
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☐ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm

Other Project Specific Requirements/Comments:

Project-Specific Target Compound List: ☐

ANALYSIS

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION End Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15	TO-15 SIM	APH Subset Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15	Sample Comments (i.e. PID)
14646 .01	SS004	4/10/14	1137	1350	-29.5	-6.00	SV	MG	6L	551	01262	X					
.02	SS005	↓	1145	1355	-29.4	-5.55	↓	↓	6L	141	0665	X					
.03	SV001	↓	1210	1417	-29.5	-5.68	↓	↓	6L	542	01264	X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
	4/10/14 1615	Dominik Jackson AAL	4/10 1615
	4/10 1542		4/10/14 2220
	4/11/14 0828		04/11/14 0220
	04/11/14 0930	AAL	04/11/14 06:20

APPENDIX D
SOIL VAPOR SAMPLING LOGS

1053, 1057, 1059, and 1065 Atlantic Avenue, Brooklyn, NY
Soil Vapor Sampling Log

Sample ID	Date	Start Time	End Time	Initial Vacuum (Hg)	Final Vacuum (Hg)	Canister ID	Regulator ID
SS004	4/10/2019	11:37	13:50	-29.5	-6.00	551	01262
SS005	4/10/2019	11:45	13:55	-29.4	-5.55	141	0665
SV001	4/10/2019	12:10	14:17	-29.5	-5.68	542	01264