



# Remedial Investigation Work Plan

## Location:

Jamestown Brewery  
115-121 West Third Street  
Jamestown, New York

## Prepared for:

GPatti Enterprises, LLC  
115 Livingston Avenue  
Jamestown, New York

LaBella Project No. 2180345

August 10, 2018

## CERTIFICATIONS

I Adam Zebrowski certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan was conducted in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Adam Zebrowski  
Signed:

8/9/2018  
Date:

## Table of Contents

1.0	INTRODUCTION.....	1
2.0	SITE DESCRIPTION AND HISTORY .....	1
2.1	Site Description and Surrounding Properties.....	1
2.2	Site History .....	1
2.3	Site Geology and Hydrogeology.....	2
3.0	PREVIOUS INVESTIGATIONS .....	2
4.0	STANDARDS, CRITERIA AND GUIDANCE.....	3
5.0	OBJECTIVES AND RATIONALE.....	4
5.1	Areas of Concern.....	4
6.0	REMEDIAL INVESTIGATION SCOPE .....	4
6.1	Remedial Investigation Tasks .....	5
6.1.1	Task 1: Soil Boring and Groundwater Investigation .....	6
6.2	Health and Safety and Community Air Monitoring .....	9
6.3	Housekeeping and Investigation Derived Waste .....	9
6.4	Quality Assurance/Quality Control Plan .....	9
7.0	RI SCHEDULE AND REPORTING – DELIVERABLES .....	10

## **TABLES, FIGURES AND APPENDICES**

### **Figures**

Figure 1 – Site Location Map

Figure 2 – Site Base Map

Figure 3 – 2017 Phase II ESA Groundwater Sample Locations

Figure 4 – Proposed Remedial Investigation Locations

Figure 5 – Area of Concern

Figure 6 – Recognized Environmental Conditions Identified at the Site

### **Tables**

Table 1 – Summary of Soil Boring Analytical Results

Table 2 – Summary of Soil Boring Analytical Results

Table 2 – Summary of Groundwater Analytical Results

Table 4 – Summary of Soil Vapor Analytical Results

Table 5 – Summary of Previous Sampling Events

### **Appendix**

Appendix 1 – LaBella November 10, 2017 Draft Supplemental Phase II ESA Report and LaBella February 9, 2018 Supplemental Soil Investigation

Appendix 2 – Qualifications

Appendix 3 – BCP Contact List Information

Appendix 4 – Community Air Monitoring Plan

Appendix 5 – Quality Control Plan

Appendix 6 – Health & Safety Plan



## 1.0 INTRODUCTION

---

LaBella Associates, D.P.C. (LaBella) is pleased to submit this Remedial Investigation Work Plan (RIWP) to conduct additional investigation at 115-121 West Third Street, City of Jamestown, Chautauqua County, New York, herein after referred to as the "Site." The Site is applying to enter into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). A Site Location Map is included as Figure 1. LaBella is submitting this RIWP on behalf of GPatti Enterprises, LLC to define the nature and extent of contamination at the Site.

Information gathered from previous investigations have identified the presence of petroleum-related volatile organic compounds (VOCs) and chlorinated solvent VOCs (cVOCs) at the Site (Figure 5). Implementation of this RIWP will support existing information and fill in data gaps to identify the extent to which remediation is warranted. The activities in this RIWP will be carried out in accordance with the NYSDEC's Department of Environmental Remediation (DER)-10 (*Technical Guidance for Site Investigation and Remediation*) issued May 3, 2010.

## 2.0 SITE DESCRIPTION AND HISTORY

---

### 2.1 Site Description and Surrounding Properties

The Site is comprised of one tax parcel (SBL #387.40-3-8) totaling 0.59± acres. The Site is located in an urban area north of East Second Street, east of Washington Street and south of East Third Street. Figure 2 illustrates the location and boundaries of the current tax parcel configuration associated with the Site. Current Site features include one, two-story 16,147 square foot vacant commercial building (Site Building) on the north portion of the Site and an asphalt-paved parking areas on the south portion of the Site.

### 2.2 Site History

The Site was developed in at least 1886 and has been utilized for various commercial purposes since that time including the following:

- A photo facility was present in the northwest corner of the Site from at least 1886 to at least 1891.
- From at least 1930 to at least 1949, a gasoline underground storage tank (UST) was located to the west of the parking garage within the Washington Street right-of-way proximate the southwest corner of the Site.
- One 3,000-gallon #2 fuel oil UST was also closed-in-place under NYSDEC direction within the Washington Street right-of-way proximate the west exterior of the Site Building in 2003.
- A photography studio was located on the north portion of the Site historically addressed as 117 West Third Street and Jamestown Furniture Co., historically addressed as 121 West Third Street, was located at the northwest corner of the Site from at least 1946 to at least 1949.
- The area immediately southwest exterior of the Site Building historically addressed as 214 Washington Street was occupied by a dry cleaner from at least 1965 to at least 1994.
- The south portion of the Site historically addressed as 208 Washington Street was occupied by taxi company garages from at least 1926 to at least 1930.



- The south portion of the Site historically addressed as 210 Washington Street was occupied by automotive repair facilities from at least 1930 to at least 1939.
- The portion of the Site historically addressed as 212-214 Washington Street was occupied by parking garages from at least 1922 to at least 1981.

The adjoining/adjacent properties appear to have been developed in at least 1886 and utilized commercially since that time. Commercial operations of note at the adjacent properties have included blacksmiths, a painting facility, a laundry facility, a welding company, a cleaning company, a clothing cleaner and automotive repair.

### **2.3 Site Geology and Hydrogeology**

According to the United States Department of Agriculture (USDA) Web Soil Survey, the Site consists of Urban Land. Urban Land is characterized as areas highly developed for commercial, industrial, or residential use where the ground surface is covered by impervious features. Generally, the uppermost native soils have been removed, disturbed, or fill material has been placed over native soils. Based on the results of LaBella's November 10, 2017 Phase II Environmental Site Assessment (ESA) report and February 9, 2018 Supplementary Soil Investigation report, crushed asphalt was encountered followed by a gravel sub-base mixed with brown clay silts from approximately one to two feet below the ground surface (ft bgs). Apparent native soils consisting of glacial till comprised of silts and clays were generally encountered across the Site beyond two ft bgs. Depth to groundwater has been measured at the Site between 12.7 and 14.5 ft bgs. Groundwater is assumed to flow to the south towards Chadakoin River. Bedrock beneath the Site is reported to consist of Ellicott and Dexterville Formations shale and siltstone, dating from the Upper Devonian age.

## **3.0 PREVIOUS INVESTIGATIONS**

---

The following environmental reports are being utilized to develop the scope of work associated with this RIWP discussed below:

- Phase I ESA report dated August 4, 2017
- Draft Supplemental Phase II ESA report dated November 10, 2017
- Supplemental Soil Investigation report dated February 9, 2018

Based on the results of the Phase I ESA, Recognized Environmental Conditions (RECs) were identified associated with the historical uses of the Site as a photo facility, a photography studio, a dry cleaner, blacksmith shops, taxi company garages, automotive repair shops and parking garages, and historical uses of adjacent properties including a black smith, painting facility, a laundry facility, a welder, an automotive repair shop, a cleaning company and a clothing cleaner and the historical presence of a gasoline UST located within the Washington Street right-of-way. Refer to Figure 6 for approximate locations of the on-site RECs identified. Phase II ESA activities were completed at the Site by LaBella on August 15, October 19 and December 22, 2017 and January 11 and 12, 2018 including the advancement of 30 direct-push soil borings and seven hand-auger soil borings, installation and sampling of two temporary groundwater monitoring wells, and three permanent groundwater monitoring wells, and four sub-slab soil vapor points.

Based on the results of those assessments, LaBella concluded the following:



- Laboratory analytical results did not identify any semi-volatile organic compounds or metals in the subsurface soil or groundwater at the Site at concentrations exceeding NYSDEC Part 375 Commercial-Use Soil Cleanup Objectives (SCOs).
- Soil vapor samples collected from beneath the basement slab of the Site Building identified cVOCs at concentrations exceeding New York State Department of Health (NYSDOH) Guidance. Such included elevated concentrations of cis-1,2-dichloroethene, trichloroethene (TCE) and tetrachloroethene (PCE) within SS1 and SS2. As a result, Mitigation Tech is currently in the process of installing a sub-slab depressurization system (SSDS) within the Site Building in order to mitigate soil vapor intrusion to the Site Building interior.
- cVOC-impacted soil and groundwater was identified within the subsurface proximate the southwest exterior of the Site Building at concentrations exceeding NYSDEC soil and groundwater guidance. Such included the following:
  - Up to six VOCs were identified at concentrations ranging from 140-21,000 micrograms per kilogram (ug/kg), exceeding NYSDEC Commissioner Policy (CP) 51 Soil Cleanup Guidance in SB-3, SB-6, SB-7 and SB-23.
  - One VOC (PCE) was identified at a concentration of 240,000 ug/kg, exceeding NYSDEC Commercial Use Soil Cleanup Objectives (SCOs) in SB-30.
  - Up to six VOCs were identified at concentrations ranging from 32.4-36,000 micrograms per liter (ug/L), exceeding applicable NYSDEC groundwater guidance in MW-2 and PMW-1.

The location of the subsurface cVOC impact appears consistent with the location of the historical location of the dry cleaning operation. While the extent of soil impact appears well defined south of the Site Building, the extent of groundwater impact has not been defined to the south, east and west of the Site Building at this time.

- No other contamination in excess of NYSDEC Part 375 Commercial-Use SCOs was noted on the Site.

## 4.0 STANDARDS, CRITERIA AND GUIDANCE

---

This section identifies the Standards, Criteria and Guidance (SCG) for the Site. The SCGs identified are used in order to quantify the extent of contamination at the Site that requires remedial work based on the cleanup goal. The SCGs to be utilized as part of the implementation of this RIWP are identified below:

**Soil SCOs:** The following SCOs for soil were used in developing this RIWP:

- NYSDEC Part 375 Unrestricted-Use, Commercial-Use, and Protection of Groundwater SCOs

**Groundwater SCGs:** The following SCGs for groundwater were used in developing this RIWP:

- NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 Water Quality Standards and Guidance Values.



## 5.0 OBJECTIVES AND RATIONALE

---

The objective of the RI is to evaluate the nature and extent of VOC and cVOC groundwater impact at the Site as identified during previous investigations (refer to Section 3.0). Implementation of this RIWP will support existing information and fill in data gaps to rule out the presence of other contaminants (i.e. PFAS, 1,4-dioxane, etc.) and to identify the extent to which remediation is warranted. In addition, the BCP general requirements (e.g., “full suite” testing, quality assurance/quality control (QA/QC), etc.) will also be fulfilled.

### 5.1 Areas of Concern

Based on November 10, 2017 Phase II ESA report and the February 8, 2018 Supplemental Soil Investigation report, the following areas of concern (AOCs) have been identified at the Site:

#### ***AOC #1: Impacted Soil Vapor***

Sub-slab soil vapor samples collected from within the basement of the Site Building, identified a soil vapor intrusion concern within the Site Building. As a result, a SSDS is in the process of being installed within the Site Building and will be completed within the scope of this IRMWP.

#### ***AOC #2: Impacted Soil***

Petroleum-type staining and odors, and elevated photo ionization detector (PID) readings were encountered within soil borings advanced proximate the historical footprint of the former dry cleaner located on the southwest exterior of the Site Building. Tetrachloroethene (PCE) was detected at concentrations exceeding NYSDEC Part 375 Commercial-Use SCOs in the soil sample collected from SB-30 at a depth of 14-15 ft bgs. SB-30 is located within the historical footprint of the former dry cleaner. It should also be noted that while below NYSDEC Part 375 Commercial Use SCOs, a PCE concentration of 120,000 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) was identified in SB-23, also located in the historical footprint of the former dry cleaner. One VOC (m/p-Xylenes) was identified at a concentration of 270  $\mu\text{g}/\text{kg}$  in SB-23 only slightly exceeding the NYSDEC CP-51 Soil Cleanup Guidance of 260  $\mu\text{g}/\text{kg}$ .

#### ***AOC #3: Impacted Groundwater***

Petroleum-type staining and odors, were encountered within MW-2 located proximate the historical footprint of the former dry cleaner located on the southwest exterior of the Site Building. Several VOCs were identified exceeding NYSDEC Division of Technical and Operational Guidance Series (TOGS) within the groundwater samples collected and submitted for analysis from MW-2 and PMW-1. It should be noted that MW-1 and MW2 were sampled and analyzed for Target Compound List (TCL) + CP-51 VOCs and CP-51 semi-volatile organic compounds (SVOCs), and PMW-1 and PMW-2 were sampled and analyzed for TCL VOCs during the previous investigations conducted at the Site.

## 6.0 REMEDIAL INVESTIGATION SCOPE

---

The proposed remedial investigation field activities to be completed as part of the work plan have been separated into tasks and are presented in this section. It should be noted that the RI scope of work is limited to the assessment of AOC 3. AOC 1 and AOC 2 will be addressed during Interim Remedial Measures (IRM). The IRMs to be conducted at the Site are discussed in the IRM Work Plan prepared by LaBella for the Site. The proposed IRM is not designed to be the final remedy for the



Site or address other AOCs at the Site, but it is intended to be the final remedy for AOC 2. If Protection of Groundwater SCOs are not met based on post-confirmatory soil sample results, remedial measures for AOC 2 will be evaluated in the Remedial Alternatives Analysis report. The overall objective for the Site is redevelopment into a brewery and restaurant.

A list with contact information for the anticipated personnel involved with the project is included in Appendix 2. Qualifications for the personnel are also included. Additionally, a BCP Site contact list is included as Appendix 3.

## **6.1 Remedial Investigation Tasks**

The RI Field Plan is detailed below:

**Task 1: Soil Boring and Groundwater Investigation-** This task is proposed to further assess the subsurface soil and groundwater conditions across the Site. This task will help to determine groundwater flow direction. Groundwater sampling will attempt to determine the nature and extent of the cVOC and petroleum VOC contamination identified as AOC 3 and fill in data gaps to rule out the presence of other contaminants (i.e. PCBs, pesticides, herbicides, PFAS, 1,4-dioxane, etc.).

QA/QC samples will also be collected and analyzed (e.g., trip blank, duplicate sample, matrix spike/matrix spike duplicate (MS/MSD)). The specific QA/QC program is detailed in Section 6.4. The groundwater samples will be delivered under chain of custody procedures to an Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. The laboratory will provide a NYSDEC Analytical Services Protocol (ASP) Category B Deliverables data package and a Data Usability Summary Report (DUSR) will be completed by a third-party data validator.



A summary of the proposed sampling locations and analysis is included in Table 6.1 – 1 below.

**Table 6.1-1: Proposed Sample Location and Analysis Summary**

Investigation Task	Number of Samples	Media	Depth	Analysis	QA/QC	Rationale
Subsurface soil (Soil Borings)	Three	Soil	0-25 ft bgs	<ul style="list-style-type: none"> <li>TCL plus NYSDEC CP-51 VOCs by 8260</li> <li>TCL SVOCs by 8270</li> <li>Target Analyte Metals (TAL) metals by 6010/6020</li> <li>Polychlorinated biphenyls (PCBs) by 8082</li> <li>Pesticides by 8081</li> <li>Herbicides by 8151</li> </ul>	<ul style="list-style-type: none"> <li>One Field Duplicate</li> <li>One MS/MSD</li> <li>One Trip Blank</li> </ul>	Assess subsurface soil conditions within prior to the installation of the three monitoring wells
Groundwater (Monitoring Wells)	Eight	Groundwater	Six wells to 25 ft bgs and one well along the southern Site boundary to 35 ft bgs or to confining layer	<ul style="list-style-type: none"> <li>TCL plus NYSDEC CP-51 VOCs by 8260</li> <li>TCL SVOCs by 8270</li> <li>TAL metals by 6010/6020</li> <li>PCBs by 8082</li> <li>Pesticides by 8081</li> <li>Herbicides by 8151</li> </ul>	<ul style="list-style-type: none"> <li>One Field Duplicate</li> <li>One MS/MSD</li> <li>One Trip Blank</li> <li>One Equipment Rinsate Blank (PFOA/PFO S and 1,4-Dioxane only)</li> </ul>	Assess nature and extent of groundwater impacts at the Site.
	Three (up-gradient, down-gradient, and source area-central portion of Site)			<ul style="list-style-type: none"> <li>Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) by M537</li> <li>1,4-Dioxane by 8270</li> </ul>		

Notes:

- TCL plus NYSDEC CP-51 VOCS using USEPA method 8260 soil analysis will be limited to subsurface soil samples exhibiting visual, olfactory, or elevated PID readings.

### 6.1.1 Task 1: Soil Boring and Groundwater Investigation

This task will involve the installation of five 2-inch groundwater monitoring wells on the south portion of the Site, one 2-inch groundwater monitoring well on the east portion of the Site and reinstallation of PMW-1 on the central portion of the Site (following excavation of soils from AOC 2) to an average depth of 25 ft bgs with one well along the southern Site boundary being advanced to approximately 35 ft bgs or until a confining layer is encountered. A groundwater sample will be collected from the permanent groundwater monitoring well previously installed on Site (PMW-3) and from the seven monitoring wells to be installed/reinstalled on the Site to further assess groundwater conditions at the Site and determine groundwater flow. This work will be completed in accordance with NYSDEC DER-10 as well as the Quality Control Plan (QCP) included as Appendix 5. The proposed monitoring well locations are depicted on Figure 4. The following methods will be followed to complete this task:



- A Dig Safely New York stakeout will be conducted at the Site to locate any subsurface utilities in the areas where the subsurface assessment will take place.
- Soil borings will be advanced utilizing a Geoprobe system® to reach the desired depths.
- Soils retrieved from the soil borings will be continuously screened in the field for visible impairment, olfactory indications of impairment, and/or indication of detectable VOCs with a PID, collectively referred to as “evidence of impairment.”
- Excess soil cuttings will be placed in a 55-gallon drum for off-site disposal.
- Subsurface soil samples will be collected and analyzed for the following parameters if such exhibit visual, olfactory or field screening evidence of impact.
  - TCL SVOCs using USEPA 8270
  - TAL Metals using USEPA Method 6010/6020
  - PCBs by 8082
  - Pesticides by 8081
  - Herbicides by 8151
- In addition, TCL plus NYSDEC CP-51 VOCs using USEPA method 8260 will be analyzed for subsurface soil samples exhibiting visual, olfactory, or field screening measurements indicating VOC impacts.
- Seven monitoring wells will be completed with 2-inch diameter PVC wells. Monitoring wells will be constructed using a 5-ft. to 10-ft. long 0.010-inch slotted PVC well screen finished with a PVC riser to an appropriate elevation above the ground surface. The annulus will be filled with sand to approximately 1 to 2 feet above the top of the screen, and filled with bentonite to the surface. The monitoring wells will be completed at the surface with 8-inch flush-mount covers with 2-inch by 2-inch concrete pads.
- The screened section for the six monitoring wells installed to 25 feet below the ground surface will be placed to intersect the water table as observed in the soil boring.
- Five feet of screen will be installed at the bottom of the deep monitoring well (installed to 35 ft bgs, or until a confining layer is encountered).
- Groundwater samples will be collected from each of the seven wells and from the previously installed well and analyzed for the following:
  - TCL plus NYSDEC CP-51 VOCs using USEPA method 8260
  - TCL SVOCs using USEPA 8270
  - TAL Metals using USEPA Method 6010
  - PCBs by 8082
  - Pesticides by 8081
  - Herbicides by 8151

In addition, three wells will be sampled for the following parameters.

- PFOA and PFOS using USEPA Method 537
- 1,4-Dioxane using USEPA Method 8270





Results will be reported for the PFAS target analyte list contained in the NYSDEC guidance (February 2018) document included at the end of Appendix 5 (QCP), and reporting limits of 2 ng/l (parts per trillion) will be requested.

Groundwater sampling procedures are as follows:

- Wells will be developed until dry or until at least three well volumes have been removed using a dedicated bailer or peristaltic pump. Development water will be placed in 55-gallon drums and transported off-site for proper disposal. No water will be allowed to flow off-site.
- Samples will be collected using low-flow techniques. During sampling, the following parameters will be measured and recorded at three to five minute intervals:
  - Water level drawdown (<0.3')
  - Temperature (+/- 3%)
  - pH (+/- 0.1 unit)
  - Dissolved oxygen (+/- 10%)
  - Specific conductance (+/- 3%)
  - Oxidation reduction potential (+/- 10 millivolts)
  - Turbidity (+/- 10%, <50 NTU for metals)
- Samples will be collected when the parameters have stabilized within the specified range for at least three consecutive intervals.
- All groundwater sampling will be completed in a manner to minimize potential cross-contamination of the samples by completing all work as identified below. Because PFAS are found in numerous everyday items, the following special precautions will be taken during all sampling activities:
  - Acceptable materials for sampling include stainless steel, high density polyethylene (HDPE), PVC, silicone, acetate and polypropylene
  - No use of Teflon®-containing materials (e.g., Teflon® tubing, bailers, tape, sample jar lid liners, plumbing paste)
  - No Tyvek® clothing will be worn onsite
  - Clothing that contains polytetrafluorethylene (PTFE, GORE-TEX®, etc.) or that have been waterproofed with PFC materials will not be worn on-site.
  - All clothing worn by sampling personnel must have been laundered multiple times. Clothing must not be laundered with fabric softener.
  - No Post-It® notes will be brought onsite
  - No fast food wrappers, disposable cups or microwave popcorn will be brought on-site.
  - No use of chemical (blue) ice packs will be allowed.
  - No use of aluminum foil, low density polyethylene (LDPE), glass or PTFE materials will be allowed.
  - No use of Sharpies®, rather ball point pens will be utilized.
  - No use of sunscreen, insect repellants, cosmetic, lotions or moisturizers will be allowed by sampling personnel the day of sampling.





- If any of the above items are handled by the field personnel prior to sampling activities, field personnel will wash their hands thoroughly with soap and water prior to any sampling activities.
  - Powder-free nitrile gloves will be worn during all sample collection activities.
- In the event of insufficient sample volume for full suite parameters, samples will be analyzed for as many of the listed parameters as possible, in the below listed order:
  - TCL plus NYSDEC CP-51 VOCs using USEPA Method 8260
  - TCL SVOCs using USEPA Method 8270
  - TAL metals using USEPA Methods 6010/6020
  - PCBS
  - Pesticides
  - Herbicides
  - PFOA and PFOS using USEPA Method 537
  - 1,4-Dioxane using USEPA Method 8270
- In addition, monitoring wells will be surveyed (latitude, longitude, and elevation) following installation.

## **6.2 Health and Safety and Community Air Monitoring**

LaBella's Health and Safety Plan (HASP) for this project is included as Appendix 6. The NYSDOH Generic Community Air Monitoring Plan (CAMP) and Fugitive Dust and Particulate Monitoring will be utilized for this RI and are included as Appendix 4.

## **6.3 Housekeeping and Investigation Derived Waste**

Good housekeeping practices will be followed to prevent leaving contaminated material on the ground surface.

Waste materials anticipated to be generated during the implementation of this RIWP include soil generated from soil borings, groundwater generated from development and sampling of the wells. These waste materials will be spread across the Site surface in the vicinity of the investigation location from which the soil originated, or allowed to infiltrate back into the subsurface of the Site in the vicinity of the sample location from which the material originated. Procedures will be implemented to prevent soils or water from leaving the Site.

Additional information regarding Investigation Derived Waste is included in Section 9 of the QCP, included in Appendix 5.

## **6.4 Quality Assurance/Quality Control Plan**

Activities completed at the Site will be managed under LaBella's QCP, which is included in Appendix 5. Laboratory QA/QC sampling will include analysis of one trip blank and one duplicate sample for each matrix type (i.e., soil and groundwater) at a rate of one per 20 samples collected for each parameter group, or one per shipment, whichever is greater. Additionally, one Matrix Spike/Matrix Spike Duplicate (MS/MSD) will be collected and analyzed for each twenty samples collected for each parameter group, or one per shipment, whichever is greater. The MS/MSD will be analyzed for the same parameters as that of the field samples. Furthermore, one equipment rinsate blank will be



collected and analyzed for PFOA/PFOS and 1,4-dioxane associated with the one groundwater sampling collected from the Site. The samples will be delivered under Chain of Custody procedures to an ELAP-certified laboratory. The laboratory will provide a NYSDEC ASP Category B Deliverables data package for all samples. A DUSR will be completed for all ASP-B format laboratory data packages per DER-10. The DUSRs will include the laboratory data summary pages showing corrections made by the data validator and each page will be initialed by the data validator. The laboratory data summary pages will be included even if no changes were made.

## 7.0 RI SCHEDULE AND REPORTING – DELIVERABLES

---

The information and laboratory analytical data obtained during the RI will be included in a RI Report, completed in accordance with DER-10.

It is anticipated that implementation of the RIWP will begin within 60 days after NYSDEC approval of this work plan and the standard three-day Dig Safely New York waiting period. The field work is anticipated to require approximately 14 days to complete subsequent to implementation of the RIWP (*Note: this timeframe does not include laboratory analysis or data validation*). The RI Report will be submitted within two months of receipt of DUSRs.

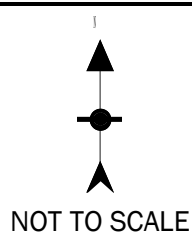
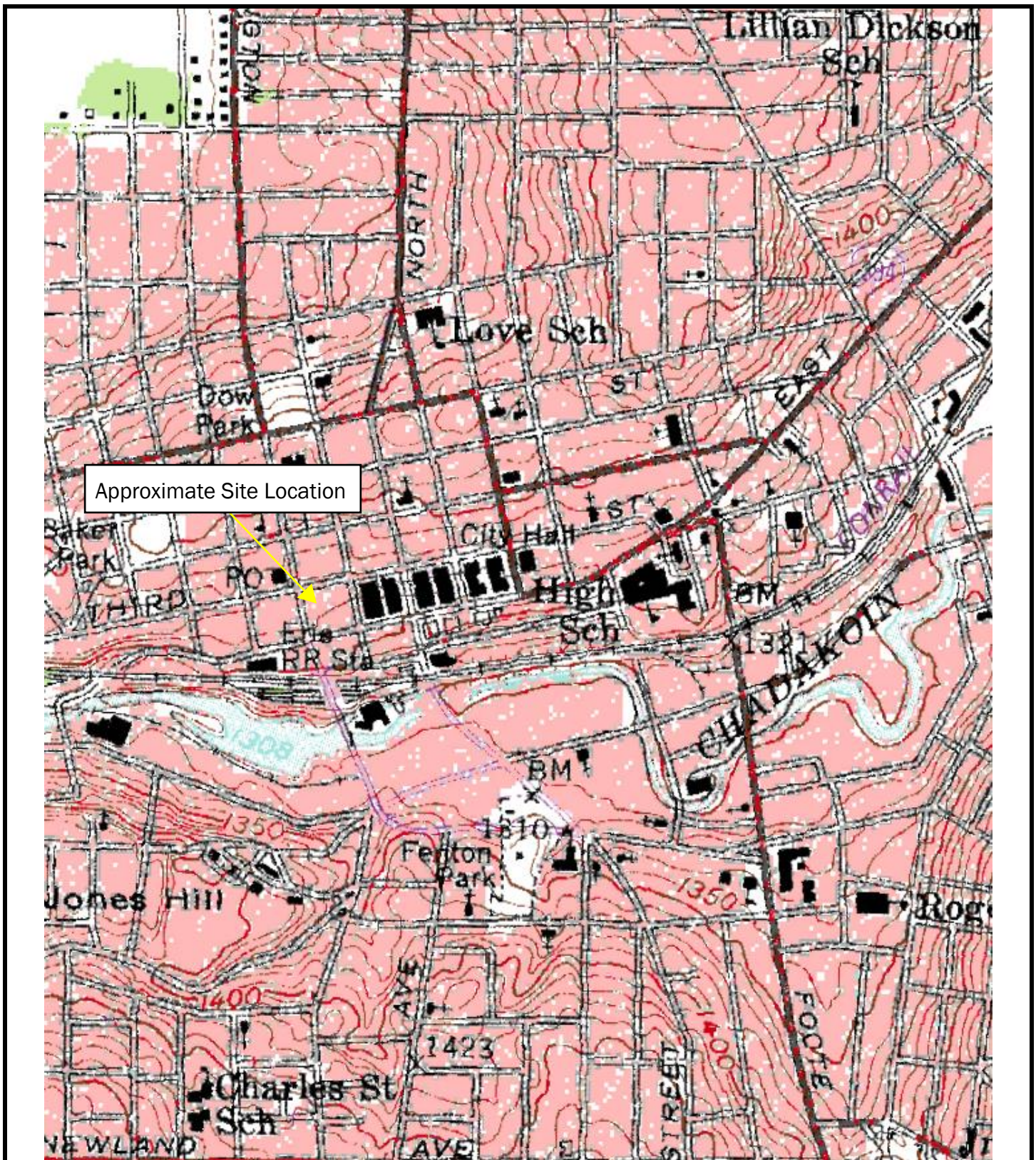
The above schedule assumes that an addendum to the RI Work Plan will not be required. If an RI Work Plan addendum is required, it will be submitted as the need is identified and it will include a revised schedule.

All data will also be submitted in the NYSDEC-approved EDD format. The data will be submitted on a continuous basis immediately after data validation occurs.



# FIGURES





## FIGURE 1 SITE LOCATION MAP

Jamestown Brewery  
115-121 West Third Street

Jamestown, New York



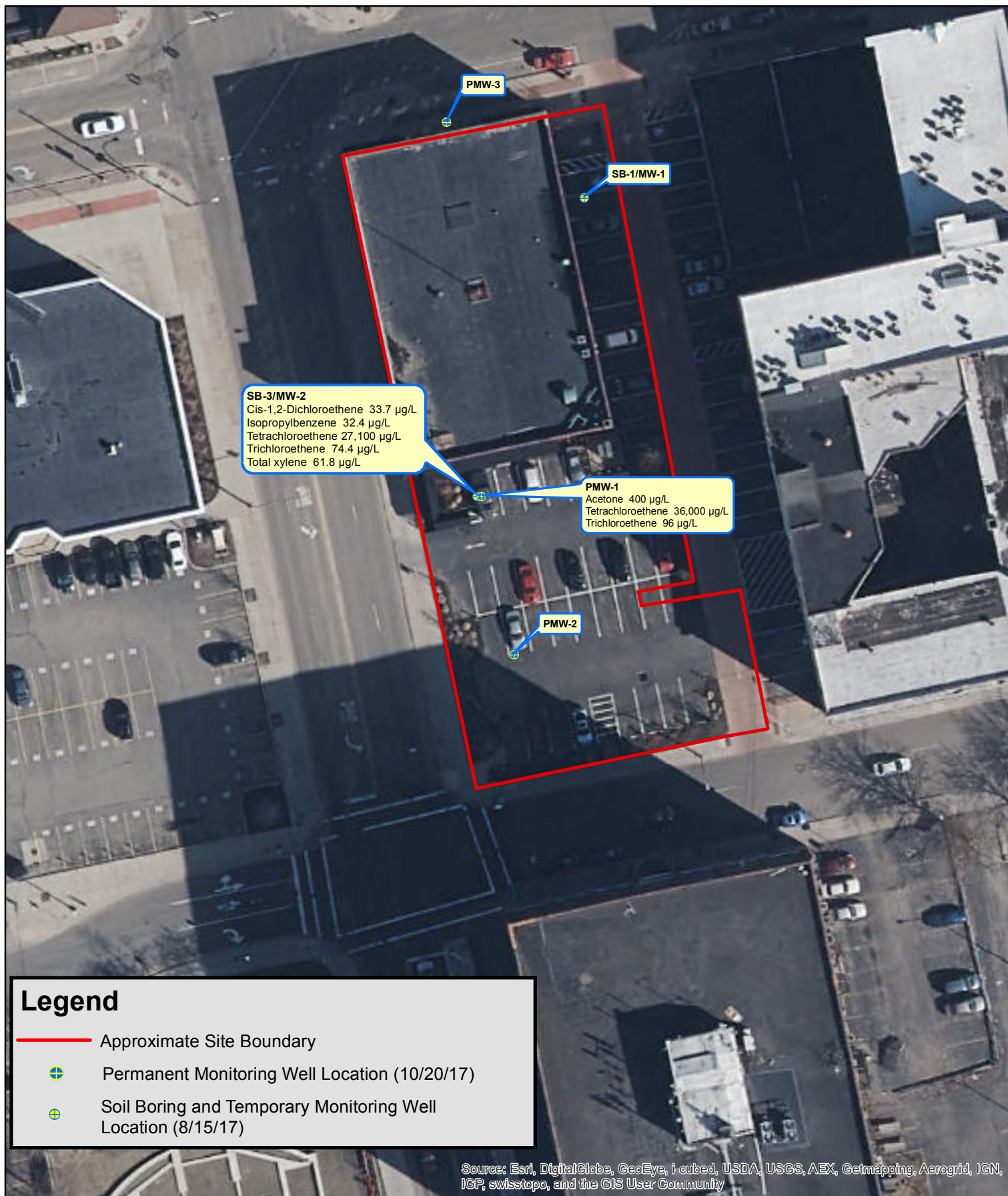
PROJECT NO. 2180345





PROJECT #/DRAWING #/DATE: <div>2180345</div> <div>FIGURE 2</div> 8/9/2018	DRAWING NAME: <h2>SITE BASE MAP</h2>	PROJECT: REMEDIAL INVESTIGATION WORK PLAN  JAMESTOWN BREWERY 115-121 WEST THIRD STREET JAMESTOWN, NEW YORK	<div> </div> <div> </div> <div>         1 inch = 58 feet          INTENDED TO PRINT AS: 8.5" X 11"       </div> <div> </div>
--	---	--	--





PROJECT #/DRAWING #/DATE:

[ 2180345 ]

[ FIGURE 3 ]

8/9/2018

DRAWING NAME:

**GROUNDWATER SAMPLE LOCATIONS**

PROJECT:

**REMEDIAL INVESTIGATION WORK PLAN**

JAMESTOWN BREWERY  
115-121 WEST THIRD STREET  
JAMESTOWN, NEW YORK

0 20 40 Feet

1 inch = 50 feet

INTENDED TO PRINT AS: 8.5" X 11"

**LaBella**  
Powered by partnership.





## Legend

- Approximate Site Boundary
- ⊕ Permanent Monitoring Well Location (10/20/2017)
- ⊕ Proposed Permanent Monitoring Well Location
- ⊕ Proposed Permanent Deep Monitoring Well Location

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS

PROJECT #/DRAWING #/DATE:

[ 2180345 ]  
[ FIGURE 4 ]

8/9/2018

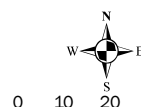
DRAWING NAME:

**PROPOSED REMEDIAL  
INVESTIGATION LOCATIONS**

PROJECT:

**REMEDIAL INVESTIGATION  
WORK PLAN**

JAMESTOWN BREWERY  
115-121 WEST THIRD STREET  
JAMESTOWN, NEW YORK



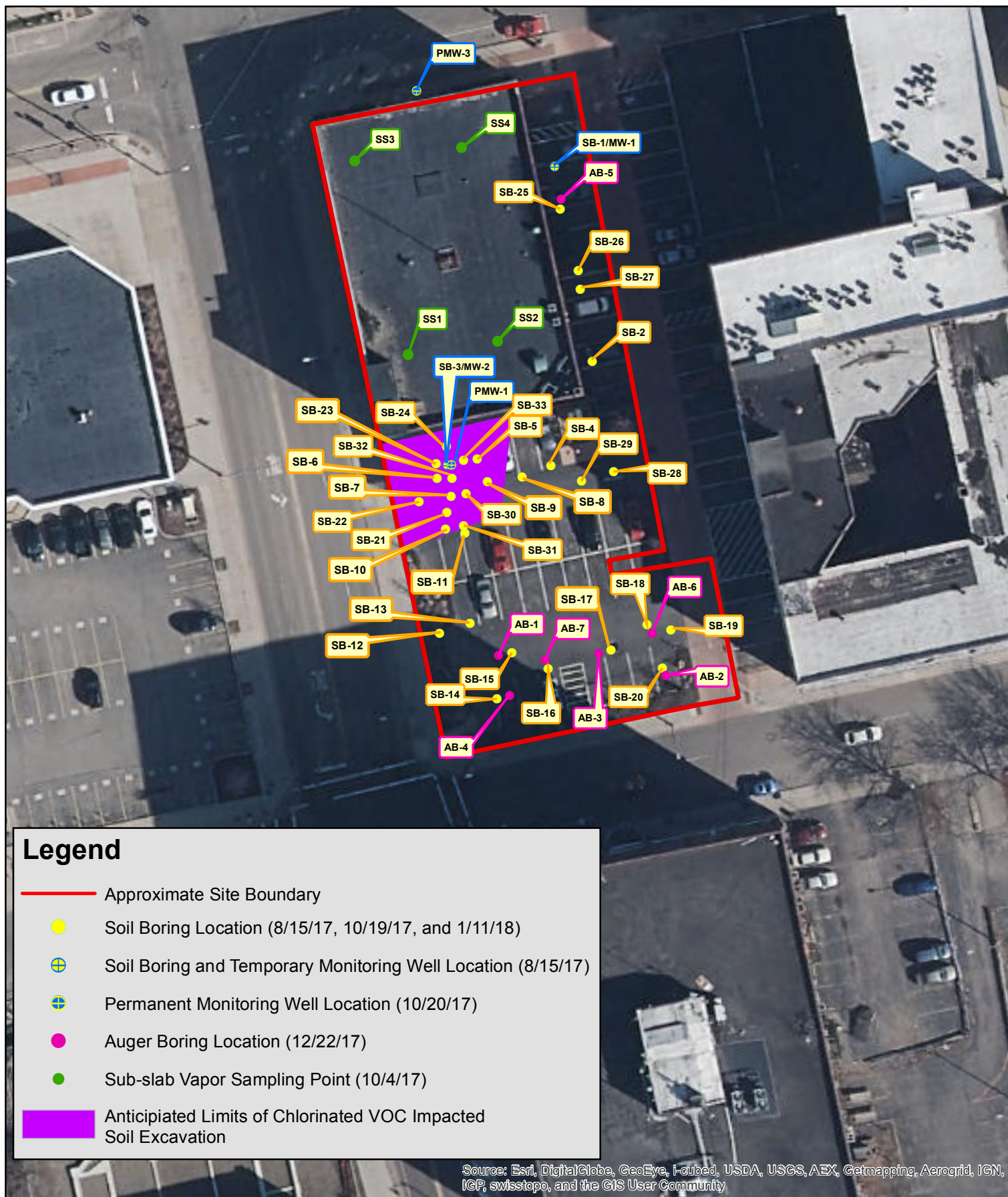
0 10 20

Feet

1 inch = 42 feet

INTENDED TO PRINT AS: 8.5" X 11"

**LaBella**  
Powered by partnership.



PROJECT #/DRAWING #/DATE:

[ 2180345 ]

[ FIGURE 5 ]

8/9/2018

DRAWING NAME:

AREA OF CONCERN

PROJECT:

REMEDIAL INVESTIGATION  
WORK PLAN

JAMESTOWN BREWERY  
115-121 WEST THIRD STREET  
JAMESTOWN, NEW YORK



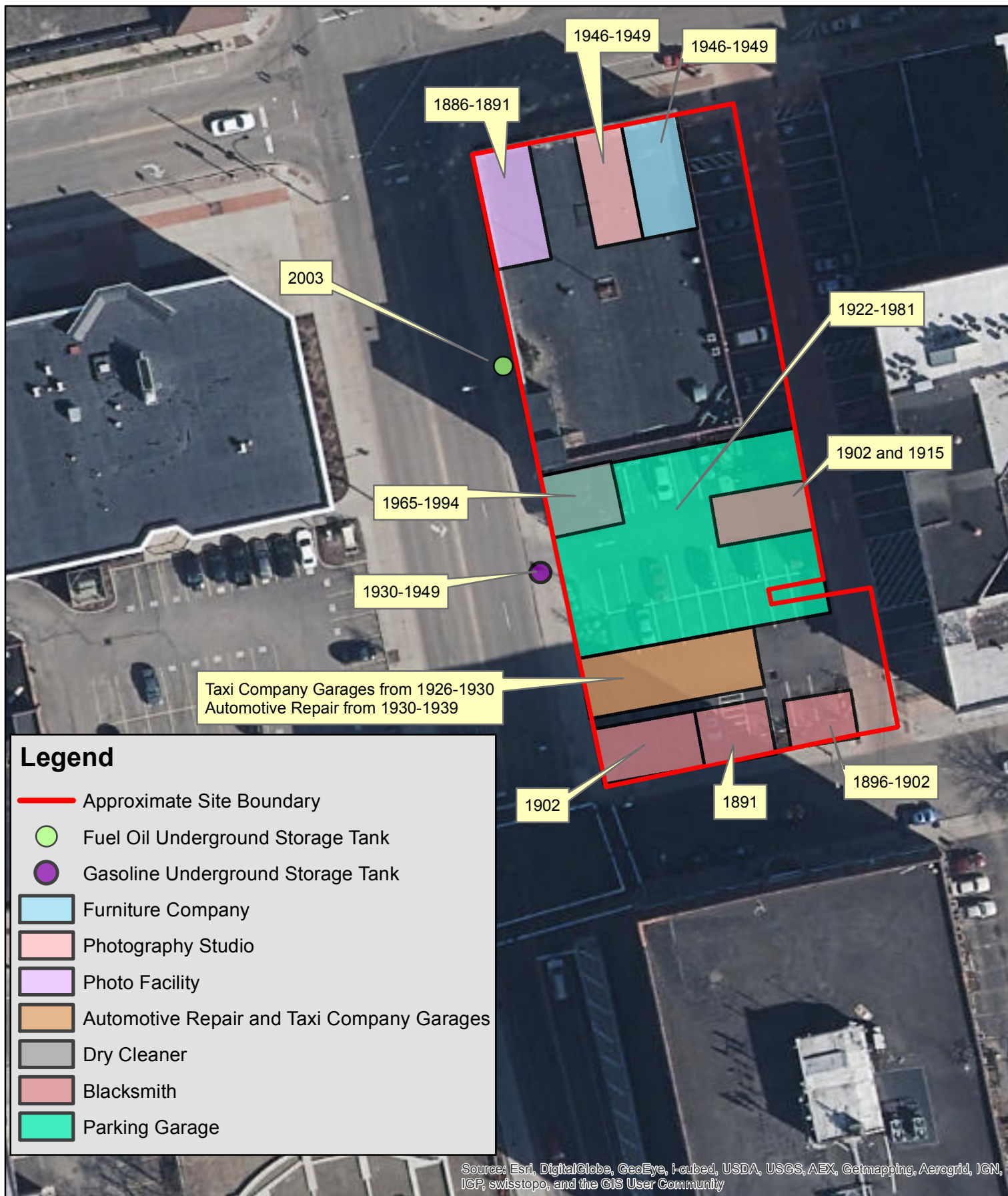
0 20 40 Feet

1 inch = 50 feet

INTENDED TO PRINT AS: 8.5" X 11"

**LaBella**  
Powered by partnership.





PROJECT #/DRAWING #/DATE: <div>2180345</div> <div>FIGURE 6</div> 8/9/2018	DRAWING NAME: RECOGNIZED ENVIRONMENTAL CONDITIONS IDENTIFIED AT THE SITE	PROJECT: REMEDIAL INVESTIGATION WORK PLAN  JAMESTOWN BREWERY 115-121 WEST THIRD STREET JAMESTOWN, NEW YORK	<div> <div> <div>N</div> <div>W</div> <div>E</div> <div>S</div> </div> <div>0 20 40</div> <div>Feet</div> </div> <div>1 inch = 50 feet</div> <div>INTENDED TO PRINT AS: 8.5" X 11"</div> <div> <div> <b>LaBella</b>            Powered by partnership.         </div> </div>
--	---	--	--

# TABLES

Table 1  
115-121 West Third Street  
Jamestown, New York  
Remedial Investigation Work Plan  
Summary of Subsurface Soil Analytical Results  
(Detected Analytes Only)

Sample ID	SB-1	SB-3	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10	SB-11	SB-12	SB-13	AB-1	AB-2	AB-4	AB-5	AB-7	Restricted Residential Use SCOs	Commercial Use SCOs
Depth (ft bgs)	12-14	10-12	10-12	14-15	14-15	11-12	10-11	12-13	10-11	12-13	10-11	0.25-0.5	1-2	0.25-0.5	1-2	0.25-0.5		
Sample Date	8/15/2017	8/15/2017	8/15/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	12/22/2017	12/22/2017	12/22/2017	12/22/2017	12/22/2017		
Volatile Organic Compounds (µg/kg)																		
Acetone	<	<	<	<	<	<	<	<	1.4 J	2.6 J	<	NA	NA	NA	NA	NA	100,000	500,000
Benzene	<	<	<	<	140 J	<	<	32 J	<	<	<	NA	NA	NA	NA	NA	4,800	44,000
Bromomethane	<	<	<	<	<	27 J	40 J	27 J	<	<	<	NA	NA	NA	NA	NA	NL	NL
Cyclohexane	<	<	<	870 J	27,000	<	<	200 J	<	<	<	NA	NA	NA	NA	NA	NL	NL
cis-1,2-Dichloroethene	<	<	<	<	<	<	<	<	<	<	1.3	NA	NA	NA	NA	NA	100,000	500,000
trans-1,2-Dichloroethene	<	<	<	<	66 J	<	<	<	0.33 J	<	<	NA	NA	NA	NA	NA	100,000	500,000
Ethylbenzene	<	<	<	400	3,600	<	<	27 J	<	<	<	NA	NA	NA	NA	NA	41,000	390,000
Isopropylbenzene	<	<	<	1,200	2,700	<	<	79	<	<	<	NA	NA	NA	NA	NA	NL	NL
Methylcyclohexane	<	3,900	<	5,100	100,000 E	<	<	1,200	0.40 J	<	<	NA	NA	NA	NA	NA	NL	NL
Methylene chloride	3.4 J	<	<	<	<	<	<	<	<	<	<	NA	NA	NA	NA	NA	100,000	500,000
Methyl ethyl ketone (2-Butanone)	<	175 J	<	<	<	<	<	<	<	<	<	NA	NA	NA	NA	NA	100,000	500,000
Methyl-tert-butyl-ether	<	<	<	<	<	5.6 J	8.3 J	<	<	<	<	NA	NA	NA	NA	NA	100,000	500,000
Tetrachloroethene	39.2	66,100	2,860	59,000 E	84,000 E	2,800	7,400	1,600	35	<	<	NA	NA	NA	NA	NA	19,000	150,000
Toluene	<	<	<	<	290 J	<	<	<	<	<	<	NA	NA	NA	NA	NA	100,000	500,000
Trichloroethene	<	<	<	<	2,100	<	<	<	1.2	<	<	NA	NA	NA	NA	NA	21,000	200,000
Total Xylenes	<	349 J	<	<	<	<	<	<	<	<	<	NA	NA	NA	NA	NA	100,000	500,000
m/p - Xylenes	NA	NA	NA	1,800	21,000	<	<	160	<	<	<	NA	NA	NA	NA	NA	100,000*	500,000*
o - Xylenes	NA	NA	NA	340	2,600	<	<	64 J	<	<	<	NA	NA	NA	NA	NA	100,000*	500,000*
Semi-Volatile Organic Compounds (µg/kg)																		
Acenaphthene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	<	33 J	<	<	<	100,000	500,000
Anthracene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	<	150	35 J	<	<	100,000	500,000
Benzo(a)anthracene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	99 J	360	120	<	130	1,000	5,600
Benzo(b)fluoranthene	<	9.1	<	NA	NA	NA	NA	NA	NA	NA	NA	150	410	140	<	190	1,000	5,600
Benzo(k)fluoranthene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	49 J	140	50 J	<	58 J	3,900	56,000
Benzo(g,h,i)perylene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	89 J	200	84 J	<	150	100,000	500,000
Benzo(a)pyrene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	100 J	290	110 J	<	160	1,000	1,000
Chrysene	<	16	<	NA	NA	NA	NA	NA	NA	NA	NA	130	360	120	<	130	3,900	56,000
Dibenzo(a,h)anthracene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	<	55 J	21 J	<	33 J	330	560
Fluoranthene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	270	940	240	<	210	100,000	500,000
Fluorene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	<	48 J	<	<	<	100,000	500,000
Indeno(1,2,3-cd)pyrene	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	86 J	220	88 J	<	140 J	500	5,600
Naphthalene	<	125	<	NA	NA	NA	NA	NA	NA	NA	NA	<	24 J	<	<	<	100,000	500,000
Phenanthrene	<	12	<	NA	NA	NA	NA	NA	NA	NA	NA	130	760	140	<	81 J	100,000	500,000
Pyrene	<	10.1	<	NA	NA	NA	NA	NA	NA	NA	NA	220	720	200	<	200	100,000	500,000
Metals (mg/kg)																		
Arsenic	14.3	12.7	4.6	NA	NA	NA	NA	NA	NA	NA	NA	8.59	7.99	7.36	7.58	6.9	16	16
Barium	119	130	68.1	NA	NA	NA	NA	NA	NA	NA	NA	73.2	83.6	69.1	36.5	81.1	400	400
Cadmium	0.26	0.33	0.13 J	NA	NA	NA	NA	NA	NA	NA	NA	0.1 J	0.162 J	0.073 J	0.06 J	0.101 J	4.3	9.3
Chromium	1.3	8.9	3.6	NA	NA	NA	NA	NA	NA	NA	NA	9.51	8.81	7.68	7.85	9.11	110/180**	400/1,500**
Lead	18.9	14.6	9.9	NA	NA	NA	NA	NA	NA	NA	NA	74.7	267	18	10.6	20.7	400	1,000
Mercury	<	<	<	NA	NA	NA	NA	NA	NA	NA	NA	0.29	0.48	0.07	0.01 J	0.04 J	0.81	2.8
Selenium	1.4	0.59 J	0.54	NA	NA	NA	NA	NA	NA	NA	NA	0.502 J	0.554 J	0.405 J	0.386 J	0.438 J	180	1,500
Silver	2.2	2.4	1.5	NA	NA	NA	NA	NA	NA	NA	NA	<	<	<	<	<	180	1,500

Restricted Residential Use SCOs = NYSDEC Part 375 Restricted Residential Use Soil Cleanup Objectives (SCOs), Table 375-6.8(a) (December 2006)

Commercial Use SCOs = Part 375 Commercial Use SCOs = NYSDEC Part 375 Commercial Use Soil Cleanup Objectives (SCOs), Table 375-6.8(b) (December 2006)

Concentrations in bold exceedPart 375 Restricted Residential Use SCOs

Concentrations in gray exceed Part 375 Commercial Use SCOs

< = Not detected

NL = Not listed

NA = Not analyzed

ft bgs = Feet below the ground surface

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilogram

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

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

\* = Guidance for total xylenes

\*\* = Chromium, hexavalent/Chromium, trivalent (The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.)

Table 2													
115-121 West Third Street and 200-210 Washington Street													
Jamestown, New York													
Remedial Investigation Work Plan													
Summary of Subsurface Soil Analytical Results													
(Detected Analytes Only)													
Sample ID	SB-16	SB-17	SB-18	SB-19	SB-20	SB-21	SB-22	SB-23	SB-26	SB-28	SB-29	SB-30	Part 375 Commercial Use SCOs
Depth (ft bgs)	2-5	2-5	1-4	2-5	1-4	14-15	15-16	15-16	0.5-2	0.5-2	3-5	14-15	
Sample Date	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018	
Volatile Organic Compounds (µg/kg)													
Cyclohexane	NA	NA	NA	NA	NA	8.2 J	420 J	17,000	NA	NA	NA	810 J	NL
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	0.72	<	<	NA	NA	NA	<	500,000
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	2.7	<	<	NA	NA	NA	<	500,000
Ethylbenzene	NA	NA	NA	NA	NA	0.9	<	<	NA	NA	NA	<	390,000
Isopropylbenzene	NA	NA	NA	NA	NA	0.41 J	26 J	1,100	NA	NA	NA	<	NL
Methylcyclohexane	NA	NA	NA	NA	NA	21	1,900	58,000	NA	NA	NA	5,100 J	NL
Methylene chloride	NA	NA	NA	NA	NA	<	130 J	2,900 J	NA	NA	NA	6,700 J	500,000
Tetrachloroethene	NA	NA	NA	NA	NA	550 E	710	120,000	NA	NA	NA	240,000	150,000
Toluene	NA	NA	NA	NA	NA	0.51	<	<	NA	NA	NA	<	500,000
Trichloroethene	NA	NA	NA	NA	NA	7.1	<	<	NA	NA	NA	<	200,000
m/p - Xylenes	NA	NA	NA	NA	NA	6.2	<	270 J	NA	NA	NA	<	500,000*
o - Xylenes	NA	NA	NA	NA	NA	1.5	<	<	NA	NA	NA	<	500,000*
Semi-Volatile Organic Compounds (µg/kg)													
Benzo(a)anthracene	<	<	<	<	79 J	<	<	<	<	<	<	<	5,600
Benzo(b)fluoranthene	<	<	<	<	110 J	<	<	<	42 J	<	<	<	5,600
Benzo(g,h,i)perylene	<	<	<	<	100 J	<	<	<	150	<	<	<	500,000
Biphenyl	<	<	<	<	<	54 J	<	<	<	<	<	250 J	NL
Chrysene	<	<	40 J	<	92 J	<	<	<	39 J	<	<	<	56,000
Fluoranthene	<	<	58 J	<	180 J	<	<	<	<	<	<	<	500,000
Indeno(1,2,3-cd)pyrene	<	<	<	<	60 J	<	<	<	34 J	<	<	<	5,600
Naphthalene	<	<	<	<	<	1,600	120 J	<	<	<	<	1,100	500,000
Phenanthrene	<	<	<	<	130 J	<	<	<	<	<	<	<	500,000
Pyrene	<	<	46 J	<	150 J	<	<	<	<	<	<	<	500,000
2-Methylnaphthalene	<	<	<	<	<	1,700	160 J	900	<	<	<	3,500	NL
Metals (mg/kg)													
Arsenic	8.48	11.8	9.12	9.9	10	NA	NA	NA	7.75	8.31	12.6	NA	16
Barium	64.2	79.5	99.5	93.4	73.6	NA	NA	NA	38.8	118	25.5	NA	400
Cadmium	0.639	1.05	0.757	0.962	0.796	NA	NA	NA	0.622	0.584	0.687	NA	9.3
Chromium	7.91	16.3	11.4	14.6	8.15	NA	NA	NA	7.56	9.96	8.97	NA	400/1,500**
Lead	36	7.12	13.8	7.52	134	NA	NA	NA	10	114	12.2	NA	1,000
Mercury	0.04 J	<	<	<	0.3	NA	NA	NA	<	0.45	0.04 J	NA	2.8
Selenium	0.172 J	<	0.168	<	0.156 J	NA	NA	NA	<	0.579 J	0.167 J	NA	1,500

NYSDEC Part 375 Commercial Use Soil Cleanup Objectives (SCOs), Table 375-6.8(b) (December 2006)

Concentrations in gray exceed Part 375 Commercial Use SCOs

< = Not detected

NL = Not listed

NA = Not analyzed

ft bgs = Feet below the ground surface

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilogram

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

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

\* = Guidance for total xylenes

\*\* = Chromium, hexavalent/Chromium, trivalent (The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.)

Table 3  
115-121 West Third Street  
Jamestown, New York  
Remedial Investigation Work Plan  
Summary of Groundwater Analytical Results  
(Detected Compounds Only)

Sample ID	MW-1	MW-2	PMW-1	PMW-3	NYSDEC TOGS
Sample Date	8/15/2017	8/15/2017	10/20/2017	10/20/2017	
Volatile Organic Compounds (µg/L)					
Acetone	25	31.6	400 J	3.3 J	50
Benzene	<	1.7	<	<	1
Carbon Disulfide	2.7	<	<	<	NL
Cyclohexane	<	749	<	<	NL
cis-1,2-Dichloroethene	<	33.7	<	<	5
trans-1,2-Dichloroethene	<	2.5	<	<	5
Ethylbenzene	<	1.3	<	<	5
Isopropylbenzene	<	32.4	<	<	5
Methylcyclohexane	<	1,290	<	<	NL
Methylene Chloride	<	4.8	<	<	5
Methyl ethyl ketone (2-Butanone)	<	5 J	<	<	50
Tetrachloroethene	<	27,100	36,000	<	5
Toluene	<	1.9	<	<	5
Trichloroethene	<	74.4	96 J	<	5
Total Xylene	<	61.8	<	<	5
Semi-Volatile Organic Compounds (µg/L)					
Naphthalene	<	23.1	NA	NA	10

NYSDEC TOGS = NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1), Ambient Water Quality Standards and Guidance

Values and Groundwater Effluent Limitations (June 1998)

µg/L = micrograms per liter

< = Not detected

NL = Not listed

NA = Not analyzed

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

Concentrations in bold exceed NYSDEC TOGS

**Table 4**  
**115-121 West Third Street**  
**Jamestown, New York**  
**Remdial Investigation Work Plan**  
**Summary of Soil Vapor Analytical Results**  
**(Detected Analytes Only)**

Sample ID	SS1	SS2	SS3	SS4
Sampling Date	10/4/2017	10/4/2017	10/4/2017	10/4/2017
Location	Sub-Slab	Sub-Slab	Sub-Slab	Sub-Slab
Volatile Organic Compounds (µg/m3)				
Dichlorodifluoromethane	<	2.79	2.39	4.05
1,3-Butadiene	<	<	1.9	<
Acetone	271	51.1	51.1	78.6
Carbon disulfide	107	19.7	2.31	2.72
trans-1,2-Dichloroethene	62.6	<	<	<
n-Hexane	8.11	4.76	16.4	14.4
cis-1,2-Dichloroethene	157	<	<	<
Chloroform	<	<	2.22	<
1,1,1-Trichloroethane	12.1	9.66	<	<
Cyclohexane	<	2.26	5.44	5.47
2,2,4-Trimethylpentane	<	<	2.9	<
Benzene	<	1.96	4.98	3.9
Trichloroethene	1,840	40.6	<	<
Toluene	12.7	4.79	11.8	11.3
Tetrachloroethene	5,920	868	15.4	10.8
m,p-Xylene	<	<	5.21	6.34
o- Xylene	<	<	2.53	2.9
1,2,4-Trimethylbenzene	<	2.4	4.18	4.14
2-Butanone	<	<	5.49	4.45
Heptane	8.65	6.11	11.3	12.5

Volatile Organic Compounds by United States Environmental Protection Agency (USEPA)

Method TO-15

< = Not detected

µg/m<sup>3</sup> = micrograms per cubic meter

Table 5  
115-121 West Third Street  
Jamestown, New York  
Remedial Investigation Work Plan  
Sample Summary

Sample ID	Collection Date	Depth (feet bgs)	Laboratory Analysis							Notes
			TO-15	TCL VOCs	CP-51 VOCs	TCL SVOCs	CP-51 SVOCs	PCBs	RCRA Metals	
Subsurface Soil Samples										
SB-1	8/15/2017	12 to 14		X	X		X		X	
SB-3	8/15/2017	10 to 12		X	X		X		X	
SB-5	8/15/2017	10 to 12		X	X		X		X	
SB-6	10/19/2017	14 to 15		X						
SB-7	10/19/2017	14 to 15		X						
SB-8	10/19/2017	11 to 12		X						
SB-9	10/19/2017	10 to 11		X						
SB-10	10/19/2017	12 to 13		X						
SB-11	10/19/2017	10 to 11		X						
SB-12	10/19/2017	12 to 13		X						
SB-13	10/19/2017	10 to 11		X						
SB-16	1/11/2018	2 to 5				X			X	
SB-17	1/11/2018	2 to 5				X		X	X	
SB-18	1/11/2018	1 to 4				X		X	X	
SB-19	1/11/2018	2 to 5				X			X	
SB-20	1/11/2018	1 to 4				X			X	
SB-21	1/11/2018	14 to 15		X		X				
SB-22	1/11/2018	15 to 16		X		X				
SB-23	1/11/2018	15 to 16		X		X				
SB-26	1/12/2018	0.5 to 2				X		X	X	
SB-28	1/12/2018	0.5 to 2				X		X	X	
SB-29	1/12/2018	3 to 5				X		X	X	
SB-30	1/12/2018	14 to 15		X		X				
Surface Soil Samples										
AB-1	12/22/2017	0.25 to 0.5					X		X	
AB-2	12/22/2017	1 to 2					X		X	
AB-4	12/22/2017	0.25 to 0.5					X		X	
AB-5	12/22/2017	1 to 2					X		X	
AB-7	12/22/2017	0.25 to 0.5					X		X	
Groundwater Samples										
MW-1	8/15/2017	19.3		X	X		X			
MW-2	8/15/2017	20.1		X	X		X			
PMW-1	10/20/2017	20		X						
PMW-3	10/20/2017	20		X						
Sub-Slab Soil Vapor Samples										
SS-1	10/4/2017	0.5	X							
SS-2	10/4/2017	0.5	X							
SS-3	10/4/2017	0.5	X							
SS-4	10/4/2017	0.5	X							

TO-15 = Volatile Organic Compound (VOC) air analysis via USEPA Test Method TO-15

TCL VOCs = Target Compounds List (TCL) VOCs via USEPA Test Method 8260

CP-51 VOCs = Commissioner Policy (CP)-51 VOCs via USEPA Test Method 8260

TCL SVOCs = Target Compound List semi-volatile organic compounds (SVOCs) via USEPA Test Method 8270

CP-51 SVOCs = CP-51 SVOCs via USEPA Test Method 8270

PCBs = Polychlorinated biphenyls via USEPA Test Method 8082

RCRA Metals = Resource Conservation and Recovery Act Metals via USEPA Test Method 6010/7471

# APPENDIX 1

## Phase II Environmental Site Assessments



# Draft Supplemental Phase II Environmental Site Assessment

## Location:

115-121 West Third Street and  
200-210 Washington Street  
Jamestown, New York

## Prepared for:

Gebbie Foundation  
c/o Mr. David Flynn  
Mr. Phillips Lytle LLP  
125 Main Street  
Buffalo, New York

LaBella Project No. 2172285

November 10, 2017

## Table of Contents

<b>1.0</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	Special Terms & Conditions	1
1.2	Limitations & Exceptions	1
1.3	Reliance	1
<b>2.0</b>	<b>BACKGROUND</b>	<b>1</b>
2.1	Site Description & Features	Error! Bookmark not defined.
2.2	Physical Setting	1
2.3	Adjoining/Adjacent Property Use	1
2.4	Summary of Previous Studies	2
<b>3.0</b>	<b>OBJECTIVE</b>	<b>3</b>
<b>4.0</b>	<b>SCOPE OF WORK</b>	<b>3</b>
4.1	Soil Borings	3
4.2	Groundwater Monitoring Wells	4
4.3	Limited Vapor Intrusion Assessment	4
<b>5.0</b>	<b>FINDINGS</b>	<b>5</b>
5.1	Site Geology and Hydrology	5
5.2	Field Observations and Screening	5
5.3	Laboratory Analytical Results	6
5.3.1	Soil Laboratory Results	6
5.3.2	Groundwater Laboratory Results	6
5.3.3	Soil Vapor Laboratory Results	7
<b>6.0</b>	<b>CONCLUSIONS</b>	<b>8</b>
<b>7.0</b>	<b>RECOMMENDATIONS</b>	<b>8</b>
<b>8.0</b>	<b>SIGNATURES OF ENVIRONMENTAL PROFESSIONALS</b>	<b>9</b>

<b>Figures</b>	Figure 1 – Site Location Map
	Figure 2 – Site Investigation Map

<b>Tables</b>	Table 1 – Summary of Subsurface Soil Analytical Results
	Table 2 – Summary of Groundwater Analytical Results
	Table 3 – Summary of Soil Vapor Intrusion Analytical Results
	Table 4 – Soil Vapor Intrusion Field Table
	Table 5 – Soil Boring PID Readings

<b>Appendix 1</b>	Field Logs
<b>Appendix 2</b>	NYSDOH Indoor Air Quality Questionnaire and Building Inventory Forms
<b>Appendix 3</b>	Laboratory Reports

## 1.0 INTRODUCTION

---

LaBella Associates, D.P.C. (LaBella) completed a Phase II Environmental Assessment (ESA) for the property located at 115-121 West Third Street and 200-210 Washington Street, City of Jamestown, Chautauqua County, New York (Site) in August 2017. The results of that assessment are summarized in LaBella's Phase II ESA report dated September 7, 2017. Subsequently, LaBella was retained by Gebbie Foundation (Client) to conduct a Supplemental Phase II ESA for the Site to further evaluate the extent of the chlorinated solvent impact identified proximate the southwest exterior of the Site Building (SB-3), and to evaluate whether the subsurface chlorinated solvent impact represents a soil vapor intrusion concern to the Site Building. This Supplemental Phase II ESA has been performed in conformance with the scope and limitations of ASTM Practice E 1903-11. It should be noted that the results of LaBella's September 7, 2017 Phase II ESA Report have been included within this report.

### 1.1 *Special Terms & Conditions*

The findings of this Phase II ESA are generally based on the scope of work and project objectives as stated in LaBella Proposal #P1701253 dated September 22, 2017.

### 1.2 *Limitations & Exceptions*

Work associated with this Phase II ESA was performed in accordance with generally accepted environmental engineering and environmental contracting practices for this region. LaBella makes no other warranty or representation, either expressed or implied, nor is one intended to be included as part of its services, proposals, contracts or reports.

In addition, LaBella cannot provide guarantees, certifications or warranties that the property is or is not free of environmental impairment or other regulated solid wastes. The Client shall be aware that the data and representative samples from any given soil sampling point, monitoring well or soil vapor sampling point may represent conditions that apply only at that particular location, and such conditions may not necessarily apply to the general Site as a whole.

### 1.3 *Reliance*

Gebbie Foundation may rely upon the findings of this report and should be aware of the agreed upon scope of work and the limitations associated with this Scope of Work.

## 2.0 BACKGROUND

---

### 2.1 *Physical Setting*

The Site is located at 115-121 West Third Street and 200-210 Washington Street, City of Jamestown, Chautauqua County, New York, within a predominantly urban area. Groundwater flow at the Site appears to generally flow to the south.

### 2.2 *Adjoining/Adjacent Property Use*

The following properties border the Site.

Direction	Occupant (Address)
North beyond West Third Street	Chadakoin Theatre (114-122 West Third Street)
East beyond Foundry Alley	The Q (104 West Second Street), Convenient Store (111 West Third Street), Commercial buildings (1101-103 West Third Street and 201 Cherry Street)
South beyond West Second Street	Parking lot (200 – 210 Washington Street)
West beyond Washington Street	US Army Recruiting Station (201 West Third Street)

### 2.3 Summary of Previous Studies

As you know, LaBella completed a Phase I ESA Report for the Site dated August 4, 2017. Based on the results of that assessment, the following Recognized Environmental Conditions (RECs) were identified associated with the Site.

- It appears the Site historically included a photo facility located on the northwest portion of the Site from at least 1886 to at least 1891.
- From between at least 1930 and 1949, one gasoline underground storage tank (UST) was located within the Washington Street right-of-way proximate the southwest corner of the Site.
- A photography studio was located on the north portion of the Site historically addressed as 117 West Third Street and Jamestown Furniture Co., historically addressed as 121 West Third Street, was located at the northwest corner of the Site from at least 1946 to at least 1949.
- The southwest corner of the Site historically addressed as 214 Washington Street was occupied by a dry cleaners from at least 1965 to at least 1994.
- A black smith and painting facility was located on the north adjacent property in at least 1886.
- Black smith shops were located on the south adjoining property along West Second Street from at least 1891 to at least 1902 and on the south adjoining property historically addressed as 208-210 Washington Street in at least 1902 and 1915.
- A laundry facility was located on the west adjacent properties historically addressed as 205 West Third Street and 219 Washington Street from at least 1891 to at least 1902.
- The west adjacent property historically addressed as 217 Washington Street was occupied by Jamestown welding in at least 1922 and Bucklin Bros auto tires from at least 1922 to at least 1926.
- The west adjacent property historically addressed as 217-219 Washington Street was occupied by a cleaning company from at least 1922 to at least 1939.
- The south adjoining property historically addressed as 208 Washington Street was occupied by taxi company garages from at least 1926 to at least 1930.
- The south adjoining property historically addressed as 210 Washington Street was occupied by automotive repair facilities from at least 1930 to at least 1939.
- The south adjoining property historically addressed as 212-214 Washington Street was occupied by parking garages from at least 1922 to at least 1981.
- The west adjacent property historically addressed as 203 Washington Street was occupied by a

clothing cleaner from at least 1955 to at least 1960.

As such, LaBella completed a Phase II ESA to further evaluate the RECs identified associated with the Site. The results of the subsurface soil and groundwater investigation have been incorporated into Section 4.0 below. Based on the results of the subsurface soil and groundwater investigation, further investigation was recommended at the Site.

### 3.0 OBJECTIVE

The objective of this Supplemental Phase II ESA was to further evaluate the extent of chlorinated solvent impact identified within the soil sample collected from soil boring SB-3, and evaluate whether the subsurface chlorinated solvent impact represents a soil vapor intrusion concern to the Site Building.

### 4.0 SCOPE OF WORK

LaBella completed the following scope of work at the Site.

#### 4.1 Soil Borings

LaBella advanced five soil borings (SB-1 through SB-5) on the exterior of the Site on August 15, 2017 with a direct-push sampling system to evaluate the RECs identified above. Based on the findings of that investigation, eight additional soil borings (SB-6 through SB-13) were advanced at the Site on October 19, 2017 to further evaluate the extent of the chlorinated solvent impact identified within soil boring SB-3.

Soil borings were advanced to a depth of 20 feet below the ground surface (ft bgs). All soil borings were advanced on the exterior of the Site. Soil Boring Logs were completed for each soil boring and are included in Appendix 1. Soil boring locations are depicted on Figure 2.

Soils recovered from the soil borings were continuously assessed for visible impairment, olfactory indications of impairment and indication of detectable volatile organic compounds (VOCs) with a photoionization detector (PID). Select soil samples were placed in a cooler on ice and sent under standard chain of custody procedures to Pace Analytical Services (Pace) in Melville, New York and Alpha Analytical Laboratories (Alpha) in Westborough, Massachusetts. The following laboratory analysis was performed.

Sample ID	Sample Depth (ft bgs)	Date Collected	Laboratory Analyses
SB-1	12-14	8/15/2017	- TCL VOCs + CP-51 VOCs - CP-51 SVOCs - RCRA Metals
SB-3	10-12	8/15/2017	
SB-5	10-12	8/15/2017	
SB-6	14-15	10/19/2017	- TCL VOCs
SB-7	14-15	10/19/2017	
SB-8	11-12	10/19/2017	
SB-9	10-11	10/19/2017	

SB-10	12-13	10/19/2017	
SB-11	10-11	10/19/2017	
SB-12	12-13	10/19/2017	
SB-13	10-11	10/19/2017	

TCL and NYSDEC CP-51 VOCs = Target Compound List (TCL) and New York State Department of Environmental Conservation (NYSDEC) Commissioner Policy (CP)-51 VOCs using United States Environmental Protection Agency (USEPA) Method 8260  
NYSDEC CP-51 SVOCs = NYSDEC CP-51 Semi-Volatile Organic Compounds (SVOCs) using USEPA Method 8270  
RCRA Metals = Resource Conservation and Recovery Act (RCRA) Metals using USEPA Method 7470/6010

Upon completion of soil boring activities, the removed materials were returned to the bore holes from which they originated. Soil borings were completed with a cold patch to the pre-existing surfaces.

#### 4.2 Groundwater Monitoring Wells

Two temporary one-inch groundwater monitoring wells designated as MW-1 and MW-2 were installed within soil borings SB-1 and SB-3, to depths of 19.3 ft bgs and 20.1 ft bgs on August 15, 2017. Each well was completed with ten feet of 0.010-slot screen. The screens associated with the monitoring wells were connected to an appropriate length of solid PVC well riser to complete the wells. The annulus was packed with quartz sand to approximately two ft bgs. The remaining annulus was bentonite sealed to the ground surface.

On October 12, 2017, LaBella installed two, two-inch permanent shallow overburden groundwater monitoring wells designated as PMW-1 and PMW-2. Additionally, on October 19, 2017, LaBella installed a third, two-inch permanent shallow overburden groundwater monitoring well designated as PMW-3. All three permanent groundwater monitoring wells were installed to a depth of 20 ft bgs. Each well was completed with ten feet of 0.010-slot screen. The screens were connected to an appropriate length of solid PVC well riser to complete the well. The annulus was sand packed with quartz sand to an approximate depth of two feet above the screen section. The remaining annulus was sealed with bentonite to approximately two feet below ground surface. The wells were completed at the surface with 8-inch flush-mount covers with 2-inch by 2-inch concrete pads. Field logs associated with groundwater monitoring activities are included in Appendix 1. Monitoring well locations are depicted on Figure 2.

The groundwater samples were placed in a cooler on ice, and sent under standard chain of custody procedures to Pace and Alpha. The following laboratory analysis was performed.

Sample ID	Laboratory Analyses
MW-1	- TCL + CP-51 VOCs
MW-2	- CP-51 SVOCs
PMW-1	TCL VOCs
PMW-3	

TCL VOCs = TCL and CP-51 VOCs using USEPA Method 8260  
CP-51 SVOCs = NYSDEC CP-51 SVOCs using USEPA Method 8270

#### 4.3 Limited Vapor Intrusion Assessment

On October 4, 2017, LaBella completed a soil vapor intrusion assessment at the Site. The soil vapor sampling methods utilized were generally consistent with the October 2006 New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion. The soil vapor intrusion assessment included the collection of four sub-slab soil vapor samples (SS1 through SS4) throughout the Site Building basement. The sub-slab soil vapor air sampling locations were selected to provide overall coverage and evaluate sub-slab soil vapor conditions beneath the Site Building. The locations of the soil vapor sampling points are depicted on Figure 2.

A hammer drill was utilized to puncture the floor slab at four locations within the basement of the Site Building. Thereafter, polyethylene tubing and a seal was installed at each puncture location. An enclosure was then constructed and sealed to the sampling point tubing at each location. Subsequently, each enclosure was enriched with helium to conduct a tracer gas evaluation. The polyethylene tubing at each sub-slab soil vapor sampling point was then purged to ensure a representative sample of soil vapor was obtained. During purging, the purged air was monitored for helium via a Radio Detection MGD-2002 Helium Leak Detector. None of the sub-slab soil vapor sampling points exhibited concentrations of the tracer gas greater than 10%, thus all appeared to be sealed properly.

Subsequent to purging, the polyethylene tubing at each sub-slab soil vapor sampling point was connected to a PID to measure total VOCs. Table 4 located within the report appendices summarizes the field screening results. No elevated PID measurements were detected associated with the air sampling locations evaluated.

Summa canisters with laboratory calibrated regulators were connected to each of the four sub-slab soil vapor sampling points for soil vapor sample collection. Each sub-slab soil vapor sample was collected continuously over an approximately four-hour period and sent to Alpha for analysis using USEPA test method TO-15.

Weather conditions at the time of the sampling event were sunny with a temperature of approximately 75°F. The NYSDOH Indoor Air Quality Questionnaire and Building Inventory forms were completed as part of this assessment and are included in Appendix 2.

## **5.0 FINDINGS**

---

### **5.1 Site Geology and Hydrology**

In general, the soil borings advanced encountered crushed asphalt to approximately two ft bgs followed by a gravel sub-base mixed with brown clay silts from approximately one to two ft bgs. Native soils encountered generally consisted of various mixtures of brown clay silt and gray clay silt to the bottom of the soil borings. Saturated conditions were encountered in soil borings SB-1 through SB-11 at depths ranging from 13 to 20 ft bgs. It should be noted that PMW-2 was dry at the time of sample collection; therefore, groundwater samples were not collected from PMW-2.

### **5.2 Field Observations and Screening**

Maximum PID readings at each soil boring location are summarized within Table 5.



Strong petroleum-type odors were observed within the following soil borings: SB-3 at 8-15 ft bgs, SB-6 at 12-20 ft bgs, SB-7 at 7-20 ft bgs and SB-10 at 10-15 ft bgs. Black staining was observed within SB-7 at 13-15 ft bgs and SB-6 at 14-15 ft bgs.

No olfactory or visual evidence of impairment was observed in the groundwater extracted from MW-1, PMW-1 or PMW-3. Petroleum-type odors and rainbow sheen were observed within the groundwater extracted from MW-2.

### **5.3 Laboratory Analytical Results**

#### **5.3.1 Soil Laboratory Results**

Eighteen VOCs were detected at concentrations above laboratory method detection limits. Among the VOCs detected, nine petroleum-related VOCs were detected at concentrations above laboratory method detection limits. Amongst the detected petroleum-related VOCs, six petroleum-related VOCs (benzene, ethylbenzene, isopropylbenzene, total xylenes, m/p – xylenes and o – xylenes), were identified at concentrations exceeding NYSDEC CP-51 Soil Cleanup Guidance (SCG) within SB-3, SB-6 and SB-7 with total petroleum-related VOC concentrations ranging from 524 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) to 30,330  $\mu\text{g}/\text{kg}$ . Additionally, petroleum-related VOCs were identified within SB-8, SB-9 and SB-10 with total petroleum-related VOC concentrations ranging from 5.6  $\mu\text{g}/\text{kg}$  to 362  $\mu\text{g}/\text{kg}$ .

Six chlorinated solvents were detected at concentrations above laboratory method detection limits. None of these chlorinated solvents were identified above applicable NYSDEC guidance. However, several elevated concentrations of chlorinated solvents (cis-1,2-dichloroethene, trans-1,2-dichloroethene, tetrachloroethene and trichloroethene) were identified amongst the soil samples collected from SB-3 and SB-5 through SB-10 with total chlorinated solvent concentrations ranging from 1,600  $\mu\text{g}/\text{kg}$  to 86,166  $\mu\text{g}/\text{kg}$ .

Cyclohexane and methylcyclohexane were detected at concentrations above laboratory method detection limits. NYSDEC guidance has not established standards for cyclohexane and methylcyclohexane. Several elevated concentrations of both analytes were identified amongst the soil samples collected from SB-3, SB-6, SB-7 and SB-10 with concentrations ranging from 200  $\mu\text{g}/\text{kg}$  to 100,000  $\mu\text{g}/\text{kg}$ . The source of these elevated analytes is unknown; however, cyclohexane and methylcyclohexane can be related to both petroleum contamination and also solvent use.

No SVOCs were detected at concentrations above NYSDEC CP-51 SCG or NYSDEC Part 375 Commercial-Use Soil Cleanup Objects (SCOs). Soil laboratory results are summarized in Table 1. Copies of the laboratory reports are included in Appendix 3.

#### **5.3.2 Groundwater Laboratory Results**

Based on the groundwater laboratory analytical results, several VOCs were detected at concentrations above laboratory method detection limits in each of the groundwater samples submitted for analysis.

Seven petroleum-related VOCs were identified within MW-2. Two of these petroleum-related VOCs exceeded NYSDEC Division of Technical and Operational Guidance Series (TOGS) Standards, Guidance and Limitations.



Six chlorinated solvent-related VOCs were identified within MW-2 and PMW-3. Four of these chlorinated solvent-related VOCs were identified within MW-2 at concentrations exceeding NYSDEC TOGs at concentrations of 32.4 micrograms per liter ( $\mu\text{g/L}$ ) to 27,100  $\mu\text{g/L}$ . Additionally, two chlorinated solvent-related VOCs were identified within PMW-3 at concentrations exceeding NYSDEC TOGs at concentrations of 96  $\mu\text{g/L}$  and 36,000  $\mu\text{g/L}$ .

Additionally, one SVOC was detected within MW-2 and one additional VOC was detected within PMW-3, at concentrations exceeding NYSDEC TOGS. Groundwater laboratory results are summarized in Table 2. Copies of the laboratory report are included in Appendix 3.

### 5.3.3 Soil Vapor Laboratory Results

Based on laboratory analytical results, several VOCs were detected in each sub-slab soil vapor air sample. The NYSDOH has established guidance documents for determining appropriate action to be taken to address current and potential soil vapor intrusion for a limited number of parameters. The NYSDOH guidance includes matrices to evaluate the results of sub-slab soil vapor and indoor air samples. Laboratory results associated with the soil vapor intrusion assessment are summarized in Table 3 and the laboratory analytical reports are included in Appendix 3. The May 2017 updated Soil Vapor/Indoor Air Matrices A, B, and C are included following the Tables in the Appendices.

The following table identifies the elevated concentrations of VOCs detected within the sub-slab soil vapor air samples collected and submitted for laboratory analysis.

Sample ID	SS1	SS2	SS3	SS4
Sampling Date	10/4/17	10/4/17	10/4/17	10/4/17
Location	Sub-Slab	Sub-Slab	Sub-Slab	Sub-Slab
Volatile Organic Compounds (µg/m³)				
Trichloroethene (TCE)	1,840	40.6	Not detected	
Tetrachloroethene (PCE)	5,920	868	15.4	10.8
1,1,1 - Trichloroethane	12.1	9.66	Not detected	
Cis-1,2- dichloroethene	157	Not detected		

Concentrations of several additional VOCs were detected above laboratory method detection limits within the sub-slab soil vapor samples collected; however, such were either detected at concentrations below NYSDOH Guidance, or current NYSDOH Guidance has not established standards for such VOCs.

Based on the comparison of laboratory analytical results and NYSDOH guidance matrices, mitigation is required within the areas of SS1 and SS2 regardless of unknown indoor air concentrations. Additionally, no further action or to identify sources and resample or mitigation is required within the areas of SS3 and SS4; however, such is dependent on the indoor air concentrations within those areas. It should be

noted although SS3 and SS4 are located to the north of SS1 and SS2, the Site Building basement consists of an open floor plan.

## 6.0 CONCLUSIONS

---

Based on the results of this assessment, LaBella concludes the following.

- The extent of the chlorinated solvent sub-surface soil impact to the south and east of the Site Building appears to be generally defined; however, the extent is unknown to the north and west of the Site Building due to the Site Building location and the Washington Street right-of-way. Soil vapor and groundwater laboratory analytical results suggest the chlorinated solvent soil impact does not extent north beyond SS1 and SS2 beneath the Site Building. While the source of the sub-surface soil chlorinated solvent impact has not been confirmed, the location of the impact appears consistent with the location of the historical on-site dry cleaning operations.
- The source of and extent of the chlorinated solvent groundwater contamination is not confirmed, however, groundwater laboratory analytical results do not suggest up gradient impact. The location of the impact appears consistent with the location of the historical on-site dry cleaning operations.
- Petroleum-type odors were observed within SB-3, SB-6, SB-7 and SB-10. Additionally, black staining was observed within SB-7. Petroleum-type odors and rainbow sheen were observed within MW-2. Elevated PID readings ranging from 455 ppm to 3,104 were identified within SB-3, SB-6, SB-7 and SB-10. Laboratory analytical results of both the groundwater and soil identified multiple petroleum-related VOCs with exceedances of applicable NYSDEC guidance. The source and extent of this contamination is not confirmed; however, a gasoline underground storage tank was identified to have been historically located proximate the southwest corner of the Site Building.
- Several elevated VOCs were identified with in the sub-slab soil vapor air samples collected within SS1 and SS2 located on the south portion of the Site Building. Based on a comparison to NYSDOH guidance matrices mitigation is required within the areas of SS1 and SS2. Although contaminant concentrations detected within SS3 and SS4 do not require mitigation, such would be dependent on the indoor air sampling results to confirm indoor air conditions. As the Site Building basement consists of an open floor plan, there is the potential for indoor air impacts to exist within the entirety of the basement.

## 7.0 RECOMMENDATIONS

---

- Installation of a soil vapor intrusion mitigation system is recommended to properly mitigate the soil vapor intrusion concern which has been identified beneath the Site Building slab.
- Further investigation is warranted to determine the extent of the soil and groundwater contamination identified south of the Site Building.
- Legal counsel should be retained or consulted to evaluate whether the subsurface chlorinated solvent impact identified at the Site constitutes a reporting obligation to the NYSDEC.

## 8.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

---

We appreciate the opportunity to serve your professional environmental engineering needs. If you have any questions please do not hesitate to contact me at (716) 840-2548.

Report Approved By:

Report Prepared By:

---

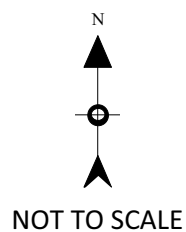
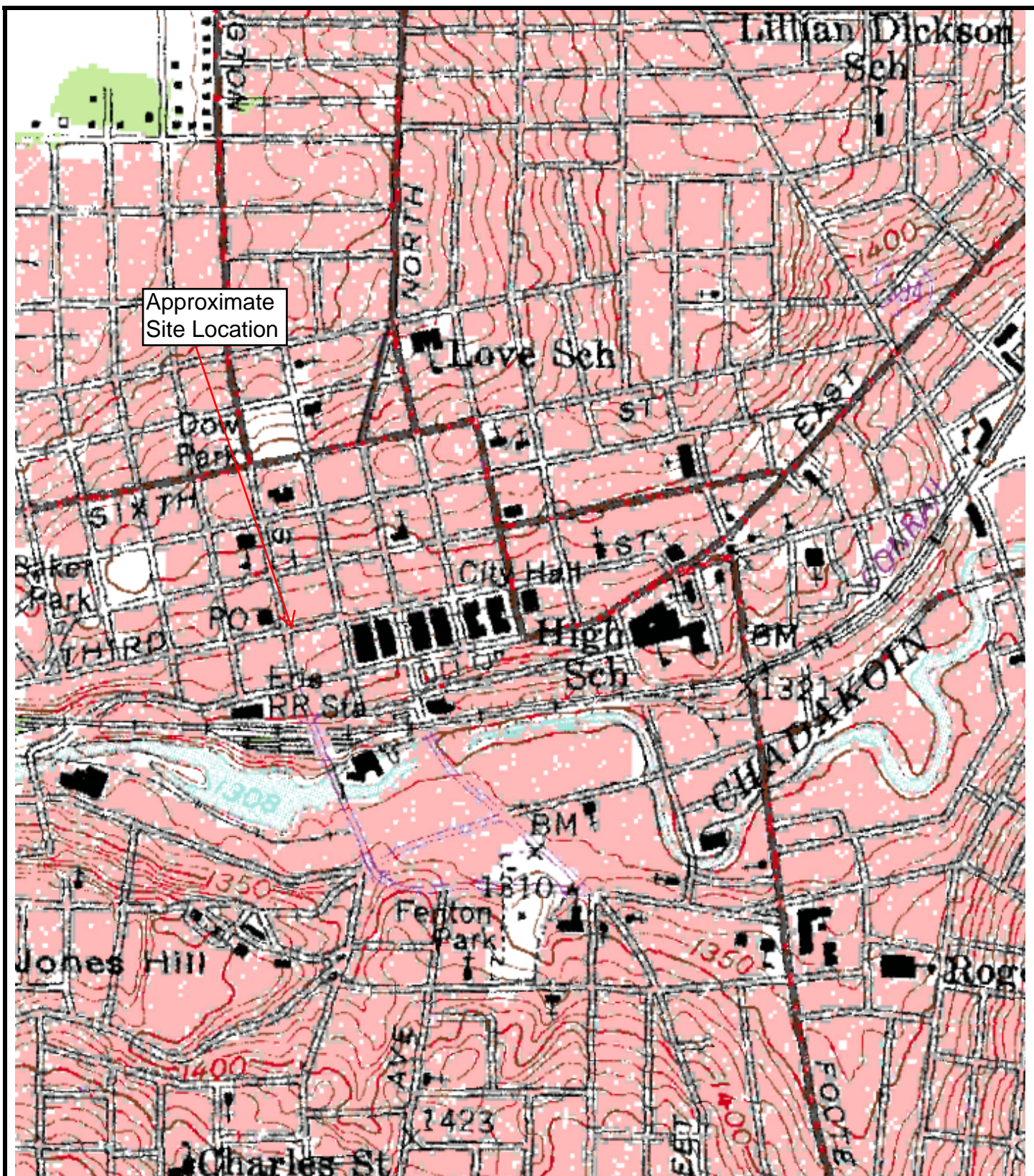
Adam Zebrowski  
Director of Environmental Due Diligence and  
Project Manager  
Environmental Professional

---

Shannon Dalton  
Environmental Analyst

## FIGURES





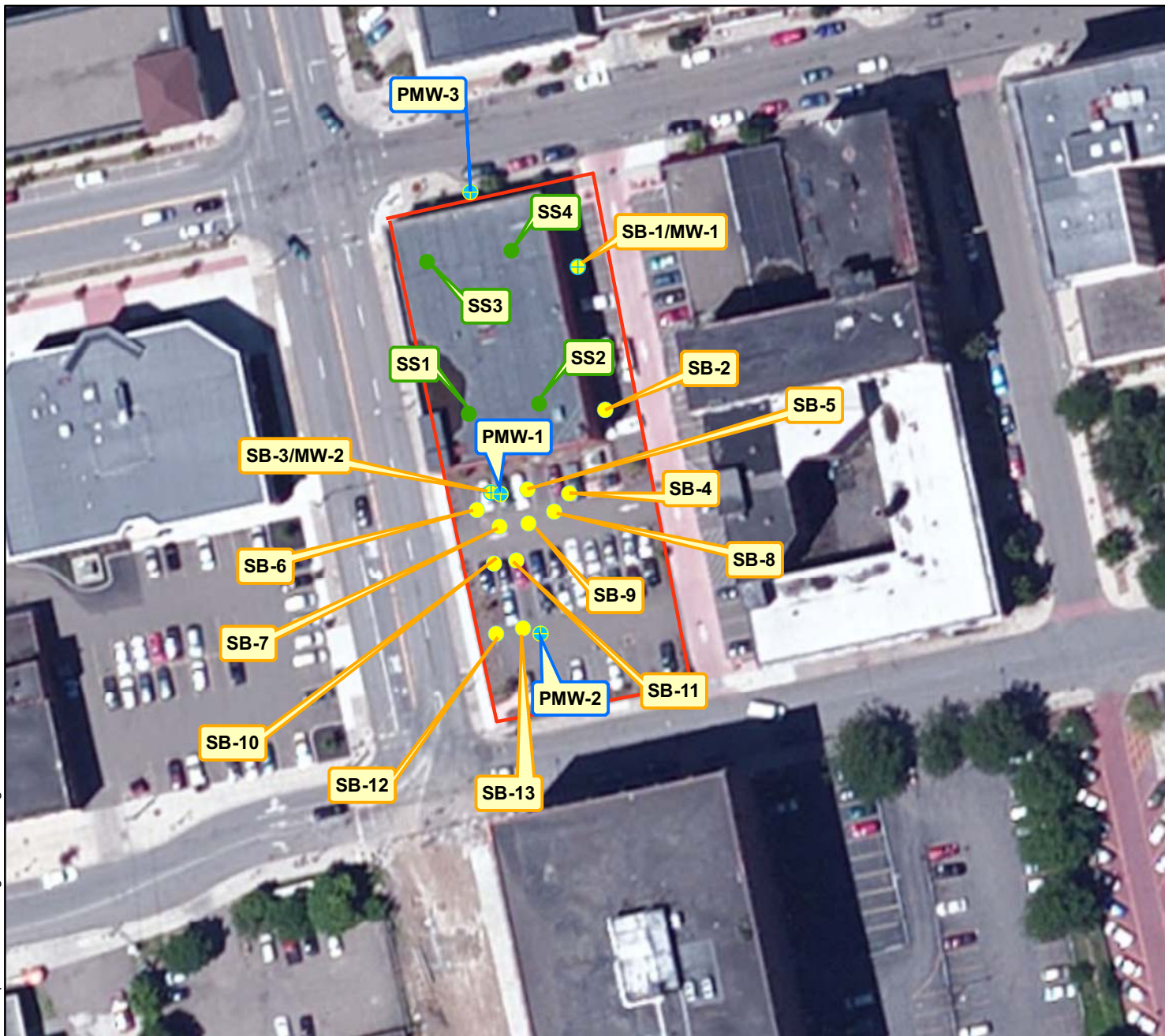
**FIGURE 1**  
**SITE LOCATION MAP**

115-121 West Third Street and  
200-210 Washington Street  
Jamestown, New York

**ABELLA**

PROJECT NO. 2172285





## Legend



Approximate Site Boundary



Soil Boring Location



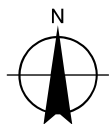
Soil Boring and Temporary Groundwater Monitoring Well Location



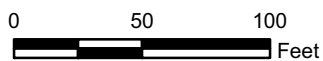
Sub-Slab Soil Vapor Sampling Point



Permanent Groundwater Monitoring Well Location



1:900



PROJECT/DRAWING NUMBER

2172285

FIGURE 2

DRAWING TITLE

## SITE INVESTIGATION MAP

ISSUED FOR

REVIEW

DESIGNED BY: SND

DRAWN BY: SND

DATE: OCTOBER 2017

REVIEWED BY: AZ

PROJECT/CLIENT

## PHASE II ESA

115-121 WEST THIRD STREET  
& 200-210 WASHINGTON STREET  
JAMESTOWN, NEW YORK

# ABELLA

Associates, D.P.C.

300 PEARL STREET  
BUFFALO, NY 14202  
P: (716) 551-6281  
F: (716) 551-6282

www.labellapc.com  
COPYRIGHT 2003

# TABLES

Table 1													
115-121 West Third Street and 200-210 Washington Street													
Jamestown, New York													
Phase II Environmental Site Investigation													
Summary of Subsurface Soil Analytical Results													
(Detected Analytes Only)													
Sample ID	SB-1	SB-3	SB-5	SB-6	SB-7	SB-8	SB-9	SB-10	SB-11	SB-12	SB-13	CP-51 SCG	Part 375 Commercial Use SCOs
Depth (ft bgs)	12-14	10-12	10-12	14-15	14-15	11-12	10-11	12-13	10-11	12-13	10-11		
Sample Date	8/15/2017	8/15/2017	8/15/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017	10/19/2017		
Volatile Organic Compounds (µg/kg)													
Acetone	<	<	<	<	<	<	<	<	1.4 J	2.6 J	<	NL	500,000
Benzene	<	<	<	<	140 J	<	<	32 J	<	<	<	60	44,000
Bromomethane	<	<	<	<	<	27 J	40 J	27 J	<	<	<	NL	NL
Cyclohexane	<	<	<	870 J	27,000	<	<	200 J	<	<	<	NL	NL
cis-1,2-Dichloroethene	<	<	<	<	<	<	<	<	<	<	1.3	NL	500,000
trans-1,2-Dichloroethene	<	<	<	<	66 J	<	<	<	0.33 J	<	<	NL	500,000
Ethylbenzene	<	<	<	400	3,600	<	<	27 J	<	<	<	1,000	390,000
Isopropylbenzene	<	<	<	1,200	2,700	<	<	79	<	<	<	2,300	NL
Methylcyclohexane	<	3,900	<	5,100	100,000 E	<	<	1,200	0.40 J	<	<	NL	NL
Methylene chloride	3.4 J	<	<	<	<	<	<	<	<	<	<	NL	500,000
Methyl ethyl ketone (2-Butanone)	<	175 J	<	<	<	<	<	<	<	<	<	NL	500,000
Methyl-tert-butyl-ether	<	<	<	<	<	5.6 J	8.3 J	<	<	<	<	930	500,000
Tetrachloroethene	39.2	66,100	2,860	59,000 E	84,000 E	2,800	7,400	1,600	35	<	<	NL	150,000
Toluene	<	<	<	<	290 J	<	<	<	<	<	<	700	500,000
Trichloroethene	<	<	<	<	2,100	<	<	<	1.2	<	<	NL	200,000
Total Xylenes	<	349 J	<	<	<	<	<	<	<	<	<	260*	500,000
m/p - Xylenes	NA	NA	NA	1,800	21,000	<	<	160	<	<	<	260*	500,000
o - Xylenes	NA	NA	NA	340	2,600	<	<	64 J	<	<	<	260*	500,000
Semi-Volatile Organic Compounds (µg/kg)													
Benzo(b)fluoranthene	<	9.1	<	NA	NA	NA	NA	NA	NA	NA	NA	1,000	5,600
Chrysene	<	16	<	NA	NA	NA	NA	NA	NA	NA	NA	1,000	56,000
Naphthalene	<	125	<	NA	NA	NA	NA	NA	NA	NA	NA	12,000	500,000
Phenanthrene	<	12	<	NA	NA	NA	NA	NA	NA	NA	NA	100,000	500,000
Pyrene	<	10.1	<	NA	NA	NA	NA	NA	NA	NA	NA	100,000	500,000
Metals (mg/kg)													
Arsenic	14.3	12.7	4.6	NA	NA	NA	NA	NA	NA	NA	NA	NL	16
Barium	119	130	68.1	NA	NA	NA	NA	NA	NA	NA	NA	NL	400
Cadmium	0.26	0.33	0.13 J	NA	NA	NA	NA	NA	NA	NA	NA	NL	9.3
Chromium	1.3	8.9	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NL	400/1,500**
Lead	18.9	14.6	9.9	NA	NA	NA	NA	NA	NA	NA	NA	NL	1,000
Selenium	1.4	0.59 J	0.54	NA	NA	NA	NA	NA	NA	NA	NA	NL	1,500
Silver	2.2	2.4	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NL	1,500

CP-51 SCG = New York State Department of Environmental Conservation (NYSDEC) Commissioner Policy, 51 (CP-51) Soil Cleanup Guidance (SCG) for Gasoline and Fuel Oil Contaminated Soils, Tables 2 and 3 (December 2010)

Part 375 Commercial Use SCOs = NYSDEC Part 375 Commercial Use Soil Cleanup Objectives (SCOs), Table 375-6.8(b) (December 2006)

Concentrations in bold exceed CP-51 SCG

< = Not detected

NL = Not listed

NA = Not analyzed

ft bgs = Feet below the ground surface

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilogram

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

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

\* = Guidance for total xylenes

\*\* = Chromium, hexavalent/Chromium, trivalent (The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.)



**Table 2**  
**115-121 West Third Street and 200-210 Washington Street**  
**Jamestown, New York**  
**Phase II Environmental Site Investigation**  
**Summary of Groundwater Analytical Results**  
**(Detected Compounds Only)**

Sample ID	MW-1	MW-2	PMW-1	PMW-3	NYSDEC TOGS
Sample Date	8/15/2017	8/15/2017	10/20/2017	10/20/2017	
Volatile Organic Compounds (µg/L)					
Acetone	25	31.6	400 J	3.3 J	50
Benzene	<	1.7	<	<	1
Carbon Disulfide	2.7	<	<	<	NL
Cyclohexane	<	749	<	<	NL
cis-1,2-Dichloroethene	<	33.7	<	<	5
trans-1,2-Dichloroethene	<	2.5	<	<	5
Ethylbenzene	<	1.3	<	<	5
Isopropylbenzene	<	32.4	<	<	5
Methylcyclohexane	<	1,290	<	<	NL
Methylene Chloride	<	4.8	<	<	5
Methyl ethyl ketone (2-Butanone)	<	5 J	<	<	50
Tetrachloroethene	<	27,100	36,000	<	5
Toluene	<	1.9	<	<	5
Trichloroethene	<	74.4	96 J	<	5
Total Xylene	<	61.8	<	<	5
Semi-Volatile Organic Compounds (µg/L)					
Naphthalene	<	23.1	NA	NA	10

NYSDEC TOGS = NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1), Ambient Water Quality Standards and Guidance

Values and Groundwater Effluent Limitations (June 1998)

µg/L = micrograms per liter

< = Not detected

NL = Not listed

NA = Not analyzed

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

Concentrations in bold exceed NYSDEC TOGS

**Table 3**  
**115-121 West Third Street and 200-210 Washington Street, Jamestown, NY**  
**Summary of Soil Vapor Intrusion Analytical Results**  
**(Detected Analytes Only)**

Sample ID	SS1	SS2	SS3	SS4
Sampling Date	10/4/2017	10/4/2017	10/4/2017	10/4/2017
Location	Sub-Slab	Sub-Slab	Sub-Slab	Sub-Slab
<b>Volatile Organic Compounds (µg/m<sup>3</sup>)</b>				
Dichlorodifluoromethane	<	2.79	2.39	4.05
1,3-Butadiene	<	<	1.9	<
Acetone	271	51.1	51.1	78.6
Carbon disulfide	107	19.7	2.31	2.72
trans-1,2-Dichloroethene	62.6	<	<	<
n-Hexane	8.11	4.76	16.4	14.4
cis-1,2-Dichloroethene	157	<	<	<
Chloroform	<	<	2.22	<
1,1,1-Trichloroethane	12.1	9.66	<	<
Cyclohexane	<	2.26	5.44	5.47
2,2,4-Trimethylpentane	<	<	2.9	<
Benzene	<	1.96	4.98	3.9
Trichloroethene	1,840	40.6	<	<
Toluene	12.7	4.79	11.8	11.3
Tetrachloroethene	5,920	868	15.4	10.8
m,p-Xylene	<	<	5.21	6.34
o- Xylene	<	<	2.53	2.9
1,2,4-Trimethylbenzene	<	2.4	4.18	4.14
2-Butanone	<	<	5.49	4.45
Heptane	8.65	6.11	11.3	12.5

Volatile Organic Compounds by United States Environmental Protection Agency (USEPA)

Method TO-15

< = Not detected

µg/m<sup>3</sup> = micrograms per cubic meter

Table 4

Vapor Intrusion Assessment  
115-121 3rd Street and 200-210 Washington Street, Jamestown, New York  
Summary of SUMMA Canister Investigation

Sample ID	SS1	SS2	SS3	SS4
Location	SW	SE	NE	NW
Date	10/4/17	10/4/17	10/4/17	10/4/17
Canister Number	481	489	399	1735
Regulator Number	0080	0923	0258	0068
PID Reading (PPM)	6.5	1.8	1.2	1.2
Start Time	1215	1220	1230	1240
Reading	30	30	30	30
End Time	1616	1615	1630	1640
Reading	4.63	1.05	5.62	6.01

Slab  
thickness

6" 5" 5" 6"

-Date: 10/4/17  
-Temperature: 75°F  
-Barometric Pressure:  
-Relative Humidity:

Table 5  
115-121 West Third Street and 200-210 Washington Street  
Phase II Investigation  
Soil Boring PID Readings

Soil Boring ID	Sample Interval (ft bgs)																			
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20
SB-1	0	0		0		0	0		0		0		0.1*		0.2	--	--	--	--	--
SB-2	0	0		0		0	0		0		0		0		0	--	--	--	--	--
SB-3	0	0		0		0	0		255		2,100*		10		12.1	12.1		12		
SB-4	0	0.2		0		0.4	0.2		0.8		0.8		2.9		2.9	1.4		1.1		
SB-5	0	0		0		0.6	1.6		5.6		14.5*		2		2.9	--	--	--	--	--
SB-6	--	0	0	0	0	0	0	0	0	0	74	151	924	1,751	2,072*	63	63	63	63	63
SB-7	--	0.4	3.2	2.2	1.4	6.7	4	3.9	3.3	4.2	2.3	7.2	3.3	17.1	3,104*	82	82	82	82	82
SB-8	--	0	0.2	0.3	0.1	0.2	0.5	1	1.5	1.8	3	3.4*	1	1.2	0.3	0.4	2.5	1	0.4	0.3
SB-9	--	0	0.3	1.2	1.5	4.5	2	2.8	1.4	1.9	10.5*	6	5.5	5.4	5.7	10.1	10.1	10.1	10.1	10.1
SB-10	--	2	2	2.4	2.8	1.2	2	2.2	4	3.9	80	95	455*	385	325	--	--	--	--	--
SB-11	--	--	--	--	--	1.5	2.3	2	5.7	0.6	5.8*	4.1	3.7	2	2.6	--	--	--	--	--
SB-12	--	0.8	0.9	1.8	2.2	0.3	1.2	1.6	1.4	1.8	0.6	2.2	3.7*	1.3	1.4	1	1.4	0.5	0.1	0.2
SB-13	--	0	0.3	0.2	0	0.2	0.3	0.5	0.5	1.1	3.2*	1.5	2	1.1	0.8	1.7	2.1	1.7	2.3	0.9

All photoionization detector (PID) readings were collected utilizing a Miniraw 3000 photoionization detector and are expressed in parts per million.

The PID screening is performed as a method of determining the general presence of absence of volatile organic compounds (VOCs) in soil, and to provide a basis for selecting samples for laboraotry analysis. The readings obtained provided only an indication of the relative levels of VOC presence in the soil, and are not considered to be a direct quantization of actual soil VOC concentration.

"--" denotes boring not completed to above-listed depth or insufficient recovery occurred at specified depth.

"\*" denotes a soil sample was submitted for laboratory analysis from this interval

ft bgs = feet below ground surface

# Soil Vapor/Indoor Air Matrix A

## May 2017

### Analytes Assigned:

Trichloroethene (TCE), *cis*-1,2-Dichloroethene (c12-DCE), 1,1-Dichloroethene (11-DCE), Carbon Tetrachloride

INDOOR AIR CONCENTRATION of COMPOUND (mcg/m <sup>3</sup> )			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m <sup>3</sup> )	< 0.2	0.2 to < 1	1 and above
< 6	1. No further action	2. No Further Action	3. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
6 to < 60	4. No further action	5. MONITOR	6. MITIGATE
60 and above	7. MITIGATE	8. MITIGATE	9. MITIGATE

**No further action:** No additional actions are recommended to address human exposures.

**Identify Source(s) and Resample or Mitigate:** We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

**Monitor:** We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

**Mitigate:** We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

**These general recommendations are made with consideration being given to the additional notes on page 2.**

# Soil Vapor/Indoor Air Matrix B

## May 2017

**Analytes Assigned:**  
Tetrachloroethene (PCE), 1,1,1-Trichloroethane (111-TCA), Methylene Chloride

INDOOR AIR CONCENTRATION of COMPOUND (mcg/m <sup>3</sup> )			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m <sup>3</sup> )	< 3	3 to < 10	10 and above
< 100	1. No further action	2. No Further Action	3. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
100 to < 1,000	4. No further action	5. MONITOR	6. MITIGATE
1,000 and above	7. MITIGATE	8. MITIGATE	9. MITIGATE

**No further action:** No additional actions are recommended to address human exposures.

**Identify Source(s) and Resample or Mitigate:** We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

**Monitor:** We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

**Mitigate:** We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

**These general recommendations are made with consideration being given to the additional notes on page 2.**

# Soil Vapor/Indoor Air Matrix C

May 2017

**Analytes Assigned:**  
Vinyl Chloride

SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m <sup>3</sup> )	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m <sup>3</sup> )	
	< 0.2	0.2 and above
< 6	1. No further action	2. IDENTIFY SOURCE(S) and RESAMPLE or MITIGATE
6 to < 60	3. MONITOR	4. MITIGATE
60 and above	5. MITIGATE	6. MITIGATE

**No further action:** No additional actions are recommended to address human exposures.

**Identify Source(s) and Resample or Mitigate:** We recommend that reasonable and practical actions be taken to identify the source(s) affecting the indoor air quality and that actions be implemented to reduce indoor air concentrations to within background ranges. For example, if an indoor or outdoor air source is identified, we recommend the appropriate party implement actions to reduce the levels. In the event that indoor or outdoor sources are not readily identified or confirmed, resampling (which might include additional sub-slab vapor and indoor air sampling locations) is recommended to demonstrate that SVI mitigation actions are not needed. Based on the information available, mitigation might also be recommended when soil vapor intrusion cannot be ruled out.

**Monitor:** We recommend monitoring (sampling on a recurring basis), including but not necessarily limited to sub-slab vapor, basement air and outdoor air sampling, to determine whether concentrations in the indoor air or sub-slab vapor have changed and/or to evaluate temporal influences. Monitoring might also be recommended to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined based on site-, building- and analyte-specific information, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.


**Mitigate:** We recommend mitigation to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.


**These general recommendations are made with consideration being given to the additional notes on page 2.**


# APPENDIX 1


## Field Logs




 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b>		<b>BORING: SB-1/MW-1</b>	
		115-121 West Third Street and 200-210 Washington Street, Jamestown, New York		Sheet 1 of 1 <b>JOB: 2171989</b> Checked by:	
CONTRACTOR: LaBella Envir. LLC DRILLER: Mike Winderl Jr. LABELLA REPRESENTATIVE: Shannon Dalton				TIME: 8:15 to DATUM:	
START DATE: 8/15/17      END DATE: 8/15/17					
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:		
DEPTH (FT)	BLOW COUNT	SAMPLE		REMARKS	VISUAL CLASSIFICATION
		PID FIELD SCREEN (PPM)	STRATA CHANGE		
0-1		0		No odors or staining	0-0.6 grey gravel asphalt fill
1-3		0		No odors or staining	0.6-5 brown sandy silt mixed with grey gravel (l,m)
3-5		0		No odors or staining	5-8 brown gray sand mixed with red brick (m,m,m)
5-6		0		No odors or staining	8-10 asphalt fill with red brick and brown silt (m,m)
6-8		0		No odors or staining	10-12 brown black clay (m, hp , moist)
8-10		0		No odors or staining	12-14 gray sandy clay silt (m,m)
10-12		0		No odors or staining	14-15 brown gray clay silt (m,m)
12-14		0.1		No odors or staining	15-20 No recovery
14-15		0.2		No odors or staining	
15-17					
17-20					
<b>GROUNDWATER ENCOUNTERED</b>				<b>NOTES:</b> Groundwater encountered at 15 ft bgs Sample collected at 12-14 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID		
8/15/17	15 ft bgs	YES	MW-1		

 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b>		<b>BORING: SB-2</b>	
		115-121 West Third Street and 200-210 Washington Street, Jamestown, New York		Sheet 1 of 1 <b>JOB: 2171989</b> Checked by:	
CONTRACTOR: LaBella Envir. LLC DRILLER: Mike Winderl Jr. LABELLA REPRESENTATIVE: Shannon Dalton				TIME: 8:40 to DATUM:	
START DATE: 8/15/17      END DATE: 8/15/17					
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:		
DEPTH (FT)	BLOW COUNT	SAMPLE		REMARKS	VISUAL CLASSIFICATION
		PID FIELD SCREEN (PPM)	STRATA CHANGE		
0-1		0		No odors or staining	0-2 black asphalt fill
1-3		0		No odors or staining	2-5 brown clay silt (m,m)
3-5		0		No odors or staining	5-6 gray asphalt gravel fill
5-6		0		No odors or staining	6-10 brown silt (l,m)
6-8		0		No odors or staining	10-12 brown clay silt mixed with gravel (m,m)
8-10		0		No odors or staining	12-15 brown clay silt (m,w)
10-12		0		No odors or staining	15-20 No recovery
12-14		0		No odors or staining	
14-15		0		No odors or staining	
15-17					
17-20					
<b>GROUNDWATER ENCOUNTERED</b>				NOTES: Groundwater encountered at 12 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID		
8/15/17	12 ft bgs	NO			

 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b>		<b>BORING: SB-3/MW-2</b>	
		115-121 West Third Street and 200-210 Washington Street, Jamestown, New York		Sheet 1 of 1 <b>JOB: 2171989</b> Checked by:	
CONTRACTOR: LaBella Envir. LLC DRILLER: Mike Winderl Jr. LABELLA REPRESENTATIVE: Shannon Dalton				TIME: 9:00 to DATUM:	
START DATE: 8/15/17      END DATE: 8/15/17					
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:		
DEPTH (FT)	BLOW COUNT	SAMPLE		REMARKS	VISUAL CLASSIFICATION
		PID FIELD SCREEN (PPM)	STRATA CHANGE		
0-1		0		No odors or staining	0-0.6 grey gravel asphalt fill
1-3		0		No odors or staining	0.6-2 brown silt mixed with grey gravel (m,m)
3-5		0		No odors or staining	2-5 dark brown silt mixed with grey gravel (m,m)
5-6		0		No odors or staining	5-10 brown sandy silt mixed with gravel (l,m)
6-8		0		No odors or staining	10-15 gray clay silt (m, w)
8-10		255		No odors or staining	15-20 brown clay silt (l,w)
10-12		2,100		Petroleum type odor No staining	14-15 brown gray clay silt (m,m) 15-20 gray clay silt (m,w)
12-14		10		Petroleum type odor No staining	
14-15		12.1		Petroleum type odor No staining	
15-17		12.1		No odors or staining	
17-20		12		No odors or staining	
<b>GROUNDWATER ENCOUNTERED</b>				<b>NOTES:</b> Groundwater encountered at 12 ft bgs Sample collected at 10-12 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID		
8/15/17	12 ft bgs	YES	MW-2		

 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b>		<b>BORING: SB-4</b>	
		115-121 West Third Street and 200-210 Washington Street, Jamestown, New York		Sheet 1 of 1 <b>JOB: 2171989</b> Checked by:	
CONTRACTOR: LaBella Envir. LLC DRILLER: Mike Winderl Jr. LABELLA REPRESENTATIVE: Shannon Dalton				TIME: 9:30 to DATUM:	
START DATE: 8/15/17      END DATE: 8/15/17					
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:		
DEPTH (FT)	BLOW COUNT	SAMPLE		REMARKS	VISUAL CLASSIFICATION
		PID FIELD SCREEN (PPM)	STRATA CHANGE		
0-1		0		No odors or staining	0-0.6 gravel asphalt fill
1-3		0.2		No odors or staining	0.6-2 brown gray clay silt (m,m)
3-5		0		No odors or staining	2-5 brown red clay silt (m,m)
5-6		0.4		No odors or staining	5-10 brown gray clay silt (m,m)
6-8		0.2		No odors or staining	10-15 red brown clay silt (m,m)
8-10		0.8		No odors or staining	15-20 gray clay silt (m,m)
10-12		0.8		No odors or staining	
12-14		2.9		No odors or staining	
14-15		2.9		No odors or staining	
15-17		1.4		No odors or staining	
17-20		1.1		No odors or staining	
<b>GROUNDWATER ENCOUNTERED</b>				NOTES: Groundwater encountered at 12 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID		
8/15/17	12 ft bgs	No			

 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b>		<b>BORING: SB-5</b>	
		115-121 West Third Street and 200-210 Washington Street, Jamestown, New York		Sheet 1 of 1 <b>JOB: 2171989</b> Checked by:	
CONTRACTOR: LaBella Envir. LLC DRILLER: Mike Winderl Jr. LABELLA REPRESENTATIVE: Shannon Dalton				TIME: 10:25 to DATUM:	
START DATE: 8/15/17      END DATE: 8/15/17					
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:		
DEPTH (FT)	BLOW COUNT	SAMPLE		REMARKS	VISUAL CLASSIFICATION
		PID FIELD SCREEN (PPM)	STRATA CHANGE		
0-1		0		No odors or staining	0-0.6 gravel asphalt fill
1-3		0		No odors or staining	0.6-2 brown sandy silt (l,m)
3-5		0		No odors or staining	2-5 brown red clay silt (m,m)
5-6		0.6		No odors or staining	5-10 light brown clay silt mixed with gravel (m,m)
6-8		1.6		No odors or staining	10-12 brown clay silt (m,m)
8-10		5.6		No odors or staining	12-15 brown clay silt (m,w)
10-12		14.5		No odors or staining	15-20 no recovery
12-14		2		No odors or staining	
14-15		2.9		No odors or staining	
15-17					
17-20					
<b>GROUNDWATER ENCOUNTERED</b>				NOTES: Groundwater encountered at 12 ft bgs Sample collected at 10-12 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID		
8/15/17	12 ft bgs	No			



## GROUNDWATER COLLECTION AND SAMPLE LOG

300 Pearl Street  
Buffalo, New York 14202  
Telephone: (716) 551-6281  
Facsimile: (716) 551-6282

WELL I.D.: MW-1

Project Name: Phase II ESA  
Location: 115-121 West Third Street and 200-210 Washington Street  
Project No.: 2171989  
Sampled By: Shannon Dalton  
Date: 8/15/17  
Weather: Overcast and raining

### PURGE VOLUME CALCULATION

Well Diameter: 1" Static Water Level: 14.5 ft bgs  
Depth of Well: 19.3 ft bgs One Well Volume: 0.192 gallons

### PURGE AND SAMPLING METHOD

☒ Bailer – Type: 0.75" PVC Disposable Bailer ☐ Pump – Type: \_\_\_\_\_  
Sampling Device: \_\_\_\_\_ Pump Rate: \_\_\_\_\_

### FIELD PARAMETER MEASUREMENT

Time	Gallons Purged	pH	Temp (°C)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
13:00	0.192						

Total 0.192 Gallons Purged

Purge Time Start: 13:00 Purge Time End: 13:05

### WELL SAMPLING

Sample I.D.: MW-1 Sample Time: 15:30  
No. of Containers: Four Sample Preservation: \_\_\_\_\_

Sampled For: ☒ VOCs - 8260 TCL + CP-51 ☐ VOCs - 8260B CP-51 Only ☐ PCBs  
☒ SVOCs - 8270 CP-51 Only ☐ Total RCRA Metals ☐ Other: \_\_\_\_\_

### OBSERVATIONS

Well was installed in SB-1 (MW-1)  
Only one well volume was purged due to monitoring well casing malfunctions

Recharge Behavior: ☐ Fast ☒ Moderate ☐ Slow ☐ Purged Dry



300 Pearl Street  
Buffalo, New York 14202  
Telephone: (716) 551-6281  
Facsimile: (716) 551-6282

## GROUNDWATER COLLECTION AND SAMPLE LOG

WELL I.D.: MW-2

Project Name: Phase II ESA  
Location: 115-121 West Third Street and 200-210 Washington Street, Jamestown, NY  
Project No.: 2171989  
Sampled By: Shannon Dalton  
Date: 8/15/17  
Weather: Sunny

### PURGE VOLUME CALCULATION

Well Diameter: 1" Static Water Level: 12.7 ft bgs  
Depth of Well: 20.1 ft bgs One Well Volume: 0.296 gallons

### PURGE AND SAMPLING METHOD

☒ Bailer – Type: 0.75" PVC Disposable Bailer ☐ Pump – Type: \_\_\_\_\_  
Sampling Device: \_\_\_\_\_ Pump Rate: \_\_\_\_\_

### FIELD PARAMETER MEASUREMENT

Time	Gallons Purged	pH	Temp (°C)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
12:00	0.296						
12:05	0.592						
12:08	0.888						

Total 0.888 Gallons Purged

Purge Time Start: 12:00 Purge Time End: 12:08

### WELL SAMPLING

Sample I.D.: MW-2 Sample Time: 12:10  
No. of Containers: 4 Sample Preservation: \_\_\_\_\_

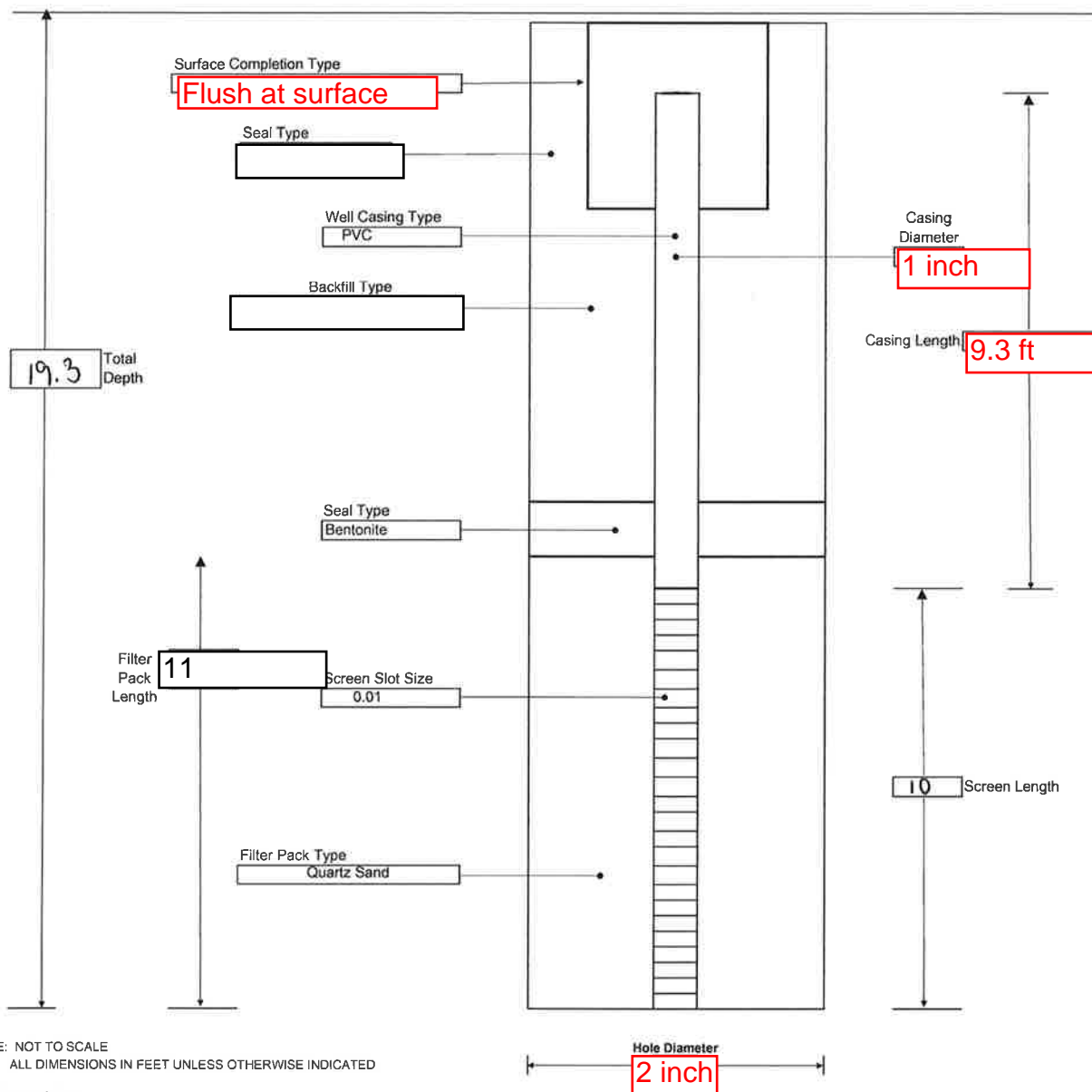
Sampled For: ☒ VOCs - 8260 TCL + CP-51 ☐ VOCs - 8260B CP-51 Only ☐ PCBs  
☒ SVOCs - 8270 CP-51 Only ☐ Total RCRA Metals ☐ Other: \_\_\_\_\_

### OBSERVATIONS

Petroleum type odors and sheen was observed  
Well was installed in SB-3 (MW-2)

Recharge Behavior: ☐ Fast ☒ Moderate ☐ Slow ☐ Purged Dry

<b>LABELLA</b> Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT <b>115-121 W Third Street and 200-210 Washington Street</b>		BORING: SHEET <b>2171989</b> JOB # CHKD. BY: <b>SD</b>
	CONTRACTOR: <b>LaBella Environmental, LLC</b>		BORING LOCATION: <b>SB-1/MW-1</b> GROUND SURFACE ELEVATION: N/A    DATUM: N/A START DATE:    END DATE:
DRILLER: LABELLA REPRESENTATIVE: <b>Shannon Dalton</b>		TYPE OF DRILL RIG: AUGER SIZE AND TYPE: N/A OVERBURDEN SAMPLING METHOD: ROCK DRILLING METHOD: N/A	



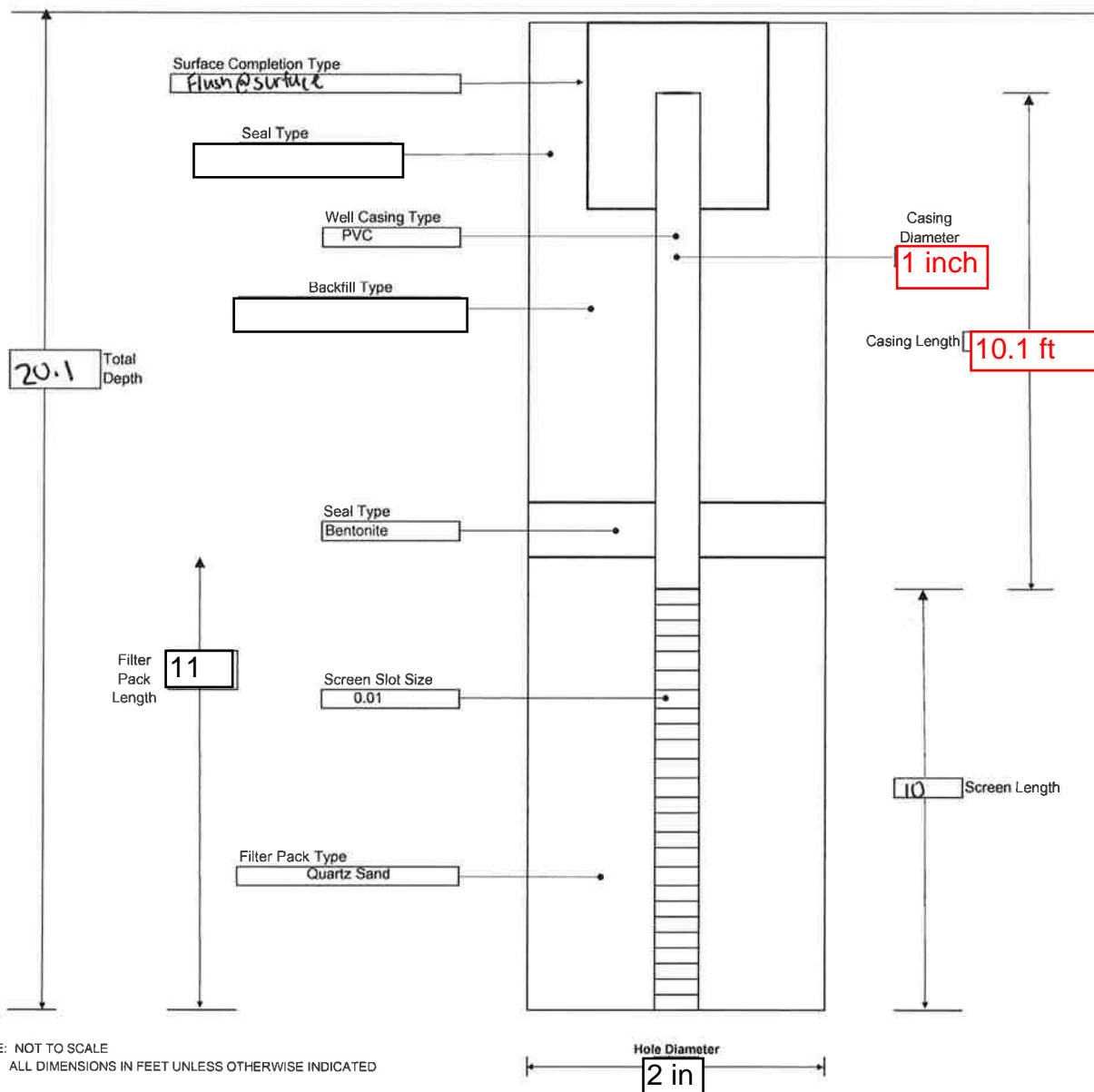
NOTE: NOT TO SCALE  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE INDICATED

GENERAL NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.




<b>LABELLA</b> Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT <b>115-121 W Third Street and          200-210 Washington Street</b>		BORING: SHEET <b>2171989</b> JOB # CHKD. BY: <b>SD</b>																															
	CONTRACTOR: <b>LaBella Environmental, LLC</b>		BORING LOCATION: <b>SB-3/MW-2</b>																															
DRILLER: LABELLA REPRESENTATIVE: <b>Shannon Dalton</b>		GROUND SURFACE ELEVATION: N/A    DATUM: N/A START DATE:    END DATE:																																
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: N/A OVERBURDEN SAMPLING METHOD: ROCK DRILLING METHOD: N/A		<table border="1"> <thead> <tr> <th colspan="5">WATER LEVEL DATA</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING</th> <th>REMARKS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>			WATER LEVEL DATA					DATE	TIME	WATER	CASING	REMARKS																				
WATER LEVEL DATA																																		
DATE	TIME	WATER	CASING	REMARKS																														





NOTE: NOT TO SCALE  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE INDICATED


GENERAL NOTES:


- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB- 6</b> Sheet 1 of 1 <b>JOB: 2172285</b> Checked by:	
		CONTRACTOR: LaBella Envir. LLC DRILLER: LABELLA REPRESENTATIVE: Shannon Dalton START DATE: 10/19/17    END DATE: 10/19/17 TIME: 8:30    to DATUM:				
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-1		0	--		No odors or staining	0-1 asphalt
1-2		4	0		No odors or staining	1-2 brown clay silt mixed with gravel (m,m)
2-3		4	0		No odors or staining	
3-4		4	0		No odors or staining	2-5 brown clay silt (m,m)
4-5		4	0		No odors or staining	5-7 brown clay silt mixed with gravel (m,m)
5-6		5	0		No odors or staining	
6-7		5	0		No odors or staining	7-10 red brown clay silt mixed with gravel (m,m)
7-8		5	0		No odors or staining	
8-9		5	0		No odors or staining	10-13 white gray clay (l,m,m)
9-10		5	0		No odors or staining	13-14 brown clay silt (m,m)
10-11		6	74		No odors or staining	14-15 brown clay silt with black staining (m,m)
11-12		6	151		No odors or staining	
12-13		6	924		Petroleum odor, no staining	15-20 brown clay silt (h,w)
13-14		6	1,751		Petroleum odor, no staining	
14-15		6	2,072		Petroleum odor, black staining	
15-16		0.5	63		Petroleum odor, no staining	
16-17		0.5			Petroleum odor, no staining	
17-18		0.5			Petroleum odor, no staining	
18-19		0.5			Petroleum odor, no staining	
19-20		0.5			Petroleum odor, no staining	
GROUNDWATER ENCOUNTERED					NOTES: Groundwater encountered at 15 ft bgs Sample collected at 14-15 bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB- 7</b> Sheet 1 of 1 <b>JOB: 2172285</b> Checked by:	
		CONTRACTOR: LaBella Envir. LLC DRILLER: LABELLA REPRESENTATIVE: Shannon Dalton START DATE: 10/19/17    END DATE: 10/19/17 TIME: 9:15    to DATUM:				
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-1		0	--		No odors or staining	0-1 asphalt
1-2		4	0.4		No odors or staining	1-5 brown clay silt (m,m)
2-3		4	3.2		No odors or staining	5-13 brown clay silt mixed with gravel (m,m)
3-4		4	2.2		No odors or staining	
4-5		4	1.4		No odors or staining	13-15 brown clay silt with black staining (m,m)
5-6		4	6.7		No odors or staining	
6-7		4	4		No odors or staining	15-30 brown clay silt (h,w)
7-8		4	3.9		Petroleum odor, no staining	
8-9		4	3.3		Petroleum odor, no staining	
9-10		4	4.2		Petroleum odor, no staining	
10-11		3	2.3		Petroleum odor, no staining	
11-12		3	7.2		Petroleum odor, no staining	
12-13		3	3.3		Petroleum odor, no staining	
13-14		3	17.1		Petroleum odor, black staining	
14-15		3	3,104		Petroleum odor, black staining	
15-16		0.25	82		Petroleum odor, no staining	
16-17		0.25			Petroleum odor, no staining	
17-18		0.25			Petroleum odor, no staining	
18-19		0.25			Petroleum odor, no staining	
19-20		0.25			Petroleum odor, no staining	
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID	Groundwater encountered at 15 ft bgs		
				Sample collected at 14-15 bgs		


 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB- 8</b> Sheet 1 of 1 <b>JOB: 2172285</b> Checked by:	
		CONTRACTOR: LaBella Envir. LLC DRILLER: LABELLA REPRESENTATIVE: Shannon Dalton START DATE: 10/19/17    END DATE: 10/19/17 TIME: 10:35    to DATUM:				
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-1		0	--		No odors or staining	0-1 asphalt
1-2		7	0		No odors or staining	2-5 brown gray clay silt mixed with gravel (m,m)  5-15 brown clay silt mixed with gravel (m,m)  15-20 brown gray clay silt (h,w)
2-3		7	0.2		No odors or staining	
3-4		7	0.3		No odors or staining	
4-5		7	0.1		No odors or staining	
5-6		6	0.2		No odors or staining	
6-7		6	0.5		No odors or staining	
7-8		6	1		No odors or staining	
8-9		6	1.5		No odors or staining	
9-10		6	1.8		No odors or staining	
10-11		4	3		No odors or staining	
11-12		4	3.4		No odors or staining	
12-13		4	1		No odors or staining	
13-14		4	1.2		No odors or staining	
14-15		4	0.3		No odors or staining	
15-16		7	0.4		No odors or staining	
16-17		7	2.5		No odors or staining	
17-18		7	1		No odors or staining	
18-19		7	0.4		No odors or staining	
19-20		7	0.3		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES: Groundwater encountered at 15 ft bgs Sample collected at 11-12 bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB- 9</b> Sheet 1 of 1 <b>JOB: 2172285</b> Checked by:	
		CONTRACTOR: LaBella Envir. LLC DRILLER: LABELLA REPRESENTATIVE: Shannon Dalton START DATE: 10/19/17    END DATE: 10/19/17 TIME: 11:00    to DATUM:				
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-1		0	--		No odors or staining	0-1 asphalt
1-2		5	0		No odors or staining	1-3 orange brown clay silt mixed with gravel (m,m)  3-15 brown clay silt mixed with gravel (m,m)  15-20 brown clay silt mixed with gravel (m,w)
2-3		5	0.3		No odors or staining	
3-4		5	1.2		No odors or staining	
4-5		5	1.5		No odors or staining	
5-6		4	4.5		No odors or staining	
6-7		4	2		No odors or staining	
7-8		4	2.8		No odors or staining	
8-9		4	1.4		No odors or staining	
9-10		4	1.9		No odors or staining	
10-11		6	10.5		No odors or staining	
11-12		6	6		No odors or staining	
12-13		6	5.5		No odors or staining	
13-14		6	5.4		No odors or staining	
14-15		6	5.7		No odors or staining	
15-16		0.5	10.1		No odors or staining	
16-17		0.5			No odors or staining	
17-18		0.5			No odors or staining	
18-19		0.5			No odors or staining	
19-20		0.5			No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID	Groundwater encountered at 15 ft bgs Sample collected at 10-11 ft bgs		

 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB- 10</b> Sheet 1 of 1 <b>JOB: 2172285</b> Checked by:	
		CONTRACTOR: LaBella Envir. LLC DRILLER: LABELLA REPRESENTATIVE: Shannon Dalton START DATE: 10/19/17    END DATE: 10/19/17 TIME: 11:15    to DATUM:				
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-1		0	--		No odors or staining	0-1 asphalt
1-2		6	2		No odors or staining	1-3 brown clay silt (m,m)
2-3		6	2		No odors or staining	3-5 gray clay silt (m,m)
3-4		6	2.4		No odors or staining	5-10 brown clay silt mixed with gravel (m,m)
4-5		6	2.8		No odors or staining	10-13 brown clay silt (m,m)
5-6		7	1.2		No odors or staining	13-15 brown gray clay silt (l,w)
6-7		7	2		No odors or staining	15-20 no recovery
7-8		7	2.2		No odors or staining	
8-9		7	4		No odors or staining	
9-10		7	3.9		No odors or staining	
10-11		7	80		Petroleum odor, no staining	
11-12		7	95		Petroleum odor, no staining	
12-13		7	455		Petroleum odor, no staining	
13-14		7	385		Petroleum odor, no staining	
14-15		7	325		Petroleum odor, no staining	
GROUNDWATER ENCOUNTERED					NOTES: Groundwater encountered at 13 ft bgs Sample collected at 12-13 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID			



 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB- 11</b> Sheet 1 of 1 <b>JOB: 2172285</b> Checked by:	
		CONTRACTOR: LaBella Envir. LLC DRILLER: LABELLA REPRESENTATIVE: Shannon Dalton START DATE: 10/19/17    END DATE: 10/19/17 TIME: 11:30    to DATUM:				
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-5		0	--		--	0-5 no recovery
5-6		4	1.5		No odors or staining	5-15 brown clay silt (m,m)  15-20 no recovery
6-7		4	2.3		No odors or staining	
7-8		4	2		No odors or staining	
8-9		4	5.7		No odors or staining	
9-10		4	0.6		No odors or staining	
10-11		3	5.8		No odors or staining	
11-12		3	4.1		No odors or staining	
12-13		3	3.7		No odors or staining	
13-14		3	2		No odors or staining	
14-15		3	2.6		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 10-11 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID			

 <b>LaBella Associates</b> Engineering Architecture Environmental Planning 300 Pearl Street, Suite 130				<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York		<b>BORING: SB- 12</b> Sheet 1 of 1 <b>JOB: 2172285</b> Checked by:
CONTRACTOR: LaBella Envir. LLC DRILLER: LABELLA REPRESENTATIVE: Shannon Dalton START DATE: 10/19/17    END DATE: 10/19/17					TIME: 12:00    to DATUM:	
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push					DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:	
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-1		0	--		--	0-1 asphalt
1-2		5	0.8		No odors or staining	1-2 brown orange clay silt (m,m)
2-3		5	0.9		No odors or staining	2-5 brown clay silt (m,m)
3-4		5	1.8		No odors or staining	5-7 gray clay silt (m,m)
4-5		5	2.2		No odors or staining	7-10 brown clay silt (m,m)
5-6		10	0.3		No odors or staining	10-13 brown gray clay silt (m,m)
6-7		10	1.2		No odors or staining	13-15 gray clay silt (m,m)
7-8		10	1.6		No odors or staining	15-17 brown clay silt (m,m)
8-9		10	1.4		No odors or staining	17-20 gray clay silt (m,m)
9-10		10	1.8		No odors or staining	
10-11		12	0.6		No odors or staining	
11-12		12	2.2		No odors or staining	
12-13		12	3.7		No odors or staining	
13-14		12	1.3		No odors or staining	
14-15		12	1.4		No odors or staining	
15-16		10	1.0		No odors or staining	
16-17		10	1.4		No odors or staining	
17-18		10	0.5		No odors or staining	
18-19		10	0.1		No odors or staining	
19-20		10	0.2		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 12-13 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID			

 <b>Engineering Architecture Environmental Planning</b>  300 Pearl Street, Suite 130		<b>TEST BORING LOG</b>		<b>BORING: SB- 13</b>		
		Phase II ESA		Sheet 1 of 1 <b>JOB:</b> 2172285 Checked by:		
115-121 West Third Street and 200-210 Washington Street, Jamestown, New York						
CONTRACTOR: LaBella Envir. LLC				TIME: 12:30      to		
DRILLER:				DATUM:		
LABELLA REPRESENTATIVE: Shannon Dalton    START DATE: 10/19/17    END DATE: 10/19/17						
TYPE OF DRILL RIG:			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-1		0	--		No odors or staining	0-1 asphalt  1-18 brown clay silt mixed with gravel (m,m)  18-20 gray clay silt (m,m)
1-2		6	0		No odors or staining	
2-3		6	0.3		No odors or staining	
3-4		6	0.2		No odors or staining	
4-5		6	0		No odors or staining	
5-6		12	0.2		No odors or staining	
6-7		12	0.3		No odors or staining	
7-8		12	0.5		No odors or staining	
8-9		12	0.5		No odors or staining	
9-10		12	1.1		No odors or staining	
10-11		7	3.2		No odors or staining	
11-12		7	1.5		No odors or staining	
12-13		7	2		No odors or staining	
13-14		7	1.1		No odors or staining	
14-15		7	0.8		No odors or staining	
15-16		7	1.7		No odors or staining	
16-17		7	2.1		No odors or staining	
17-18		7	1.7		No odors or staining	
18-19		7	2.3		No odors or staining	
19-20		7	0.9		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 10-11 ft bgs	
DATE	DEPTH	WELL INSTALLED	WELL ID			



300 Pearl Street  
Buffalo, New York 14202  
Telephone: (716) 551-6281  
Facsimile: (716) 551-6282

## GROUNDWATER COLLECTION AND SAMPLE LOG

WELL I.D.: PMW-1

Project Name: Phase II ESA  
Location: 115-121 West Third Street and 200-210 Washington Street  
Project No.: 2172285  
Sampled By: Shannon Dalton  
Date: 10/20/17  
Weather: Sunny

### PURGE VOLUME CALCULATION

Well Diameter: 2 in Static Water Level: 11.9 ft  
Depth of Well: 20 ft One Well Volume: 1.296 gallons

### PURGE AND SAMPLING METHOD

☒ Bailer – Type: \_\_\_\_\_ ☐ Pump – Type: \_\_\_\_\_  
Sampling Device: \_\_\_\_\_ Pump Rate: \_\_\_\_\_

### FIELD PARAMETER MEASUREMENT

Time	Gallons Purged	pH	Temp (°C)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
8:40	1.296						
8:50	2.592						
9:05	3.888						

Total 3.888 Gallons Purged

Purge Time Start: 8:40 Purge Time End: 9:05

### WELL SAMPLING

Sample I.D.: PMW-1 Sample Time: \_\_\_\_\_  
No. of Containers: 3 Sample Preservation: \_\_\_\_\_

Sampled For: ☐ VOCs - 8260 TCL + CP-51 ☐ VOCs - 8260B CP-51 Only ☐ PCBs  
☐ SVOCs - 8270 CP-51 Only ☐ Total RCRA Metals ☒ Other: TCL VOCs

### OBSERVATIONS

Very turbid, no odors or staining

Recharge Behavior: ☐ Fast ☒ Moderate ☐ Slow ☐ Purged Dry



300 Pearl Street  
Buffalo, New York 14202  
Telephone: (716) 551-6281  
Facsimile: (716) 551-6282

## GROUNDWATER COLLECTION AND SAMPLE LOG

WELL I.D.: PMW-2

Project Name: Phase II ESA  
Location: 115-121 West Third Street and 200-210 Washington Street  
Project No.: 2172285  
Sampled By: Shannon Dalton  
Date: 10/20/17  
Weather: Sunny

### PURGE VOLUME CALCULATION

Well Diameter: 2 in Static Water Level: \_\_\_\_\_  
Depth of Well: 20 ft One Well Volume: \_\_\_\_\_

### PURGE AND SAMPLING METHOD

☐ Bailer – Type: \_\_\_\_\_ ☐ Pump – Type: \_\_\_\_\_  
Sampling Device: \_\_\_\_\_ Pump Rate: \_\_\_\_\_

### FIELD PARAMETER MEASUREMENT

Time	Gallons Purged	pH	Temp (°C)	Conductivity (mS/cm)	Turbidity (NTU)		Comments

Total \_\_\_\_\_ Gallons Purged

Purge Time Start: \_\_\_\_\_ Purge Time End: \_\_\_\_\_

### WELL SAMPLING

Sample I.D.: \_\_\_\_\_ Sample Time: \_\_\_\_\_  
No. of Containers: \_\_\_\_\_ Sample Preservation: \_\_\_\_\_

Sampled For: ☐ VOCs - 8260 TCL + CP-51 ☐ VOCs - 8260B CP-51 Only ☐ PCBs  
☐ SVOCs - 8270 CP-51 Only ☐ Total RCRA Metals ☐ Other: \_\_\_\_\_

### OBSERVATIONS

Dry  
No samples collected

Recharge Behavior: ☐ Fast ☐ Moderate ☐ Slow ☐ Purged Dry





300 Pearl Street  
Buffalo, New York 14202  
Telephone: (716) 551-6281  
Facsimile: (716) 551-6282

## GROUNDWATER COLLECTION AND SAMPLE LOG

WELL I.D.: PMW-3

Project Name: Phase II ESA  
Location: 115-121 West Third Street and 200-210 Washington Street  
Project No.: 2172285  
Sampled By: Shannon Dalton  
Date: 10/20/17  
Weather: Sunny

### PURGE VOLUME CALCULATION

Well Diameter: 2 in Static Water Level: 15.8 ft  
Depth of Well: 20 ft One Well Volume: 0.672 gallons

### PURGE AND SAMPLING METHOD

☒ Bailer – Type: \_\_\_\_\_ ☐ Pump – Type: \_\_\_\_\_  
Sampling Device: \_\_\_\_\_ Pump Rate: \_\_\_\_\_

### FIELD PARAMETER MEASUREMENT

Time	Gallons Purged	pH	Temp (°C)	Conductivity (mS/cm)	Turbidity (NTU)		Comments
9:35	0.672						
9:50	1.344						
Dry @ 1.4 gallons							

Total 1.4 Gallons Purged

Purge Time Start: 9:35 Purge Time End: 9:50

### WELL SAMPLING

Sample I.D.: PMW-3 Sample Time: 10:20  
No. of Containers: 3 Sample Preservation: \_\_\_\_\_

Sampled For: ☐ VOCs - 8260 TCL + CP-51 ☐ VOCs - 8260B CP-51 Only ☐ PCBs  
☐ SVOCs - 8270 CP-51 Only ☐ Total RCRA Metals ☒ Other: TCL VOCs

### OBSERVATIONS

Very turbid and gray in color , no odors or staining

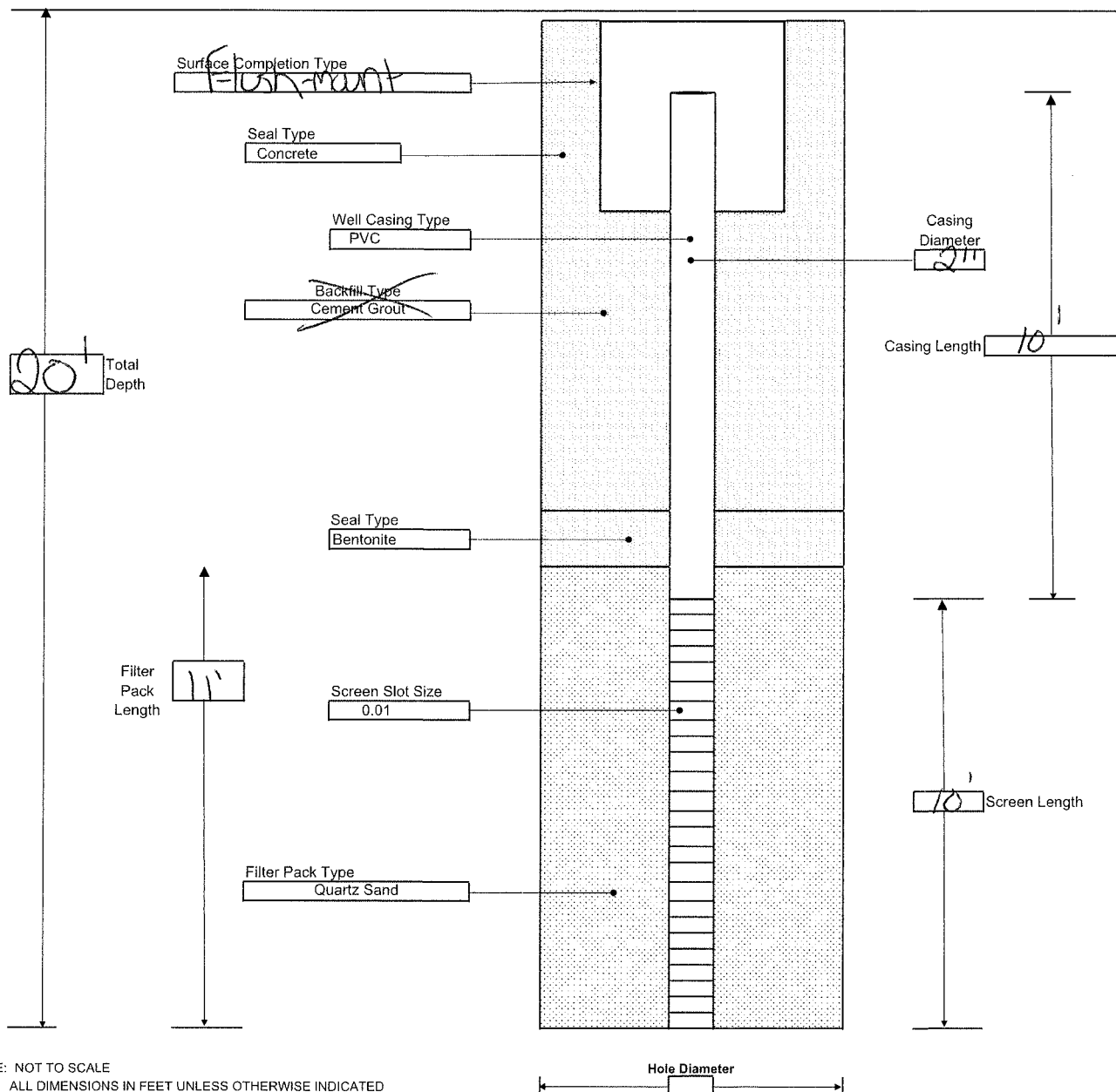
Recharge Behavior: ☐ Fast ☐ Moderate ☐ Slow ☒ Purged Dry

CONTRACTOR: **Labelle**  
DRILLER:  
LABELLA REPRESENTATIVE: **CK**

BORING LOCATION:  
GROUND SURFACE ELEVATION: N/A DATUM: N/A  
START DATE: **10-12-17** END DATE: **10-12-17 11:30am**

TYPE OF DRILL RIG:  
AUGER SIZE AND TYPE: N/A  
OVERBURDEN SAMPLING METHOD:  
ROCK DRILLING METHOD: N/A

WATER LEVEL DATA				
DATE	TIME	WATER	CASING	REMARKS

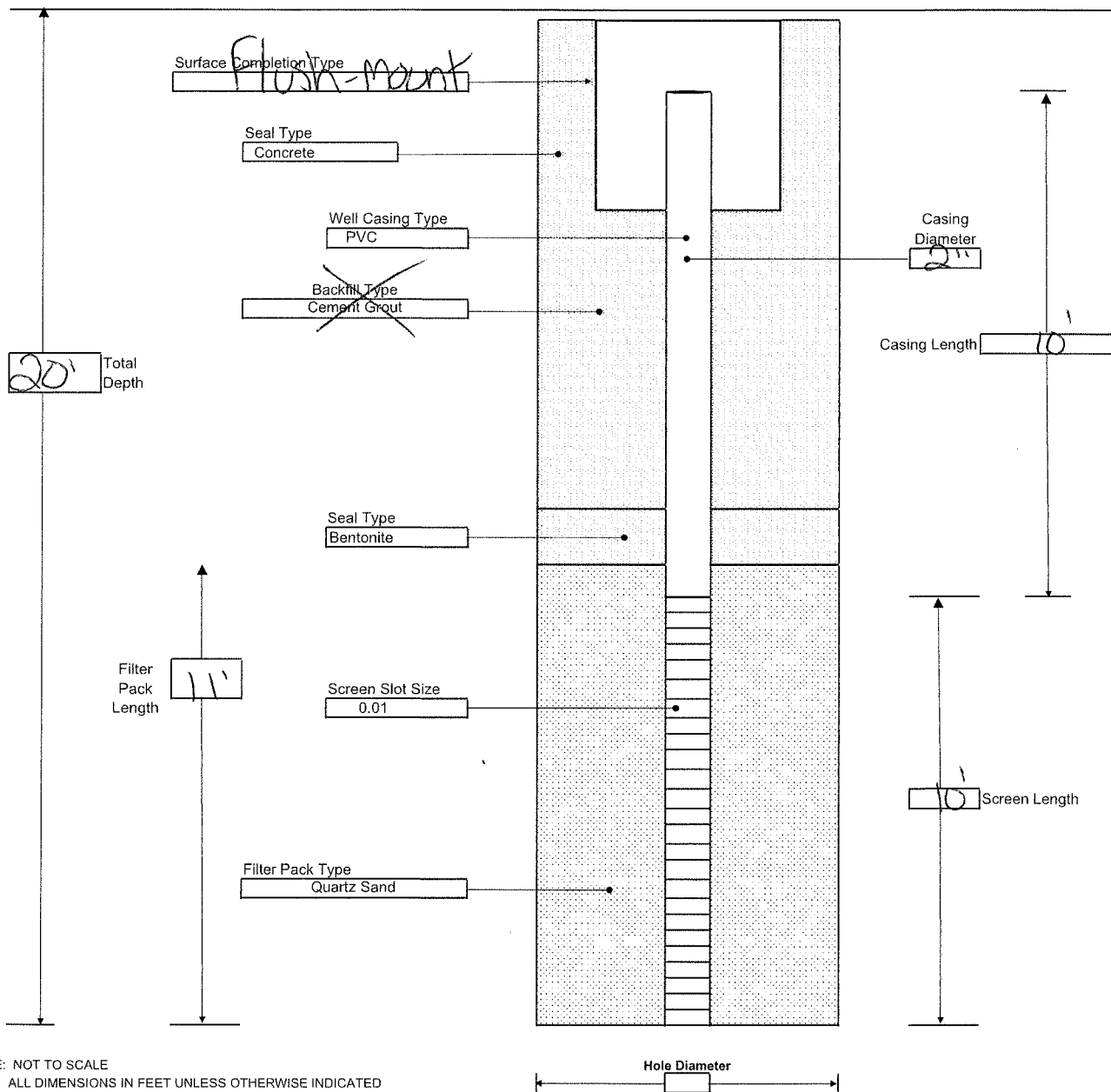


NOTE: NOT TO SCALE  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE INDICATED

GENERAL NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

<b>LABELLA</b> Associates, P.C. 300 STATE STREET, ROCHESTER, NEW YORK ENVIRONMENTAL ENGINEERING CONSULTANTS	PROJECT <h1 style="margin: 0;">Jamestown Brewery</h1>	BORING: <span style="font-size: 1.5em;">PMW-2</span> SHEET <span style="font-size: 1.5em;">21</span> OF <span style="font-size: 1.5em;">1</span> JOB # <span style="font-size: 1.5em;">2192285</span> CHKD. BY:																								
CONTRACTOR: <span style="font-size: 1.2em;">Labelle</span> DRILLER: LABELLA REPRESENTATIVE: <span style="font-size: 1.2em;">CK</span>	BORING LOCATION: : GROUND SURFACE ELEVATION: N/A    DATUM: N/A START DATE: <span style="font-size: 1.2em;">10-12-17</span> END DATE: <span style="font-size: 1.2em;">10-12-17</span>																									
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: N/A OVERBURDEN SAMPLING METHOD: ROCK DRILLING METHOD: N/A	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">WATER LEVEL DATA</th> </tr> <tr> <th>DATE</th> <th>TIME</th> <th>WATER</th> <th>CASING REMARKS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		WATER LEVEL DATA				DATE	TIME	WATER	CASING REMARKS																
WATER LEVEL DATA																										
DATE	TIME	WATER	CASING REMARKS																							



NOTE: NOT TO SCALE  
 ALL DIMENSIONS IN FEET UNLESS OTHERWISE INDICATED

GENERAL NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED. FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

CONTRACTOR: LaBella Environmental, LLC

DRILLER:

LABELLA REPRESENTATIVE: Shannon Dalton

GROUND SURFACE ELEVATION: N/A DATUM: N/A

START DATE:

END DATE:

TYPE OF DRILL RIG:

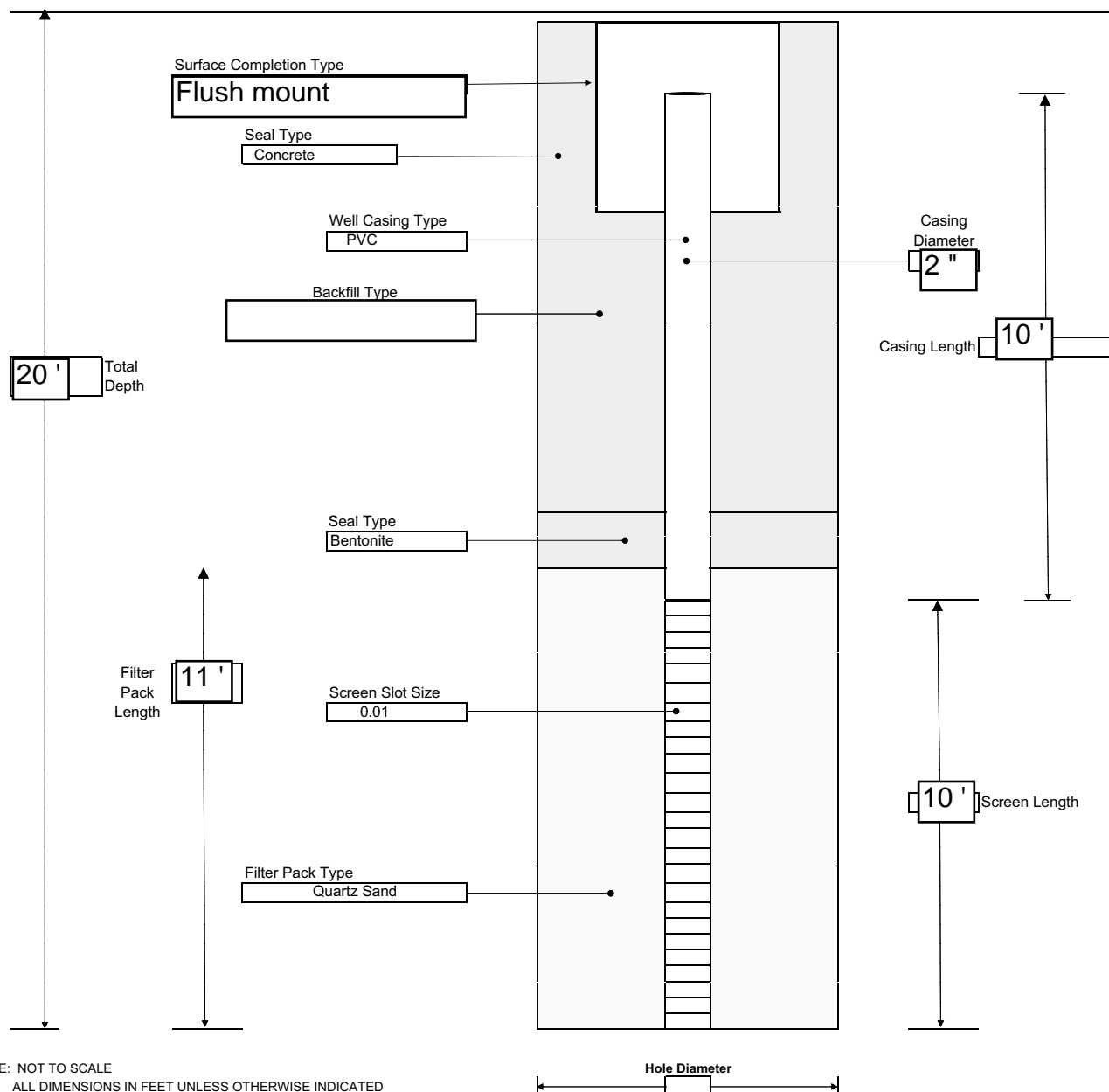
AUGER SIZE AND TYPE: N/A

OVERBURDEN SAMPLING METHOD:

ROCK DRILLING METHOD: N/A

WATER LEVEL DATA

DATE	TIME	WATER	CASING	REMARKS



NOTE: NOT TO SCALE  
ALL DIMENSIONS IN FEET UNLESS OTHERWISE INDICATED

GENERAL NOTES:

- 1) STRATIFICATION LINES REPRESENT APPROXIMATE BOUNDARY BETWEEN SOIL TYPES, TRANSITIONS MAY BE GRADUAL
- 2) WATER LEVEL READINGS HAVE BEEN MADE AT TIMES AND UNDER CONDITIONS STATED, FLUCTUATIONS OF GROUNDWATER MAY OCCUR DUE TO OTHER FACTORS THAN THOSE PRESENT AT THE TIME MEASUREMENTS WERE MADE.

## APPENDIX 2

**New York State Department of Health  
Indoor Air Quality Questionnaire and  
Building Inventory Form**

**NEW YORK STATE DEPARTMENT OF HEALTH  
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY  
CENTER FOR ENVIRONMENTAL HEALTH**

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Jessica Dombrowski Date/Time Prepared 10/4/17/1330

Preparer's Affiliation Consultant Phone No. 716-710-3038

Purpose of Investigation \_\_\_\_\_

**1. OCCUPANT:**

**Interviewed:** Y / N

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_

Address: \_\_\_\_\_

County: \_\_\_\_\_

Home Phone: \_\_\_\_\_ Office Phone: \_\_\_\_\_

Number of Occupants/persons at this location \_\_\_\_\_ Age of Occupants \_\_\_\_\_

**2. OWNER OR LANDLORD:** (Check if same as occupant \_\_\_\_)

**Interviewed:** Y / N

Last Name: Lindquist First Name: Greg

Address: \_\_\_\_\_

County: Chautauque

Home Phone: \_\_\_\_\_ Office Phone: \_\_\_\_\_

**3. BUILDING CHARACTERISTICS**

**Type of Building:** (Circle appropriate response)

Residential  
Industrial

School  
Church

Commercial/Multi-use  
Other: \_\_\_\_\_

-vacant



If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other: _____

If multiple units, how many? \_\_\_\_\_

If the property is commercial, type?

Business Type(s) vacant office space

Does it include residences (i.e., multi-use)? Y / N If yes, how many? \_\_\_\_\_

Other characteristics:

Number of floors \_\_\_\_\_ Building age \_\_\_\_\_

Is the building insulated? Y / N

How air tight? Tight / Average / Not Tight

#### 4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

---



---



---

Airflow near source

---



---



---

Outdoor air infiltration

---



---



---

Infiltration into air ducts

---



---



---

### 5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

- a. Above grade construction: wood frame concrete stone brick
- b. Basement type: full crawlspace slab other \_\_\_\_\_
- c. Basement floor: concrete dirt stone other \_\_\_\_\_
- d. Basement floor: uncovered covered covered with \_\_\_\_\_
- e. Concrete floor: unsealed sealed sealed with \_\_\_\_\_
- f. Foundation walls: poured block stone other \_\_\_\_\_
- g. Foundation walls: unsealed sealed sealed with \_\_\_\_\_
- h. The basement is: wet damp dry moldy
- i. The basement is: finished unfinished partially finished
- j. Sump present? Y / N
- k. Water in sump? Y / N / not applicable

Basement/Lowest level depth below grade: 12 (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

Several open utility ports in floor, cracks & holes in the ceiling and walls.

### 6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

<u>Hot air circulation</u>	Heat pump	Hot water baseboard
Space Heaters	Stream radiation	Radiant floor
Electric baseboard	Wood stove	Outdoor wood boiler Other _____

The primary type of fuel used is:

<u>Natural Gas</u>	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: \_\_\_\_\_

Boiler/furnace located in: Basement Outdoors Main Floor Other \_\_\_\_\_

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

Air ducts are located on the East & West walls throughout basement.

## 7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement	_____
1 <sup>st</sup> Floor	_____
2 <sup>nd</sup> Floor	_____
3 <sup>rd</sup> Floor	_____
4 <sup>th</sup> Floor	_____

## 8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?

Y N

b. Does the garage have a separate heating unit?

Y / N NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)

Y / N NA

Please specify \_\_\_\_\_

d. Has the building ever had a fire?

Y / N When? \_\_\_\_\_

e. Is a kerosene or unvented gas space heater present?

Y / N Where? \_\_\_\_\_

f. Is there a workshop or hobby/craft area?

Y / N Where & Type? \_\_\_\_\_

g. Is there smoking in the building?

Y N How frequently? \_\_\_\_\_

h. Have cleaning products been used recently?

Y N When & Type? \_\_\_\_\_

i. Have cosmetic products been used recently?

Y N When & Type? \_\_\_\_\_

- j. Has painting/staining been done in the last 6 months? Y / N Where & When? \_\_\_\_\_
- k. Is there new carpet, drapes or other textiles? Y / N Where & When? \_\_\_\_\_
- l. Have air fresheners been used recently? Y / N When & Type? \_\_\_\_\_
- m. Is there a kitchen exhaust fan? Y / N If yes, where vented? \_\_\_\_\_
- n. Is there a bathroom exhaust fan? Y / N If yes, where vented? \_\_\_\_\_
- o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N
- p. Has there been a pesticide application? Y / N When & Type? \_\_\_\_\_
- Are there odors in the building? Y / N  
If yes, please describe: \_\_\_\_\_

Do any of the building occupants use solvents at work? Y / N  
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist)

If yes, what types of solvents are used? \_\_\_\_\_

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

- Yes, use dry-cleaning regularly (weekly)  
Yes, use dry-cleaning infrequently (monthly or less)  
Yes, work at a dry-cleaning service

No  
Unknown

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: \_\_\_\_\_  
Is the system active or passive? Active/Passive

## 9. WATER AND SEWAGE

Water Supply: Public Water Drilled Well Driven Well Dug Well Other: \_\_\_\_\_

Sewage Disposal: Public Sewer Septic Tank Leach Field Dry Well Other: \_\_\_\_\_

## 10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: \_\_\_\_\_

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

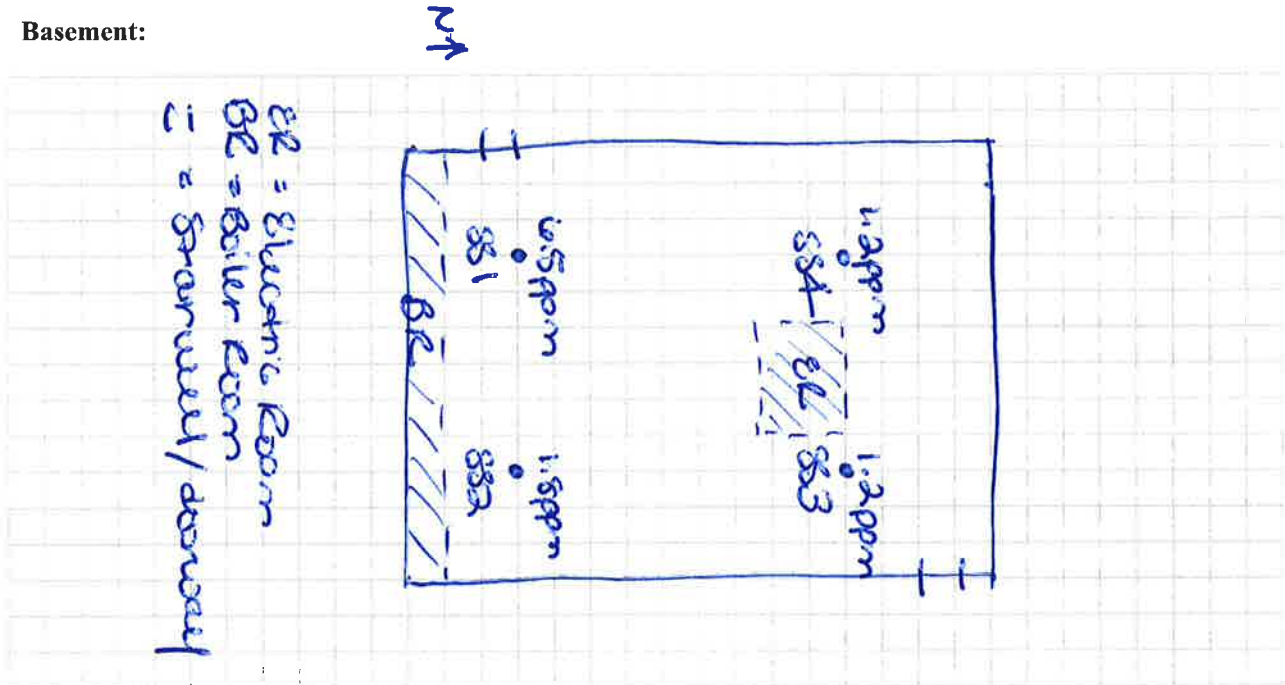
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

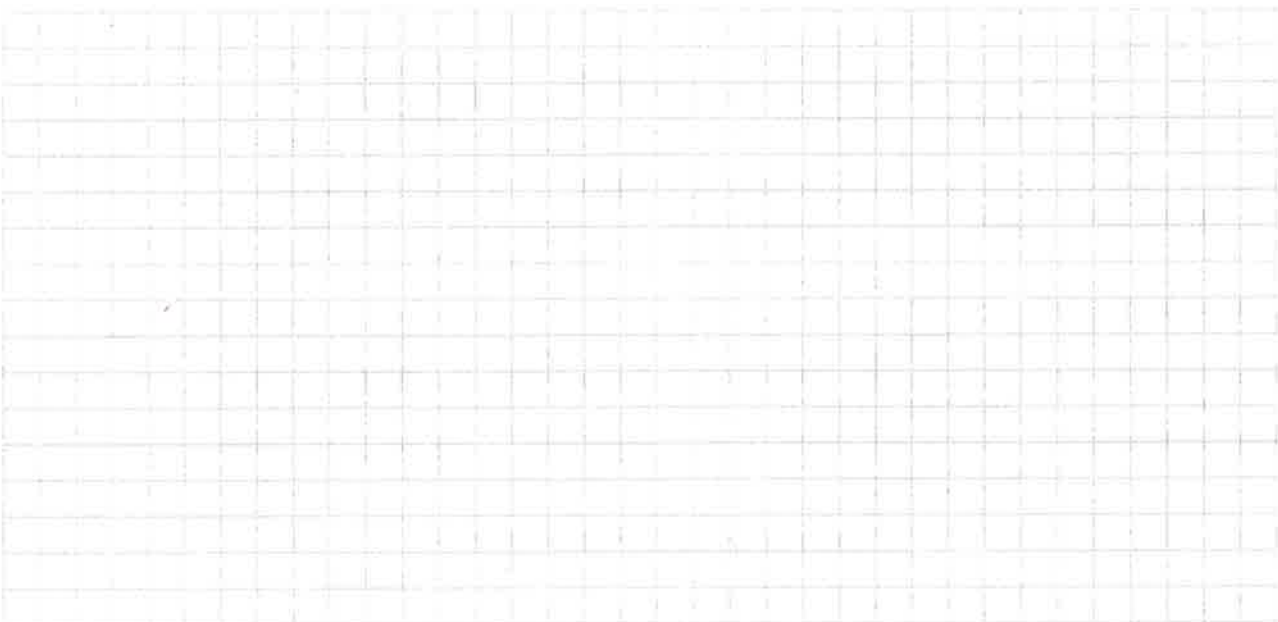
## 11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

Basement:



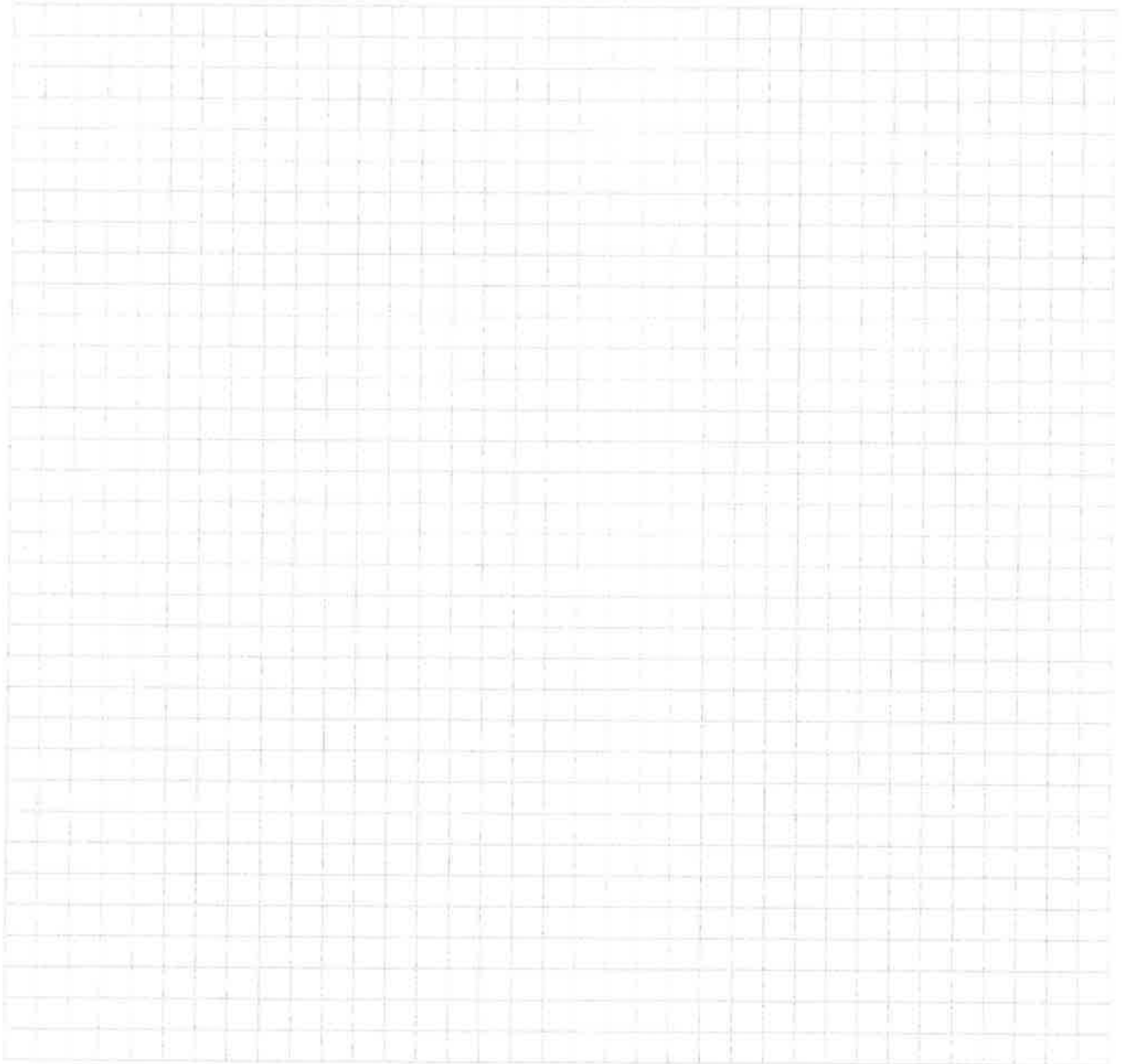
First Floor:



**12. OUTDOOR PLOT**

**Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.**

**Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.**





## 13. PRODUCT INVENTORY FORM

Make &amp; Model of field instrument used: \_\_\_\_\_

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition *	Chemical Ingredients	Field Instrument Reading (units)	Photo ** <u>Y/N</u>
Building currently vacant - no products to report.						

\* Describe the condition of the product containers as **Unopened (UO)**, **Used (U)**, or **Deteriorated (D)**\*\* Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

## APPENDIX 3

### Laboratory Reports

August 31, 2017

Shannon Dalton  
LaBella Associates  
300 Pearl Street  
Suite 310  
Buffalo, NY 14201

RE: Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

Dear Shannon Dalton:

Enclosed are the analytical results for sample(s) received by the laboratory on August 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

REVISION 1: Report re-issued on 8/31/17 to switch MW-1 and MW-2 IDs and to only report RCRA metals.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Jennifer Aracri  
jennifer.aracri@pacelabs.com  
(631)694-3040  
Project Manager

Enclosures

cc: Accounts Payable, LaBella Associates  
Adam Zebrowski, LaBella Associates



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

---

### Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

---

### Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747

New York Certification #: 10478 Primary Accrediting Body

New Jersey Certification #: NY158

Pennsylvania Certification #: 68-00350

Connecticut Certification #: PH-0435

Maryland Certification #: 208

Rhode Island Certification #: LAO00340

Massachusetts Certification #: M-NY026

New Hampshire Certification #: 2987

---

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## SAMPLE ANALYTE COUNT

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7027422001	SB-1 12-14 FT	EPA 6010C	JMW	7	PACE-MV
		EPA 7471B	JLN	1	PACE-MV
		EPA 8270D by SIM	DSC	18	PASI-PA
		EPA 8260C	KGG	51	PACE-MV
		ASTM D2216-92M	DJS	1	PACE-MV
7027422002	SB-3 10-12 FT	EPA 6010C	JMW	7	PACE-MV
		EPA 7471B	JLN	1	PACE-MV
		EPA 8270D by SIM	DSC	18	PASI-PA
		EPA 8260C	KGG	51	PACE-MV
		ASTM D2216-92M	DJS	1	PACE-MV
7027422003	SB-5 10-12 FT	EPA 6010C	JMW	7	PACE-MV
		EPA 7471B	JLN	1	PACE-MV
		EPA 8270D by SIM	DSC	18	PASI-PA
		EPA 8260C	KGG	51	PACE-MV
		ASTM D2216-92M	DJS	1	PACE-MV
7027422004	MW-2	EPA 8270D by SIM	DSC	17	PASI-PA
		EPA 8260C/5030C	KGG	51	PACE-MV
7027422005	MW-1	EPA 8270D by SIM	DSC	17	PASI-PA
		EPA 8260C/5030C	KGG	51	PACE-MV

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

**Sample: SB-1 12-14 FT**      **Lab ID: 7027422001**      Collected: 08/15/17 08:15      Received: 08/16/17 14:10      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3050B								
Arsenic	14.3	mg/kg	0.75	1	08/22/17 12:58	08/23/17 12:47	7440-38-2	
Barium	119	mg/kg	15.0	1	08/22/17 12:58	08/23/17 12:47	7440-39-3	D6
Cadmium	0.26	mg/kg	0.19	1	08/22/17 12:58	08/23/17 12:47	7440-43-9	
Chromium	1.3	mg/kg	0.75	1	08/22/17 12:58	08/23/17 12:47	7440-47-3	
Lead	18.9	mg/kg	0.37	1	08/22/17 12:58	08/23/17 12:47	7439-92-1	D6
Selenium	1.4	mg/kg	0.75	1	08/22/17 12:58	08/23/17 12:47	7782-49-2	
Silver	2.2	mg/kg	0.75	1	08/22/17 12:58	08/23/17 12:47	7440-22-4	M1
<b>7471 Mercury</b> Analytical Method: EPA 7471B      Preparation Method: EPA 7471B								
Mercury	<0.063	mg/kg	0.063	1	08/18/17 12:24	08/18/17 18:39	7439-97-6	
<b>8270D MSSV PAH by SIM</b> Analytical Method: EPA 8270D by SIM      Preparation Method: EPA 3546								
Acenaphthene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	83-32-9	ED
Acenaphthylene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	208-96-8	ED
Anthracene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	120-12-7	ED
Benzo(a)anthracene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	56-55-3	ED
Benzo(a)pyrene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	50-32-8	ED
Benzo(b)fluoranthene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	205-99-2	ED
Benzo(g,h,i)perylene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	191-24-2	ED
Benzo(k)fluoranthene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	207-08-9	ED
Chrysene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	218-01-9	ED
Dibenz(a,h)anthracene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	53-70-3	ED
Fluoranthene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	206-44-0	ED
Fluorene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	86-73-7	ED
Indeno(1,2,3-cd)pyrene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	193-39-5	ED
Naphthalene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	91-20-3	ED
Phenanthrene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	85-01-8	ED
Pyrene	<92.5	ug/kg	92.5	10	08/18/17 11:16	08/18/17 15:36	129-00-0	ED
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	74	%	35-141	10	08/18/17 11:16	08/18/17 15:36	321-60-8	
Terphenyl-d14 (S)	75	%	64-141	10	08/18/17 11:16	08/18/17 15:36	1718-51-0	
<b>8260C MSV 5035A-L Low Level</b> Analytical Method: EPA 8260C      Preparation Method: EPA 5035A-L								
1,1,1-Trichloroethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	71-55-6	
1,1,2,2-Tetrachloroethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	79-34-5	M1
1,1,2-Trichloroethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	79-00-5	
1,1,2-Trichlorotrifluoroethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	76-13-1	CC
1,1-Dichloroethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-34-3	CC
1,1-Dichloroethene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-35-4	
1,2,4-Trichlorobenzene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	120-82-1	M1
1,2-Dibromo-3-chloropropane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	96-12-8	
1,2-Dibromoethane (EDB)	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	106-93-4	
1,2-Dichlorobenzene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	95-50-1	
1,2-Dichloroethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	107-06-2	
1,2-Dichloropropane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	78-87-5	

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

**Sample: SB-1 12-14 FT**      **Lab ID: 7027422001**      Collected: 08/15/17 08:15      Received: 08/16/17 14:10      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260C MSV 5035A-L Low Level</b>		Analytical Method: EPA 8260C    Preparation Method: EPA 5035A-L						
1,3-Dichlorobenzene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	541-73-1	
1,4-Dichlorobenzene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	106-46-7	
2-Butanone (MEK)	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	78-93-3	
2-Hexanone	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	591-78-6	
4-Methyl-2-pentanone (MIBK)	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	108-10-1	
Acetone	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	67-64-1	
Benzene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	71-43-2	
Bromodichloromethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-27-4	
Bromoform	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-25-2	
Bromomethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	74-83-9	CC
Carbon disulfide	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-15-0	CC
Carbon tetrachloride	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	56-23-5	
Chlorobenzene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	108-90-7	
Chloroethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-00-3	
Chloroform	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	67-66-3	
Chloromethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	74-87-3	CC
Cyclohexane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	110-82-7	
Dibromochloromethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	124-48-1	
Dichlorodifluoromethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-71-8	CC,IH
Ethylbenzene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	100-41-4	
Isopropylbenzene (Cumene)	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	98-82-8	M1
Methyl acetate	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	79-20-9	CC,IH
Methyl-tert-butyl ether	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	1634-04-4	
Methylcyclohexane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	108-87-2	
Methylene Chloride	3.4J	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-09-2	CC
Styrene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	100-42-5	
Tetrachloroethene	39.2	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	127-18-4	D6
Toluene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	108-88-3	
Trichloroethene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	79-01-6	
Trichlorofluoromethane	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-69-4	
Vinyl chloride	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	75-01-4	CC
Xylene (Total)	<6.7	ug/kg	6.7	1	08/24/17 07:02	08/24/17 10:07	1330-20-7	
cis-1,2-Dichloroethene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	156-59-2	
cis-1,3-Dichloropropene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	10061-01-5	
trans-1,2-Dichloroethene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	156-60-5	
trans-1,3-Dichloropropene	<3.4	ug/kg	3.4	1	08/24/17 07:02	08/24/17 10:07	10061-02-6	
<b>Surrogates</b>								
Toluene-d8 (S)	115	%	43-157	1	08/24/17 07:02	08/24/17 10:07	2037-26-5	
4-Bromofluorobenzene (S)	87	%	34-145	1	08/24/17 07:02	08/24/17 10:07	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	33-150	1	08/24/17 07:02	08/24/17 10:07	17060-07-0	

### Percent Moisture

Analytical Method: ASTM D2216-92M

Percent Moisture	29.6	%	0.10	1	08/18/17 21:13
------------------	------	---	------	---	----------------

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

**Sample: SB-3 10-12 FT**      **Lab ID: 7027422002**      Collected: 08/15/17 09:00      Received: 08/16/17 14:10      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3050B								
Arsenic	12.7	mg/kg	0.59	1	08/22/17 12:58	08/23/17 13:22	7440-38-2	
Barium	130	mg/kg	11.7	1	08/22/17 12:58	08/23/17 13:22	7440-39-3	
Cadmium	0.33	mg/kg	0.15	1	08/22/17 12:58	08/23/17 13:22	7440-43-9	
Chromium	8.9	mg/kg	0.59	1	08/22/17 12:58	08/23/17 13:22	7440-47-3	
Lead	14.6	mg/kg	0.29	1	08/22/17 12:58	08/23/17 13:22	7439-92-1	
Selenium	0.59J	mg/kg	0.59	1	08/22/17 12:58	08/23/17 13:22	7782-49-2	
Silver	2.4	mg/kg	0.59	1	08/22/17 12:58	08/23/17 13:22	7440-22-4	
<b>7471 Mercury</b> Analytical Method: EPA 7471B      Preparation Method: EPA 7471B								
Mercury	<0.042	mg/kg	0.042	1	08/18/17 12:24	08/18/17 18:42	7439-97-6	
<b>8270D MSSV PAH by SIM</b> Analytical Method: EPA 8270D by SIM      Preparation Method: EPA 3546								
Acenaphthene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	83-32-9	
Acenaphthylene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	208-96-8	
Anthracene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	120-12-7	
Benzo(a)anthracene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	56-55-3	
Benzo(a)pyrene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	50-32-8	
Benzo(b)fluoranthene	9.1	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	205-99-2	ip
Benzo(g,h,i)perylene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	191-24-2	
Benzo(k)fluoranthene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	207-08-9	ip
Chrysene	16.0	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	218-01-9	
Dibenz(a,h)anthracene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	53-70-3	
Fluoranthene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	206-44-0	
Fluorene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	86-73-7	
Indeno(1,2,3-cd)pyrene	<8.2	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	193-39-5	
Naphthalene	125	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	91-20-3	
Phenanthrene	12.0	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	85-01-8	
Pyrene	10.1	ug/kg	8.2	1	08/18/17 11:16	08/18/17 16:29	129-00-0	
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	75	%	35-141	1	08/18/17 11:16	08/18/17 16:29	321-60-8	
Terphenyl-d14 (S)	103	%	64-141	1	08/18/17 11:16	08/18/17 16:29	1718-51-0	
<b>8260 MSV 5035A-H Med Level</b> Analytical Method: EPA 8260C      Preparation Method: EPA 5035A-H/5030C								
Acetone	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	67-64-1	CC
Benzene	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	71-43-2	
Bromodichloromethane	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-27-4	
Bromoform	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-25-2	
Bromomethane	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	74-83-9	CC,L2
2-Butanone (MEK)	175J	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	78-93-3	
Carbon disulfide	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-15-0	CC
Carbon tetrachloride	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	56-23-5	
Chlorobenzene	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	108-90-7	
Chloroethane	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-00-3	CC,L2
Chloroform	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	67-66-3	
Chloromethane	<175	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	74-87-3	CC

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

**Sample: SB-3 10-12 FT**      **Lab ID: 7027422002**      Collected: 08/15/17 09:00      Received: 08/16/17 14:10      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV 5035A-H Med Level</b>		Analytical Method: EPA 8260C    Preparation Method: EPA 5035A-H/5030C						
Cyclohexane	<b>710</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	110-82-7	
1,2-Dibromo-3-chloropropane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	96-12-8	
Dibromochloromethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	124-48-1	
1,2-Dibromoethane (EDB)	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	106-93-4	
1,2-Dichlorobenzene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	95-50-1	
1,3-Dichlorobenzene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	541-73-1	
1,4-Dichlorobenzene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	106-46-7	
Dichlorodifluoromethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-71-8	CC
1,1-Dichloroethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-34-3	
1,2-Dichloroethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	107-06-2	
1,1-Dichloroethene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-35-4	
cis-1,2-Dichloroethene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	156-59-2	
trans-1,2-Dichloroethene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	156-60-5	
1,2-Dichloropropane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	78-87-5	
cis-1,3-Dichloropropene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	10061-01-5	
trans-1,3-Dichloropropene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	10061-02-6	
Ethylbenzene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	100-41-4	
2-Hexanone	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	591-78-6	
Isopropylbenzene (Cumene)	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	98-82-8	
Methyl acetate	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	79-20-9	IH
Methylcyclohexane	<b>3900</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	108-87-2	
Methylene Chloride	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	108-10-1	
Methyl-tert-butyl ether	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	1634-04-4	
Styrene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	100-42-5	
1,1,2,2-Tetrachloroethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	79-34-5	
Tetrachloroethene	<b>66100</b>	ug/kg	1750	20.7	08/23/17 07:57	08/23/17 11:40	127-18-4	
Toluene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	108-88-3	
1,2,4-Trichlorobenzene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	120-82-1	
1,1,1-Trichloroethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	71-55-6	
1,1,2-Trichloroethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	79-00-5	
Trichloroethene	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	79-01-6	
Trichlorofluoromethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-69-4	L2
1,1,2-Trichlorotrifluoroethane	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	76-13-1	
Vinyl chloride	<b>&lt;175</b>	ug/kg	175	2.07	08/23/17 07:57	08/23/17 11:05	75-01-4	
Xylene (Total)	<b>349J</b>	ug/kg	349	2.07	08/23/17 07:57	08/23/17 11:05	1330-20-7	
<b>Surrogates</b>								
Toluene-d8 (S)	95	%	43-157	2.07	08/23/17 07:57	08/23/17 11:05	2037-26-5	
4-Bromofluorobenzene (S)	99	%	34-145	2.07	08/23/17 07:57	08/23/17 11:05	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	33-150	2.07	08/23/17 07:57	08/23/17 11:05	17060-07-0	

### Percent Moisture

Analytical Method: ASTM D2216-92M

Percent Moisture	<b>20.0</b>	%	0.10	1	08/18/17 21:13
------------------	-------------	---	------	---	----------------

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

**Sample: SB-5 10-12 FT**      **Lab ID: 7027422003**      Collected: 08/15/17 10:25      Received: 08/16/17 14:10      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>6010 MET ICP</b> Analytical Method: EPA 6010C      Preparation Method: EPA 3050B								
Arsenic	4.6	mg/kg	0.54	1	08/22/17 12:58	08/23/17 13:27	7440-38-2	
Barium	68.1	mg/kg	10.7	1	08/22/17 12:58	08/23/17 13:27	7440-39-3	
Cadmium	0.13J	mg/kg	0.13	1	08/22/17 12:58	08/23/17 13:27	7440-43-9	
Chromium	3.6	mg/kg	0.54	1	08/22/17 12:58	08/23/17 13:27	7440-47-3	
Lead	9.9	mg/kg	0.27	1	08/22/17 12:58	08/23/17 13:27	7439-92-1	
Selenium	0.54	mg/kg	0.54	1	08/22/17 12:58	08/23/17 13:27	7782-49-2	
Silver	1.5	mg/kg	0.54	1	08/22/17 12:58	08/23/17 13:27	7440-22-4	

### 7471 Mercury

Analytical Method: EPA 7471B      Preparation Method: EPA 7471B

Mercury	<0.053	mg/kg	0.053	1	08/18/17 12:24	08/18/17 18:43	7439-97-6	
---------	--------	-------	-------	---	----------------	----------------	-----------	--

### 8270D MSSV PAH by SIM

Analytical Method: EPA 8270D by SIM      Preparation Method: EPA 3546

Acenaphthene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	83-32-9	
Acenaphthylene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	208-96-8	
Anthracene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	120-12-7	
Benzo(a)anthracene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	56-55-3	
Benzo(a)pyrene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	50-32-8	
Benzo(b)fluoranthene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	205-99-2	ip
Benzo(g,h,i)perylene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	191-24-2	
Benzo(k)fluoranthene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	207-08-9	ip
Chrysene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	218-01-9	
Dibenz(a,h)anthracene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	53-70-3	
Fluoranthene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	206-44-0	
Fluorene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	86-73-7	
Indeno(1,2,3-cd)pyrene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	193-39-5	
Naphthalene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	91-20-3	
Phenanthrene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	85-01-8	
Pyrene	<7.4	ug/kg	7.4	1	08/18/17 11:16	08/18/17 16:47	129-00-0	

### Surrogates

2-Fluorobiphenyl (S)	79	%	35-141	1	08/18/17 11:16	08/18/17 16:47	321-60-8	
Terphenyl-d14 (S)	111	%	64-141	1	08/18/17 11:16	08/18/17 16:47	1718-51-0	

### 8260 MSV 5035A-H Med Level

Analytical Method: EPA 8260C      Preparation Method: EPA 5035A-H/5030C

Acetone	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	67-64-1	CC
Benzene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	71-43-2	
Bromodichloromethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-27-4	
Bromoform	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-25-2	
Bromomethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	74-83-9	CC,L2
2-Butanone (MEK)	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	78-93-3	
Carbon disulfide	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-15-0	CC
Carbon tetrachloride	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	56-23-5	
Chlorobenzene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	108-90-7	
Chloroethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-00-3	CC,L2, M0
Chloroform	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	67-66-3	
Chloromethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	74-87-3	CC

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

**Sample: SB-5 10-12 FT**      **Lab ID: 7027422003**      Collected: 08/15/17 10:25      Received: 08/16/17 14:10      Matrix: Solid

*Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.*

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8260 MSV 5035A-H Med Level</b> Analytical Method: EPA 8260C      Preparation Method: EPA 5035A-H/5030C								
Cyclohexane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	110-82-7	
1,2-Dibromo-3-chloropropane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	96-12-8	
Dibromochloromethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	124-48-1	
1,2-Dibromoethane (EDB)	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	106-93-4	
1,2-Dichlorobenzene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	95-50-1	
1,3-Dichlorobenzene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	541-73-1	
1,4-Dichlorobenzene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	106-46-7	
Dichlorodifluoromethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-71-8	CC
1,1-Dichloroethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-34-3	
1,2-Dichloroethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	107-06-2	
1,1-Dichloroethene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-35-4	
cis-1,2-Dichloroethene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	156-59-2	
trans-1,2-Dichloroethene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	156-60-5	
1,2-Dichloropropane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	78-87-5	
cis-1,3-Dichloropropene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	10061-01-5	
trans-1,3-Dichloropropene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	10061-02-6	
Ethylbenzene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	100-41-4	
2-Hexanone	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	591-78-6	
Isopropylbenzene (Cumene)	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	98-82-8	
Methyl acetate	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	79-20-9	IH
Methylcyclohexane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	108-87-2	
Methylene Chloride	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	108-10-1	
Methyl-tert-butyl ether	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	1634-04-4	
Styrene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	100-42-5	
1,1,2,2-Tetrachloroethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	79-34-5	
Tetrachloroethene	2860	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	127-18-4	
Toluene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	108-88-3	
1,2,4-Trichlorobenzene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	120-82-1	
1,1,1-Trichloroethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	71-55-6	
1,1,2-Trichloroethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	79-00-5	
Trichloroethene	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	79-01-6	
Trichlorofluoromethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-69-4	L2
1,1,2-Trichlorotrifluoroethane	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	76-13-1	
Vinyl chloride	<50.9	ug/kg	50.9	1	08/23/17 07:57	08/23/17 12:25	75-01-4	
Xylene (Total)	<102	ug/kg	102	1	08/23/17 07:57	08/23/17 12:25	1330-20-7	
<b>Surrogates</b>								
Toluene-d8 (S)	96	%	43-157	1	08/23/17 07:57	08/23/17 12:25	2037-26-5	
4-Bromofluorobenzene (S)	101	%	34-145	1	08/23/17 07:57	08/23/17 12:25	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	33-150	1	08/23/17 07:57	08/23/17 12:25	17060-07-0	

### Percent Moisture

Analytical Method: ASTM D2216-92M

Percent Moisture	10.1	%	0.10	1	08/18/17 21:13
------------------	------	---	------	---	----------------

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

Sample: MW-2		Lab ID: 7027422004	Collected: 08/15/17 12:10	Received: 08/16/17 14:10	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>8270D MSSV PAH by SIM</b>		Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C						
Acenaphthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	83-32-9	1j, A5
Anthracene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	120-12-7	1j, A5
Benzo(a)anthracene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	56-55-3	1j, A5
Benzo(a)pyrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	50-32-8	1j, A5, L1
Benzo(b)fluoranthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	205-99-2	1j, A5
Benzo(g,h,i)perylene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	191-24-2	1j, A5
Benzo(k)fluoranthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	207-08-9	1j, A5
Chrysene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	218-01-9	1j, A5
Dibenz(a,h)anthracene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	53-70-3	1j, A5
Fluoranthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	206-44-0	1j, A5
Fluorene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	86-73-7	1j, A5
Indeno(1,2,3-cd)pyrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	193-39-5	1j, A5
Naphthalene	23.1	ug/L	1.0	10	08/18/17 13:59	08/21/17 14:25	91-20-3	1j, A5
Phenanthrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	85-01-8	1j, A5
Pyrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:01	129-00-0	1j, A5
<b>Surrogates</b>								
2-Fluorobiphenyl (S)	56	%	19-123	1	08/18/17 13:59	08/18/17 20:01	321-60-8	
Terphenyl-d14 (S)	75	%	58-130	1	08/18/17 13:59	08/18/17 20:01	1718-51-0	
<b>8260C Volatile Organics</b>		Analytical Method: EPA 8260C/5030C						
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		08/21/17 13:17	71-55-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		08/21/17 13:17	79-34-5	
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		08/21/17 13:17	79-00-5	
1,1,2-Trichlorotrifluoroethane	<1.0	ug/L	1.0	1		08/21/17 13:17	76-13-1	
1,1-Dichloroethane	<1.0	ug/L	1.0	1		08/21/17 13:17	75-34-3	
1,1-Dichloroethene	<1.0	ug/L	1.0	1		08/21/17 13:17	75-35-4	
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 13:17	120-82-1	
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1		08/21/17 13:17	96-12-8	
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		08/21/17 13:17	106-93-4	
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 13:17	95-50-1	
1,2-Dichloroethane	<1.0	ug/L	1.0	1		08/21/17 13:17	107-06-2	
1,2-Dichloropropane	<1.0	ug/L	1.0	1		08/21/17 13:17	78-87-5	
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 13:17	541-73-1	
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 13:17	106-46-7	
2-Butanone (MEK)	5.0J	ug/L	5.0	1		08/21/17 13:17	78-93-3	CC
2-Hexanone	<5.0	ug/L	5.0	1		08/21/17 13:17	591-78-6	
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		08/21/17 13:17	108-10-1	
Acetone	31.6	ug/L	5.0	1		08/21/17 13:17	67-64-1	
Benzene	1.7	ug/L	1.0	1		08/21/17 13:17	71-43-2	
Bromodichloromethane	<1.0	ug/L	1.0	1		08/21/17 13:17	75-27-4	
Bromoform	<1.0	ug/L	1.0	1		08/21/17 13:17	75-25-2	
Bromomethane	<1.0	ug/L	1.0	1		08/21/17 13:17	74-83-9	CC
Carbon disulfide	<1.0	ug/L	1.0	1		08/21/17 13:17	75-15-0	
Carbon tetrachloride	<1.0	ug/L	1.0	1		08/21/17 13:17	56-23-5	
Chlorobenzene	<1.0	ug/L	1.0	1		08/21/17 13:17	108-90-7	
Chloroethane	<1.0	ug/L	1.0	1		08/21/17 13:17	75-00-3	CC
Chloroform	<1.0	ug/L	1.0	1		08/21/17 13:17	67-66-3	

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

Sample: MW-2		Lab ID: 7027422004		Collected: 08/15/17 12:10		Received: 08/16/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C							
Chloromethane	<1.0	ug/L	1.0	1		08/21/17 13:17	74-87-3	CC	
Cyclohexane	749	ug/L	200	200		08/21/17 13:35	110-82-7		
Dibromochloromethane	<1.0	ug/L	1.0	1		08/21/17 13:17	124-48-1		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		08/21/17 13:17	75-71-8		
Ethylbenzene	1.3	ug/L	1.0	1		08/21/17 13:17	100-41-4		
Isopropylbenzene (Cumene)	32.4	ug/L	1.0	1		08/21/17 13:17	98-82-8		
Methyl acetate	<1.0	ug/L	1.0	1		08/21/17 13:17	79-20-9	CC,IH	
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		08/21/17 13:17	1634-04-4	CC	
Methylcyclohexane	1290	ug/L	200	200		08/21/17 13:35	108-87-2		
Methylene Chloride	4.8	ug/L	1.0	1		08/21/17 13:17	75-09-2	CC	
Styrene	<1.0	ug/L	1.0	1		08/21/17 13:17	100-42-5		
Tetrachloroethene	27100	ug/L	200	200		08/21/17 13:35	127-18-4		
Toluene	1.9	ug/L	1.0	1		08/21/17 13:17	108-88-3		
Trichloroethene	74.4	ug/L	1.0	1		08/21/17 13:17	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		08/21/17 13:17	75-69-4		
Vinyl chloride	<1.0	ug/L	1.0	1		08/21/17 13:17	75-01-4		
Xylene (Total)	61.8	ug/L	2.0	1		08/21/17 13:17	1330-20-7		
cis-1,2-Dichloroethene	33.7	ug/L	1.0	1		08/21/17 13:17	156-59-2		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		08/21/17 13:17	10061-01-5		
trans-1,2-Dichloroethene	2.5	ug/L	1.0	1		08/21/17 13:17	156-60-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		08/21/17 13:17	10061-02-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	119	%.	68-153	1		08/21/17 13:17	17060-07-0		
4-Bromofluorobenzene (S)	75	%.	79-124	1		08/21/17 13:17	460-00-4	S0	
Toluene-d8 (S)	69	%.	69-124	1		08/21/17 13:17	2037-26-5		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

Sample: MW-1		Lab ID: 7027422005		Collected: 08/15/17 15:30		Received: 08/16/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8270D MSSV PAH by SIM		Analytical Method: EPA 8270D by SIM Preparation Method: EPA 3510C							
Acenaphthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	83-32-9	1j, A5	
Anthracene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	120-12-7	1j, A5	
Benzo(a)anthracene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	56-55-3	1j, A5	
Benzo(a)pyrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	50-32-8	1j, A5, L1	
Benzo(b)fluoranthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	205-99-2	1j, A5, ip	
Benzo(g,h,i)perylene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	191-24-2	1j, A5	
Benzo(k)fluoranthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	207-08-9	1j, A5, ip	
Chrysene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	218-01-9	1j, A5	
Dibenz(a,h)anthracene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	53-70-3	1j, A5	
Fluoranthene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	206-44-0	1j, A5	
Fluorene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	86-73-7	1j, A5	
Indeno(1,2,3-cd)pyrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	193-39-5	1j, A5	
Naphthalene	0.11	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	91-20-3	1j, A5	
Phenanthrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	85-01-8	1j, A5	
Pyrene	<0.10	ug/L	0.10	1	08/18/17 13:59	08/18/17 20:18	129-00-0	1j, A5	
Surrogates									
2-Fluorobiphenyl (S)	79	%	19-123	1	08/18/17 13:59	08/18/17 20:18	321-60-8		
Terphenyl-d14 (S)	108	%	58-130	1	08/18/17 13:59	08/18/17 20:18	1718-51-0		
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C							
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1		08/21/17 11:46	71-55-6		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1		08/21/17 11:46	79-34-5		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1		08/21/17 11:46	79-00-5		
1,1,2-Trichlorotrifluoroethane	<1.0	ug/L	1.0	1		08/21/17 11:46	76-13-1		
1,1-Dichloroethane	<1.0	ug/L	1.0	1		08/21/17 11:46	75-34-3		
1,1-Dichloroethene	<1.0	ug/L	1.0	1		08/21/17 11:46	75-35-4		
1,2,4-Trichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 11:46	120-82-1		
1,2-Dibromo-3-chloropropane	<1.0	ug/L	1.0	1		08/21/17 11:46	96-12-8		
1,2-Dibromoethane (EDB)	<1.0	ug/L	1.0	1		08/21/17 11:46	106-93-4		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 11:46	95-50-1		
1,2-Dichloroethane	<1.0	ug/L	1.0	1		08/21/17 11:46	107-06-2		
1,2-Dichloropropane	<1.0	ug/L	1.0	1		08/21/17 11:46	78-87-5		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 11:46	541-73-1		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1		08/21/17 11:46	106-46-7		
2-Butanone (MEK)	<5.0	ug/L	5.0	1		08/21/17 11:46	78-93-3	CC	
2-Hexanone	<5.0	ug/L	5.0	1		08/21/17 11:46	591-78-6		
4-Methyl-2-pentanone (MIBK)	<5.0	ug/L	5.0	1		08/21/17 11:46	108-10-1		
Acetone	25.0	ug/L	5.0	1		08/21/17 11:46	67-64-1		
Benzene	<1.0	ug/L	1.0	1		08/21/17 11:46	71-43-2		
Bromodichloromethane	<1.0	ug/L	1.0	1		08/21/17 11:46	75-27-4		
Bromoform	<1.0	ug/L	1.0	1		08/21/17 11:46	75-25-2		
Bromomethane	<1.0	ug/L	1.0	1		08/21/17 11:46	74-83-9	CC	
Carbon disulfide	2.7	ug/L	1.0	1		08/21/17 11:46	75-15-0		
Carbon tetrachloride	<1.0	ug/L	1.0	1		08/21/17 11:46	56-23-5		
Chlorobenzene	<1.0	ug/L	1.0	1		08/21/17 11:46	108-90-7		
Chloroethane	<1.0	ug/L	1.0	1		08/21/17 11:46	75-00-3	CC	
Chloroform	<1.0	ug/L	1.0	1		08/21/17 11:46	67-66-3		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## ANALYTICAL RESULTS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

Sample: MW-1		Lab ID: 7027422005		Collected: 08/15/17 15:30		Received: 08/16/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
8260C Volatile Organics		Analytical Method: EPA 8260C/5030C							
Chloromethane	<1.0	ug/L	1.0	1		08/21/17 11:46	74-87-3	CC	
Cyclohexane	<1.0	ug/L	1.0	1		08/21/17 11:46	110-82-7		
Dibromochloromethane	<1.0	ug/L	1.0	1		08/21/17 11:46	124-48-1		
Dichlorodifluoromethane	<1.0	ug/L	1.0	1		08/21/17 11:46	75-71-8		
Ethylbenzene	<1.0	ug/L	1.0	1		08/21/17 11:46	100-41-4		
Isopropylbenzene (Cumene)	<1.0	ug/L	1.0	1		08/21/17 11:46	98-82-8		
Methyl acetate	<1.0	ug/L	1.0	1		08/21/17 11:46	79-20-9	CC,IH	
Methyl-tert-butyl ether	<1.0	ug/L	1.0	1		08/21/17 11:46	1634-04-4	CC	
Methylcyclohexane	<1.0	ug/L	1.0	1		08/21/17 11:46	108-87-2		
Methylene Chloride	<1.0	ug/L	1.0	1		08/21/17 11:46	75-09-2	CC	
Styrene	<1.0	ug/L	1.0	1		08/21/17 11:46	100-42-5		
Tetrachloroethene	1.3	ug/L	1.0	1		08/21/17 11:46	127-18-4		
Toluene	<1.0	ug/L	1.0	1		08/21/17 11:46	108-88-3		
Trichloroethene	1.6	ug/L	1.0	1		08/21/17 11:46	79-01-6		
Trichlorofluoromethane	<1.0	ug/L	1.0	1		08/21/17 11:46	75-69-4		
Vinyl chloride	<1.0	ug/L	1.0	1		08/21/17 11:46	75-01-4		
Xylene (Total)	<2.0	ug/L	2.0	1		08/21/17 11:46	1330-20-7		
cis-1,2-Dichloroethene	<1.0	ug/L	1.0	1		08/21/17 11:46	156-59-2		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1		08/21/17 11:46	10061-01-5		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1		08/21/17 11:46	156-60-5		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1		08/21/17 11:46	10061-02-6		
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%.	68-153	1		08/21/17 11:46	17060-07-0		
4-Bromofluorobenzene (S)	100	%.	79-124	1		08/21/17 11:46	460-00-4		
Toluene-d8 (S)	101	%.	69-124	1		08/21/17 11:46	2037-26-5		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

QC Batch: 35932 Analysis Method: EPA 7471B  
QC Batch Method: EPA 7471B Analysis Description: 7471 Mercury  
Associated Lab Samples: 7027422001, 7027422002, 7027422003

METHOD BLANK: 167597 Matrix: Solid

Associated Lab Samples: 7027422001, 7027422002, 7027422003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/kg	<0.033	0.033	08/18/17 18:03	

LABORATORY CONTROL SAMPLE: 167598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	.17	0.15	92	80-120	

MATRIX SPIKE SAMPLE: 167599

Parameter	Units	7026805003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	mg/kg	<0.046	.23	0.30	129	80-120	M1

SAMPLE DUPLICATE: 167600

Parameter	Units	7026805003 Result	Dup Result	RPD	Qualifiers
Mercury	mg/kg	<0.046	<0.039		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

QC Batch: 36232 Analysis Method: EPA 6010C  
QC Batch Method: EPA 3050B Analysis Description: 6010 MET  
Associated Lab Samples: 7027422001, 7027422002, 7027422003

METHOD BLANK: 168957 Matrix: Solid  
Associated Lab Samples: 7027422001, 7027422002, 7027422003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/kg	<0.50	0.50	08/23/17 12:37	
Barium	mg/kg	<10.0	10.0	08/23/17 12:37	
Cadmium	mg/kg	<0.12	0.12	08/23/17 12:37	
Chromium	mg/kg	<0.50	0.50	08/23/17 12:37	
Lead	mg/kg	<0.25	0.25	08/23/17 12:37	
Selenium	mg/kg	<0.50	0.50	08/23/17 12:37	
Silver	mg/kg	<0.50	0.50	08/23/17 12:37	

LABORATORY CONTROL SAMPLE: 168958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	29.6	28.0	94	80-120	
Barium	mg/kg	198	197	100	80-120	
Cadmium	mg/kg	71.5	67.4	94	80-120	
Chromium	mg/kg	102	92.1	90	80-120	
Lead	mg/kg	139	149	107	80-120	
Selenium	mg/kg	60.6	58.1	96	80-120	
Silver	mg/kg	36.4	38.1	105	80-120	

MATRIX SPIKE SAMPLE: 168960

Parameter	Units	7027422001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/kg	14.3	38.8	50.0	92	75-125	
Barium	mg/kg	119	38.8	158	103	75-125	
Cadmium	mg/kg	0.26	3.8	3.9	95	75-125	
Chromium	mg/kg	1.3	19.3	22.0	107	75-125	
Lead	mg/kg	18.9	38.8	53.0	88	75-125	
Selenium	mg/kg	1.4	58.1	55.1	92	75-125	
Silver	mg/kg	2.2	19.3	16.7	74	75-125	M1

SAMPLE DUPLICATE: 168959

Parameter	Units	7027422001 Result	Dup Result	RPD	Qualifiers
Arsenic	mg/kg	14.3	15.1	5	
Barium	mg/kg	119	92.1	25	D6
Cadmium	mg/kg	0.26	0.30	16	
Chromium	mg/kg	1.3	1.3	0	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

SAMPLE DUPLICATE: 168959

Parameter	Units	7027422001 Result	Dup Result	RPD	Qualifiers
Lead	mg/kg	18.9	25.6	30	D6
Selenium	mg/kg	1.4	1.4	4	
Silver	mg/kg	2.2	2.2	0	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

QC Batch: 36603	Analysis Method: EPA 8260C
QC Batch Method: EPA 5035A-L	Analysis Description: 8260 MSV 5035A-L Low Level
Associated Lab Samples: 7027422001	

METHOD BLANK: 170547 Matrix: Solid  
Associated Lab Samples: 7027422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<1.8	1.8	08/24/17 08:21	
1,1,2,2-Tetrachloroethane	ug/kg	<1.8	1.8	08/24/17 08:21	
1,1,2-Trichloroethane	ug/kg	<1.8	1.8	08/24/17 08:21	
1,1,2-Trichlorotrifluoroethane	ug/kg	<1.8	1.8	08/24/17 08:21	CC
1,1-Dichloroethane	ug/kg	<1.8	1.8	08/24/17 08:21	CC
1,1-Dichloroethene	ug/kg	<1.8	1.8	08/24/17 08:21	
1,2,4-Trichlorobenzene	ug/kg	<1.8	1.8	08/24/17 08:21	
1,2-Dibromo-3-chloropropane	ug/kg	<1.8	1.8	08/24/17 08:21	
1,2-Dibromoethane (EDB)	ug/kg	<1.8	1.8	08/24/17 08:21	
1,2-Dichlorobenzene	ug/kg	<1.8	1.8	08/24/17 08:21	
1,2-Dichloroethane	ug/kg	<1.8	1.8	08/24/17 08:21	
1,2-Dichloropropane	ug/kg	<1.8	1.8	08/24/17 08:21	
1,3-Dichlorobenzene	ug/kg	<1.8	1.8	08/24/17 08:21	
1,4-Dichlorobenzene	ug/kg	<1.8	1.8	08/24/17 08:21	
2-Butanone (MEK)	ug/kg	<1.8	1.8	08/24/17 08:21	
2-Hexanone	ug/kg	<1.8	1.8	08/24/17 08:21	
4-Methyl-2-pentanone (MIBK)	ug/kg	<1.8	1.8	08/24/17 08:21	
Acetone	ug/kg	1.8J	1.8	08/24/17 08:21	
Benzene	ug/kg	<1.8	1.8	08/24/17 08:21	
Bromodichloromethane	ug/kg	<1.8	1.8	08/24/17 08:21	
Bromoform	ug/kg	<1.8	1.8	08/24/17 08:21	
Bromomethane	ug/kg	<1.8	1.8	08/24/17 08:21	CC
Carbon disulfide	ug/kg	<1.8	1.8	08/24/17 08:21	CC
Carbon tetrachloride	ug/kg	<1.8	1.8	08/24/17 08:21	
Chlorobenzene	ug/kg	<1.8	1.8	08/24/17 08:21	
Chloroethane	ug/kg	<1.8	1.8	08/24/17 08:21	
Chloroform	ug/kg	<1.8	1.8	08/24/17 08:21	
Chloromethane	ug/kg	<1.8	1.8	08/24/17 08:21	CC
cis-1,2-Dichloroethene	ug/kg	<1.8	1.8	08/24/17 08:21	
cis-1,3-Dichloropropene	ug/kg	<1.8	1.8	08/24/17 08:21	
Cyclohexane	ug/kg	<1.8	1.8	08/24/17 08:21	
Dibromochloromethane	ug/kg	<1.8	1.8	08/24/17 08:21	
Dichlorodifluoromethane	ug/kg	<1.8	1.8	08/24/17 08:21	CC,IH
Ethylbenzene	ug/kg	<1.8	1.8	08/24/17 08:21	
Isopropylbenzene (Cumene)	ug/kg	<1.8	1.8	08/24/17 08:21	
Methyl acetate	ug/kg	<1.8	1.8	08/24/17 08:21	CC,IH
Methyl-tert-butyl ether	ug/kg	<1.8	1.8	08/24/17 08:21	
Methylcyclohexane	ug/kg	<1.8	1.8	08/24/17 08:21	
Methylene Chloride	ug/kg	<1.8	1.8	08/24/17 08:21	CC
Styrene	ug/kg	<1.8	1.8	08/24/17 08:21	
Tetrachloroethene	ug/kg	<1.8	1.8	08/24/17 08:21	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

METHOD BLANK: 170547

Matrix: Solid

Associated Lab Samples: 7027422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/kg	<1.8	1.8	08/24/17 08:21	
trans-1,2-Dichloroethene	ug/kg	<1.8	1.8	08/24/17 08:21	
trans-1,3-Dichloropropene	ug/kg	<1.8	1.8	08/24/17 08:21	
Trichloroethene	ug/kg	<1.8	1.8	08/24/17 08:21	
Trichlorofluoromethane	ug/kg	<1.8	1.8	08/24/17 08:21	
Vinyl chloride	ug/kg	<1.8	1.8	08/24/17 08:21	CC
Xylene (Total)	ug/kg	<3.7	3.7	08/24/17 08:21	
1,2-Dichloroethane-d4 (S)	%	107	33-150	08/24/17 08:21	
4-Bromofluorobenzene (S)	%	104	34-145	08/24/17 08:21	
Toluene-d8 (S)	%	92	43-157	08/24/17 08:21	

LABORATORY CONTROL SAMPLE: 170548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	51.9	55.7	107	59-134	
1,1,2,2-Tetrachloroethane	ug/kg	51.9	47.6	92	69-132	
1,1,2-Trichloroethane	ug/kg	51.9	51.1	98	73-135	
1,1,2-Trichlorotrifluoroethane	ug/kg	51.9	44.6	86	45-156	CC
1,1-Dichloroethane	ug/kg	51.9	46.3	89	53-160	CC
1,1-Dichloroethene	ug/kg	51.9	45.7	88	47-152	
1,2,4-Trichlorobenzene	ug/kg	51.9	52.4	101	52-140	
1,2-Dibromo-3-chloropropane	ug/kg	51.9	50.1	97	57-140	
1,2-Dibromoethane (EDB)	ug/kg	51.9	53.5	103	76-138	
1,2-Dichlorobenzene	ug/kg	51.9	53.2	103	67-125	
1,2-Dichloroethane	ug/kg	51.9	53.2	103	65-143	
1,2-Dichloropropane	ug/kg	51.9	55.1	106	72-131	
1,3-Dichlorobenzene	ug/kg	51.9	54.8	106	64-124	
1,4-Dichlorobenzene	ug/kg	51.9	52.6	101	61-127	
2-Butanone (MEK)	ug/kg	51.9	35.1	68	52-164	
2-Hexanone	ug/kg	51.9	51.8	100	66-151	
4-Methyl-2-pentanone (MIBK)	ug/kg	51.9	48.6	94	63-154	
Acetone	ug/kg	51.9	38.8	75	23-196	
Benzene	ug/kg	51.9	53.4	103	65-129	
Bromodichloromethane	ug/kg	51.9	54.0	104	74-141	
Bromoform	ug/kg	51.9	55.3	107	59-136	
Bromomethane	ug/kg	51.9	38.4	74	32-182	CC
Carbon disulfide	ug/kg	51.9	42.2	81	26-160	CC
Carbon tetrachloride	ug/kg	51.9	59.5	115	57-135	
Chlorobenzene	ug/kg	51.9	53.9	104	62-136	
Chloroethane	ug/kg	51.9	56.8	110	50-159	
Chloroform	ug/kg	51.9	55.5	107	71-135	
Chloromethane	ug/kg	51.9	32.8	63	44-139	CC
cis-1,2-Dichloroethene	ug/kg	51.9	45.1	87	75-130	
cis-1,3-Dichloropropene	ug/kg	51.9	56.6	109	74-140	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

LABORATORY CONTROL SAMPLE: 170548

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyclohexane	ug/kg	51.9	49.9	96	21-139	
Dibromochloromethane	ug/kg	51.9	56.5	109	71-133	
Dichlorodifluoromethane	ug/kg	51.9	32.8	63	10-155	CC,IH
Ethylbenzene	ug/kg	51.9	54.9	106	59-135	
Isopropylbenzene (Cumene)	ug/kg	51.9	58.0	112	56-129	
Methyl acetate	ug/kg	51.9	35.6	69	33-176	CC,IH
Methyl-tert-butyl ether	ug/kg	51.9	45.8	88	25-171	
Methylcyclohexane	ug/kg	51.9	51.8	100	24-141	
Methylene Chloride	ug/kg	51.9	40.0	77	50-164	CC
Styrene	ug/kg	51.9	54.0	104	73-133	
Tetrachloroethene	ug/kg	51.9	55.0	106	10-176	
Toluene	ug/kg	51.9	53.5	103	66-131	
trans-1,2-Dichloroethene	ug/kg	51.9	48.0	93	53-157	
trans-1,3-Dichloropropene	ug/kg	51.9	59.5	115	66-144	
Trichloroethene	ug/kg	51.9	51.6	99	62-130	
Trichlorofluoromethane	ug/kg	51.9	48.9	94	38-166	
Vinyl chloride	ug/kg	51.9	37.2	72	45-137	CC
Xylene (Total)	ug/kg	156	163	105	62-135	
1,2-Dichloroethane-d4 (S)	%			100	33-150	
4-Bromofluorobenzene (S)	%			104	34-145	
Toluene-d8 (S)	%			100	43-157	

MATRIX SPIKE SAMPLE: 170550

Parameter	Units	7027422001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	<3.4	116	120	104	59-134	
1,1,2,2-Tetrachloroethane	ug/kg	<3.4	116	161	139	69-132	M1
1,1,2-Trichloroethane	ug/kg	<3.4	116	103	89	73-135	
1,1,2-Trichlorotrifluoroethane	ug/kg	<3.4	116	69.6	60	45-156	CC
1,1-Dichloroethane	ug/kg	<3.4	116	91.7	79	53-160	CC
1,1-Dichloroethene	ug/kg	<3.4	116	84.4	73	47-152	
1,2,4-Trichlorobenzene	ug/kg	<3.4	116	37.9	33	52-140	M1
1,2-Dibromo-3-chloropropane	ug/kg	<3.4	116	119	102	57-140	
1,2-Dibromoethane (EDB)	ug/kg	<3.4	116	110	95	76-138	
1,2-Dichlorobenzene	ug/kg	<3.4	116	93.8	81	67-125	
1,2-Dichloroethane	ug/kg	<3.4	116	119	103	65-143	
1,2-Dichloropropane	ug/kg	<3.4	116	117	101	72-131	
1,3-Dichlorobenzene	ug/kg	<3.4	116	105	90	64-124	
1,4-Dichlorobenzene	ug/kg	<3.4	116	107	92	61-127	
2-Butanone (MEK)	ug/kg	<3.4	116	73.4	63	52-164	
2-Hexanone	ug/kg	<3.4	116	144	124	66-151	
4-Methyl-2-pentanone (MIBK)	ug/kg	<3.4	116	113	97	63-154	
Acetone	ug/kg	<3.4	116	132	113	23-196	
Benzene	ug/kg	<3.4	116	117	101	65-129	
Bromodichloromethane	ug/kg	<3.4	116	113	97	74-141	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

MATRIX SPIKE SAMPLE: 170550		7027422001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromoform	ug/kg	<3.4	116	108	93	59-136	
Bromomethane	ug/kg	<3.4	116	83.9	72	32-182	CC
Carbon disulfide	ug/kg	<3.4	116	75.8	65	26-160	CC
Carbon tetrachloride	ug/kg	<3.4	116	107	92	57-135	
Chlorobenzene	ug/kg	<3.4	116	113	97	62-136	
Chloroethane	ug/kg	<3.4	116	118	102	50-159	
Chloroform	ug/kg	<3.4	116	109	94	71-135	
Chloromethane	ug/kg	<3.4	116	62.4	54	44-139	CC
cis-1,2-Dichloroethene	ug/kg	<3.4	116	91.1	78	75-130	
cis-1,3-Dichloropropene	ug/kg	<3.4	116	112	97	74-140	
Cyclohexane	ug/kg	<3.4	116	79.3	68	21-139	
Dibromochloromethane	ug/kg	<3.4	116	128	110	71-133	
Dichlorodifluoromethane	ug/kg	<3.4	116	65.1	56	10-155	CC,IH
Ethylbenzene	ug/kg	<3.4	116	102	88	59-135	
Isopropylbenzene (Cumene)	ug/kg	<3.4	116	154	133	56-129	M1
Methyl acetate	ug/kg	<3.4	116	88.3	76	33-176	CC,IH
Methyl-tert-butyl ether	ug/kg	<3.4	116	102	88	25-171	
Methylcyclohexane	ug/kg	<3.4	116	60.0	52	24-141	
Methylene Chloride	ug/kg	3.4J	116	85.5	72	50-164	CC
Styrene	ug/kg	<3.4	116	96.8	83	73-133	
Tetrachloroethene	ug/kg	39.2	116	160	104	10-176	
Toluene	ug/kg	<3.4	116	101	87	66-131	
trans-1,2-Dichloroethene	ug/kg	<3.4	116	93.7	81	53-157	
trans-1,3-Dichloropropene	ug/kg	<3.4	116	115	99	66-144	
Trichloroethene	ug/kg	<3.4	116	97.0	84	62-130	
Trichlorofluoromethane	ug/kg	<3.4	116	91.1	79	38-166	
Vinyl chloride	ug/kg	<3.4	116	73.8	64	45-137	CC
Xylene (Total)	ug/kg	<6.7	348	309	89	62-135	
1,2-Dichloroethane-d4 (S)	%				104	33-150	
4-Bromofluorobenzene (S)	%				78	34-145	
Toluene-d8 (S)	%				112	43-157	

SAMPLE DUPLICATE: 170549

Parameter	Units	7027422001	Dup	RPD	Qualifiers
		Result	Result		
1,1,1-Trichloroethane	ug/kg	<3.4	<2.3		
1,1,2,2-Tetrachloroethane	ug/kg	<3.4	<2.3		
1,1,2-Trichloroethane	ug/kg	<3.4	<2.3		
1,1,2-Trichlorotrifluoroethane	ug/kg	<3.4	<2.3		CC
1,1-Dichloroethane	ug/kg	<3.4	<2.3		CC
1,1-Dichloroethene	ug/kg	<3.4	<2.3		
1,2,4-Trichlorobenzene	ug/kg	<3.4	<2.3		
1,2-Dibromo-3-chloropropane	ug/kg	<3.4	<2.3		
1,2-Dibromoethane (EDB)	ug/kg	<3.4	<2.3		
1,2-Dichlorobenzene	ug/kg	<3.4	<2.3		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

SAMPLE DUPLICATE: 170549

Parameter	Units	7027422001 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/kg	<3.4	<2.3		
1,2-Dichloropropane	ug/kg	<3.4	<2.3		
1,3-Dichlorobenzene	ug/kg	<3.4	<2.3		
1,4-Dichlorobenzene	ug/kg	<3.4	<2.3		
2-Butanone (MEK)	ug/kg	<3.4	<2.3		
2-Hexanone	ug/kg	<3.4	<2.3		
4-Methyl-2-pentanone (MIBK)	ug/kg	<3.4	<2.3		
Acetone	ug/kg	<3.4	<2.3		
Benzene	ug/kg	<3.4	<2.3		
Bromodichloromethane	ug/kg	<3.4	<2.3		
Bromoform	ug/kg	<3.4	<2.3		
Bromomethane	ug/kg	<3.4	<2.3		CC
Carbon disulfide	ug/kg	<3.4	<2.3		CC
Carbon tetrachloride	ug/kg	<3.4	<2.3		
Chlorobenzene	ug/kg	<3.4	<2.3		
Chloroethane	ug/kg	<3.4	<2.3		
Chloroform	ug/kg	<3.4	<2.3		
Chloromethane	ug/kg	<3.4	<2.3		CC
cis-1,2-Dichloroethene	ug/kg	<3.4	<2.3		
cis-1,3-Dichloropropene	ug/kg	<3.4	<2.3		
Cyclohexane	ug/kg	<3.4	<2.3		
Dibromochloromethane	ug/kg	<3.4	<2.3		
Dichlorodifluoromethane	ug/kg	<3.4	<2.3		CC,IH
Ethylbenzene	ug/kg	<3.4	<2.3		
Isopropylbenzene (Cumene)	ug/kg	<3.4	<2.3		
Methyl acetate	ug/kg	<3.4	<2.3		CC,IH
Methyl-tert-butyl ether	ug/kg	<3.4	<2.3		
Methylcyclohexane	ug/kg	<3.4	<2.3		
Methylene Chloride	ug/kg	3.4J	<2.3		CC
Styrene	ug/kg	<3.4	<2.3		
Tetrachloroethene	ug/kg	39.2	26.8	38	D6
Toluene	ug/kg	<3.4	<2.3		
trans-1,2-Dichloroethene	ug/kg	<3.4	<2.3		
trans-1,3-Dichloropropene	ug/kg	<3.4	<2.3		
Trichloroethene	ug/kg	<3.4	<2.3		
Trichlorofluoromethane	ug/kg	<3.4	<2.3		
Vinyl chloride	ug/kg	<3.4	<2.3		CC
Xylene (Total)	ug/kg	<6.7	<4.5		
1,2-Dichloroethane-d4 (S)	%	107	124	25	
4-Bromofluorobenzene (S)	%	87	81	46	
Toluene-d8 (S)	%	115	112	42	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

QC Batch: 36668

Analysis Method: EPA 8260C

QC Batch Method: EPA 5035A-H/5030C

Analysis Description: 8260 MSV 5035A-H Med

Associated Lab Samples: 7027422002, 7027422003

METHOD BLANK: 170831

Matrix: Solid

Associated Lab Samples: 7027422002, 7027422003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,1,2,2-Tetrachloroethane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,1,2-Trichloroethane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,1,2-Trichlorotrifluoroethane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,1-Dichloroethane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,1-Dichloroethene	ug/kg	<97.3	97.3	08/23/17 08:53	
1,2,4-Trichlorobenzene	ug/kg	<97.3	97.3	08/23/17 08:53	
1,2-Dibromo-3-chloropropane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,2-Dibromoethane (EDB)	ug/kg	<97.3	97.3	08/23/17 08:53	
1,2-Dichlorobenzene	ug/kg	<97.3	97.3	08/23/17 08:53	
1,2-Dichloroethane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,2-Dichloropropane	ug/kg	<97.3	97.3	08/23/17 08:53	
1,3-Dichlorobenzene	ug/kg	<97.3	97.3	08/23/17 08:53	
1,4-Dichlorobenzene	ug/kg	<97.3	97.3	08/23/17 08:53	
2-Butanone (MEK)	ug/kg	<97.3	97.3	08/23/17 08:53	
2-Hexanone	ug/kg	<97.3	97.3	08/23/17 08:53	
4-Methyl-2-pentanone (MIBK)	ug/kg	<97.3	97.3	08/23/17 08:53	
Acetone	ug/kg	<97.3	97.3	08/23/17 08:53	CC
Benzene	ug/kg	<97.3	97.3	08/23/17 08:53	
Bromodichloromethane	ug/kg	<97.3	97.3	08/23/17 08:53	
Bromoform	ug/kg	<97.3	97.3	08/23/17 08:53	
Bromomethane	ug/kg	<97.3	97.3	08/23/17 08:53	CC
Carbon disulfide	ug/kg	<97.3	97.3	08/23/17 08:53	CC
Carbon tetrachloride	ug/kg	<97.3	97.3	08/23/17 08:53	
Chlorobenzene	ug/kg	<97.3	97.3	08/23/17 08:53	
Chloroethane	ug/kg	<97.3	97.3	08/23/17 08:53	CC
Chloroform	ug/kg	<97.3	97.3	08/23/17 08:53	
Chloromethane	ug/kg	<97.3	97.3	08/23/17 08:53	CC
cis-1,2-Dichloroethene	ug/kg	<97.3	97.3	08/23/17 08:53	
cis-1,3-Dichloropropene	ug/kg	<97.3	97.3	08/23/17 08:53	
Cyclohexane	ug/kg	<97.3	97.3	08/23/17 08:53	
Dibromochloromethane	ug/kg	<97.3	97.3	08/23/17 08:53	
Dichlorodifluoromethane	ug/kg	<97.3	97.3	08/23/17 08:53	CC
Ethylbenzene	ug/kg	<97.3	97.3	08/23/17 08:53	
Isopropylbenzene (Cumene)	ug/kg	<97.3	97.3	08/23/17 08:53	
Methyl acetate	ug/kg	<97.3	97.3	08/23/17 08:53	IH
Methyl-tert-butyl ether	ug/kg	<97.3	97.3	08/23/17 08:53	
Methylcyclohexane	ug/kg	<97.3	97.3	08/23/17 08:53	
Methylene Chloride	ug/kg	<97.3	97.3	08/23/17 08:53	
Styrene	ug/kg	<97.3	97.3	08/23/17 08:53	
Tetrachloroethene	ug/kg	<97.3	97.3	08/23/17 08:53	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

METHOD BLANK: 170831

Matrix: Solid

Associated Lab Samples: 7027422002, 7027422003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/kg	<97.3	97.3	08/23/17 08:53	
trans-1,2-Dichloroethene	ug/kg	<97.3	97.3	08/23/17 08:53	
trans-1,3-Dichloropropene	ug/kg	<97.3	97.3	08/23/17 08:53	
Trichloroethene	ug/kg	<97.3	97.3	08/23/17 08:53	
Trichlorofluoromethane	ug/kg	<97.3	97.3	08/23/17 08:53	
Vinyl chloride	ug/kg	<97.3	97.3	08/23/17 08:53	
Xylene (Total)	ug/kg	<195	195	08/23/17 08:53	
1,2-Dichloroethane-d4 (S)	%	94	33-150	08/23/17 08:53	
4-Bromofluorobenzene (S)	%	103	34-145	08/23/17 08:53	
Toluene-d8 (S)	%	99	43-157	08/23/17 08:53	

LABORATORY CONTROL SAMPLE: 170832

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	2580	2300	89	59-134	
1,1,2,2-Tetrachloroethane	ug/kg	2580	2210	86	69-132	
1,1,2-Trichloroethane	ug/kg	2580	2610	101	73-135	
1,1,2-Trichlorotrifluoroethane	ug/kg	2580	1850	72	45-156	
1,1-Dichloroethane	ug/kg	2580	2230	86	53-160	
1,1-Dichloroethene	ug/kg	2580	1830	71	47-152	
1,2,4-Trichlorobenzene	ug/kg	2580	2570	100	52-140	
1,2-Dibromo-3-chloropropane	ug/kg	2580	1890	73	57-140	
1,2-Dibromoethane (EDB)	ug/kg	2580	2680	104	76-138	
1,2-Dichlorobenzene	ug/kg	2580	2530	98	67-125	
1,2-Dichloroethane	ug/kg	2580	2480	96	65-143	
1,2-Dichloropropane	ug/kg	2580	2500	97	72-131	
1,3-Dichlorobenzene	ug/kg	2580	2530	98	64-124	
1,4-Dichlorobenzene	ug/kg	2580	2510	97	61-127	
2-Butanone (MEK)	ug/kg	2580	2090	81	52-164	
2-Hexanone	ug/kg	2580	2260	88	66-151	
4-Methyl-2-pentanone (MIBK)	ug/kg	2580	2310	90	63-154	
Acetone	ug/kg	2580	1970	77	23-196	CC
Benzene	ug/kg	2580	2400	93	65-129	
Bromodichloromethane	ug/kg	2580	2400	93	74-141	
Bromoform	ug/kg	2580	2440	95	59-136	
Bromomethane	ug/kg	2580	747	29	32-182	CC,L2
Carbon disulfide	ug/kg	2580	1570	61	26-160	CC
Carbon tetrachloride	ug/kg	2580	2200	85	57-135	
Chlorobenzene	ug/kg	2580	2620	102	62-136	
Chloroethane	ug/kg	2580	668	26	50-159	CC,L2
Chloroform	ug/kg	2580	2290	89	71-135	
Chloromethane	ug/kg	2580	1640	64	44-139	CC
cis-1,2-Dichloroethene	ug/kg	2580	2380	92	75-130	
cis-1,3-Dichloropropene	ug/kg	2580	2540	98	74-140	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

LABORATORY CONTROL SAMPLE: 170832

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyclohexane	ug/kg	2580	2290	89	21-139	
Dibromochloromethane	ug/kg	2580	2470	96	71-133	
Dichlorodifluoromethane	ug/kg	2580	1380	54	10-155	CC
Ethylbenzene	ug/kg	2580	2560	100	59-135	
Isopropylbenzene (Cumene)	ug/kg	2580	2330	90	56-129	
Methyl acetate	ug/kg	2580	2220	86	33-176	IH
Methyl-tert-butyl ether	ug/kg	2580	2280	88	25-171	
Methylcyclohexane	ug/kg	2580	2440	95	24-141	
Methylene Chloride	ug/kg	2580	2110	82	50-164	
Styrene	ug/kg	2580	2730	106	73-133	
Tetrachloroethene	ug/kg	2580	2360	92	10-176	
Toluene	ug/kg	2580	2540	98	66-131	
trans-1,2-Dichloroethene	ug/kg	2580	2300	89	53-157	
trans-1,3-Dichloropropene	ug/kg	2580	2650	103	66-144	
Trichloroethene	ug/kg	2580	2490	97	62-130	
Trichlorofluoromethane	ug/kg	2580	566	22	38-166	L2
Vinyl chloride	ug/kg	2580	1870	73	45-137	
Xylene (Total)	ug/kg	7730	7880	102	62-135	
1,2-Dichloroethane-d4 (S)	%			89	33-150	
4-Bromofluorobenzene (S)	%			106	34-145	
Toluene-d8 (S)	%			98	43-157	

MATRIX SPIKE SAMPLE: 170833

Parameter	Units	7027422003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/kg	<50.9	1270	1310	103	59-134	
1,1,2,2-Tetrachloroethane	ug/kg	<50.9	1270	1140	90	69-132	
1,1,2-Trichloroethane	ug/kg	<50.9	1270	1470	115	73-135	
1,1,2-Trichlorotrifluoroethane	ug/kg	<50.9	1270	1070	84	45-156	
1,1-Dichloroethane	ug/kg	<50.9	1270	1260	99	53-160	
1,1-Dichloroethene	ug/kg	<50.9	1270	1110	87	47-152	
1,2,4-Trichlorobenzene	ug/kg	<50.9	1270	1410	111	52-140	
1,2-Dibromo-3-chloropropane	ug/kg	<50.9	1270	1030	81	57-140	
1,2-Dibromoethane (EDB)	ug/kg	<50.9	1270	1470	116	76-138	
1,2-Dichlorobenzene	ug/kg	<50.9	1270	1350	106	67-125	
1,2-Dichloroethane	ug/kg	<50.9	1270	1300	102	65-143	
1,2-Dichloropropane	ug/kg	<50.9	1270	1350	106	72-131	
1,3-Dichlorobenzene	ug/kg	<50.9	1270	1370	107	64-124	
1,4-Dichlorobenzene	ug/kg	<50.9	1270	1360	107	61-127	
2-Butanone (MEK)	ug/kg	<50.9	1270	1180	92	52-164	
2-Hexanone	ug/kg	<50.9	1270	1180	93	66-151	
4-Methyl-2-pentanone (MIBK)	ug/kg	<50.9	1270	1260	99	63-154	
Acetone	ug/kg	<50.9	1270	1090	85	23-196	CC
Benzene	ug/kg	<50.9	1270	1360	107	65-129	
Bromodichloromethane	ug/kg	<50.9	1270	1290	102	74-141	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

MATRIX SPIKE SAMPLE: 170833

Parameter	Units	7027422003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/kg	<50.9	1270	1160	91	59-136	
Bromomethane	ug/kg	<50.9	1270	476	37	32-182	CC
Carbon disulfide	ug/kg	<50.9	1270	906	71	26-160	CC
Carbon tetrachloride	ug/kg	<50.9	1270	1240	98	57-135	
Chlorobenzene	ug/kg	<50.9	1270	1420	111	62-136	
Chloroethane	ug/kg	<50.9	1270	420	33	50-159	CC,M0
Chloroform	ug/kg	<50.9	1270	1290	101	71-135	
Chloromethane	ug/kg	<50.9	1270	916	72	44-139	CC
cis-1,2-Dichloroethene	ug/kg	<50.9	1270	1320	104	75-130	
cis-1,3-Dichloropropene	ug/kg	<50.9	1270	1380	108	74-140	
Cyclohexane	ug/kg	<50.9	1270	1310	103	21-139	
Dibromochloromethane	ug/kg	<50.9	1270	1230	97	71-133	
Dichlorodifluoromethane	ug/kg	<50.9	1270	768	60	10-155	CC
Ethylbenzene	ug/kg	<50.9	1270	1410	110	59-135	
Isopropylbenzene (Cumene)	ug/kg	<50.9	1270	1350	106	56-129	
Methyl acetate	ug/kg	<50.9	1270	1370	108	33-176	IH
Methyl-tert-butyl ether	ug/kg	<50.9	1270	1200	95	25-171	
Methylcyclohexane	ug/kg	<50.9	1270	1420	111	24-141	
Methylene Chloride	ug/kg	<50.9	1270	1140	89	50-164	
Styrene	ug/kg	<50.9	1270	1430	112	73-133	
Tetrachloroethene	ug/kg	2860	1270	3970	87	10-176	
Toluene	ug/kg	<50.9	1270	1440	113	66-131	
trans-1,2-Dichloroethene	ug/kg	<50.9	1270	1310	103	53-157	
trans-1,3-Dichloropropene	ug/kg	<50.9	1270	1430	112	66-144	
Trichloroethene	ug/kg	<50.9	1270	1440	113	62-130	
Trichlorofluoromethane	ug/kg	<50.9	1270	742	58	38-166	
Vinyl chloride	ug/kg	<50.9	1270	1080	85	45-137	
Xylene (Total)	ug/kg	<102	3810	4280	112	62-135	
1,2-Dichloroethane-d4 (S)	%				91	33-150	
4-Bromofluorobenzene (S)	%				100	34-145	
Toluene-d8 (S)	%				95	43-157	

SAMPLE DUPLICATE: 170834

Parameter	Units	7027422003 Result	Dup Result	RPD	Qualifiers
1,1,1-Trichloroethane	ug/kg	<50.9	<50.9		
1,1,2,2-Tetrachloroethane	ug/kg	<50.9	<50.9		
1,1,2-Trichloroethane	ug/kg	<50.9	<50.9		
1,1,2-Trichlorotrifluoroethane	ug/kg	<50.9	<50.9		
1,1-Dichloroethane	ug/kg	<50.9	<50.9		
1,1-Dichloroethene	ug/kg	<50.9	<50.9		
1,2,4-Trichlorobenzene	ug/kg	<50.9	<50.9		
1,2-Dibromo-3-chloropropane	ug/kg	<50.9	<50.9		
1,2-Dibromoethane (EDB)	ug/kg	<50.9	<50.9		
1,2-Dichlorobenzene	ug/kg	<50.9	<50.9		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

SAMPLE DUPLICATE: 170834

Parameter	Units	7027422003 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/kg	<50.9	<50.9		
1,2-Dichloropropane	ug/kg	<50.9	<50.9		
1,3-Dichlorobenzene	ug/kg	<50.9	<50.9		
1,4-Dichlorobenzene	ug/kg	<50.9	<50.9		
2-Butanone (MEK)	ug/kg	<50.9	<50.9		
2-Hexanone	ug/kg	<50.9	<50.9		
4-Methyl-2-pentanone (MIBK)	ug/kg	<50.9	<50.9		
Acetone	ug/kg	<50.9	<50.9		CC
Benzene	ug/kg	<50.9	<50.9		
Bromodichloromethane	ug/kg	<50.9	<50.9		
Bromoform	ug/kg	<50.9	<50.9		
Bromomethane	ug/kg	<50.9	<50.9		CC
Carbon disulfide	ug/kg	<50.9	<50.9		CC
Carbon tetrachloride	ug/kg	<50.9	<50.9		
Chlorobenzene	ug/kg	<50.9	<50.9		
Chloroethane	ug/kg	<50.9	<50.9		CC
Chloroform	ug/kg	<50.9	<50.9		
Chloromethane	ug/kg	<50.9	<50.9		CC
cis-1,2-Dichloroethene	ug/kg	<50.9	<50.9		
cis-1,3-Dichloropropene	ug/kg	<50.9	<50.9		
Cyclohexane	ug/kg	<50.9	<50.9		
Dibromochloromethane	ug/kg	<50.9	<50.9		
Dichlorodifluoromethane	ug/kg	<50.9	<50.9		CC
Ethylbenzene	ug/kg	<50.9	<50.9		
Isopropylbenzene (Cumene)	ug/kg	<50.9	<50.9		
Methyl acetate	ug/kg	<50.9	<50.9		IH
Methyl-tert-butyl ether	ug/kg	<50.9	<50.9		
Methylcyclohexane	ug/kg	<50.9	<50.9		
Methylene Chloride	ug/kg	<50.9	<50.9		
Styrene	ug/kg	<50.9	<50.9		
Tetrachloroethene	ug/kg	2860	2770	3	
Toluene	ug/kg	<50.9	<50.9		
trans-1,2-Dichloroethene	ug/kg	<50.9	<50.9		
trans-1,3-Dichloropropene	ug/kg	<50.9	<50.9		
Trichloroethene	ug/kg	<50.9	<50.9		
Trichlorofluoromethane	ug/kg	<50.9	<50.9		
Vinyl chloride	ug/kg	<50.9	<50.9		
Xylene (Total)	ug/kg	<102	<102		
1,2-Dichloroethane-d4 (S)	%	93	95	1	
4-Bromofluorobenzene (S)	%	101	102	1	
Toluene-d8 (S)	%	96	97	1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

QC Batch:	36155	Analysis Method:	EPA 8260C/5030C
QC Batch Method:	EPA 8260C/5030C	Analysis Description:	8260 MSV
Associated Lab Samples:	7027422004, 7027422005		

METHOD BLANK: 168692 Matrix: Water

Associated Lab Samples: 7027422004, 7027422005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	1.0	08/21/17 10:14	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	08/21/17 10:14	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	08/21/17 10:14	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	1.0	08/21/17 10:14	
1,1-Dichloroethane	ug/L	<1.0	1.0	08/21/17 10:14	
1,1-Dichloroethene	ug/L	<1.0	1.0	08/21/17 10:14	
1,2,4-Trichlorobenzene	ug/L	<1.0	1.0	08/21/17 10:14	
1,2-Dibromo-3-chloropropane	ug/L	<1.0	1.0	08/21/17 10:14	
1,2-Dibromoethane (EDB)	ug/L	<1.0	1.0	08/21/17 10:14	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	08/21/17 10:14	
1,2-Dichloroethane	ug/L	<1.0	1.0	08/21/17 10:14	
1,2-Dichloropropane	ug/L	<1.0	1.0	08/21/17 10:14	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	08/21/17 10:14	
1,4-Dichlorobenzene	ug/L	<1.0	1.0	08/21/17 10:14	
2-Butanone (MEK)	ug/L	<5.0	5.0	08/21/17 10:14	CC
2-Hexanone	ug/L	<5.0	5.0	08/21/17 10:14	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	5.0	08/21/17 10:14	
Acetone	ug/L	<5.0	5.0	08/21/17 10:14	
Benzene	ug/L	<1.0	1.0	08/21/17 10:14	
Bromodichloromethane	ug/L	<1.0	1.0	08/21/17 10:14	
Bromoform	ug/L	<1.0	1.0	08/21/17 10:14	
Bromomethane	ug/L	<1.0	1.0	08/21/17 10:14	CC
Carbon disulfide	ug/L	<1.0	1.0	08/21/17 10:14	
Carbon tetrachloride	ug/L	<1.0	1.0	08/21/17 10:14	
Chlorobenzene	ug/L	<1.0	1.0	08/21/17 10:14	
Chloroethane	ug/L	<1.0	1.0	08/21/17 10:14	CC
Chloroform	ug/L	<1.0	1.0	08/21/17 10:14	
Chloromethane	ug/L	<1.0	1.0	08/21/17 10:14	CC
cis-1,2-Dichloroethene	ug/L	<1.0	1.0	08/21/17 10:14	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	08/21/17 10:14	
Cyclohexane	ug/L	<1.0	1.0	08/21/17 10:14	
Dibromochloromethane	ug/L	<1.0	1.0	08/21/17 10:14	
Dichlorodifluoromethane	ug/L	<1.0	1.0	08/21/17 10:14	
Ethylbenzene	ug/L	<1.0	1.0	08/21/17 10:14	
Isopropylbenzene (Cumene)	ug/L	<1.0	1.0	08/21/17 10:14	
Methyl acetate	ug/L	<1.0	1.0	08/21/17 10:14	CC,IH
Methyl-tert-butyl ether	ug/L	<1.0	1.0	08/21/17 10:14	CC
Methylcyclohexane	ug/L	<1.0	1.0	08/21/17 10:14	
Methylene Chloride	ug/L	<1.0	1.0	08/21/17 10:14	CC
Styrene	ug/L	<1.0	1.0	08/21/17 10:14	
Tetrachloroethene	ug/L	<1.0	1.0	08/21/17 10:14	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

METHOD BLANK: 168692

Matrix: Water

Associated Lab Samples: 7027422004, 7027422005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	<1.0	1.0	08/21/17 10:14	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	08/21/17 10:14	
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	08/21/17 10:14	
Trichloroethene	ug/L	<1.0	1.0	08/21/17 10:14	
Trichlorofluoromethane	ug/L	<1.0	1.0	08/21/17 10:14	
Vinyl chloride	ug/L	<1.0	1.0	08/21/17 10:14	
Xylene (Total)	ug/L	<2.0	2.0	08/21/17 10:14	
1,2-Dichloroethane-d4 (S)	%	94	68-153	08/21/17 10:14	
4-Bromofluorobenzene (S)	%	101	79-124	08/21/17 10:14	
Toluene-d8 (S)	%	100	69-124	08/21/17 10:14	

LABORATORY CONTROL SAMPLE: 168693

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	51.4	103	65-118	
1,1,2,2-Tetrachloroethane	ug/L	50	45.3	91	74-121	
1,1,2-Trichloroethane	ug/L	50	48.5	97	80-117	
1,1,2-Trichlorotrifluoroethane	ug/L	50	41.9	84	60-140	
1,1-Dichloroethane	ug/L	50	48.9	98	83-151	
1,1-Dichloroethene	ug/L	50	41.0	82	45-146	
1,2,4-Trichlorobenzene	ug/L	50	50.5	101	66-116	
1,2-Dibromo-3-chloropropane	ug/L	50	42.6	85	74-119	
1,2-Dibromoethane (EDB)	ug/L	50	51.8	104	83-115	
1,2-Dichlorobenzene	ug/L	50	51.1	102	74-113	
1,2-Dichloroethane	ug/L	50	50.1	100	74-129	
1,2-Dichloropropane	ug/L	50	50.0	100	75-117	
1,3-Dichlorobenzene	ug/L	50	52.0	104	71-112	
1,4-Dichlorobenzene	ug/L	50	51.1	102	71-113	
2-Butanone (MEK)	ug/L	50	38.0	76	44-162	CC
2-Hexanone	ug/L	50	45.2	90	32-183	
4-Methyl-2-pentanone (MIBK)	ug/L	50	43.7	87	69-132	
Acetone	ug/L	50	33.8	68	23-188	
Benzene	ug/L	50	49.7	99	73-119	
Bromodichloromethane	ug/L	50	52.4	105	78-117	
Bromoform	ug/L	50	55.5	111	65-122	
Bromomethane	ug/L	50	36.7	73	52-147	CC
Carbon disulfide	ug/L	50	41.0	82	41-144	
Carbon tetrachloride	ug/L	50	52.2	104	59-120	
Chlorobenzene	ug/L	50	53.8	108	75-113	
Chloroethane	ug/L	50	40.7	81	49-151	CC
Chloroform	ug/L	50	50.1	100	72-122	
Chloromethane	ug/L	50	37.0	74	46-144	CC
cis-1,2-Dichloroethene	ug/L	50	50.6	101	72-121	
cis-1,3-Dichloropropene	ug/L	50	53.0	106	78-116	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

LABORATORY CONTROL SAMPLE: 168693

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyclohexane	ug/L	50	49.2	98	43-143	
Dibromochloromethane	ug/L	50	54.7	109	70-120	
Dichlorodifluoromethane	ug/L	50	39.2	78	22-154	
Ethylbenzene	ug/L	50	52.5	105	70-113	
Isopropylbenzene (Cumene)	ug/L	50	49.9	100	67-115	
Methyl acetate	ug/L	50	40.4	81	60-140	CC,IH
Methyl-tert-butyl ether	ug/L	50	46.9	94	72-131	CC
Methylcyclohexane	ug/L	50	50.4	101	60-140	
Methylene Chloride	ug/L	50	44.6	89	61-142	CC
Styrene	ug/L	50	54.5	109	72-118	
Tetrachloroethene	ug/L	50	50.5	101	60-128	
Toluene	ug/L	50	51.3	103	72-119	
trans-1,2-Dichloroethene	ug/L	50	50.6	101	56-142	
trans-1,3-Dichloropropene	ug/L	50	54.3	109	79-116	
Trichloroethene	ug/L	50	52.4	105	69-117	
Trichlorofluoromethane	ug/L	50	40.5	81	27-173	
Vinyl chloride	ug/L	50	39.9	80	43-143	
Xylene (Total)	ug/L	150	160	106	71-109	
1,2-Dichloroethane-d4 (S)	%			96	68-153	
4-Bromofluorobenzene (S)	%			101	79-124	
Toluene-d8 (S)	%			101	69-124	

MATRIX SPIKE SAMPLE: 169551

Parameter	Units	7027360008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	<1.0	50	47.5	95	65-118	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	50	40.1	80	74-121	
1,1,2-Trichloroethane	ug/L	<1.0	50	44.5	89	80-117	
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	50	36.8	74	60-140	
1,1-Dichloroethane	ug/L	<1.0	50	44.7	89	83-151	
1,1-Dichloroethene	ug/L	<1.0	50	39.1	78	45-146	
1,2,4-Trichlorobenzene	ug/L	<1.0	50	50.5	101	66-116	
1,2-Dibromo-3-chloropropane	ug/L	<1.0	50	36.3	73	74-119	M1
1,2-Dibromoethane (EDB)	ug/L	<1.0	50	46.3	93	83-115	
1,2-Dichlorobenzene	ug/L	<1.0	50	44.8	90	74-113	
1,2-Dichloroethane	ug/L	<1.0	50	44.1	88	74-129	
1,2-Dichloropropane	ug/L	<1.0	50	45.9	92	75-117	
1,3-Dichlorobenzene	ug/L	<1.0	50	46.3	93	71-112	
1,4-Dichlorobenzene	ug/L	<1.0	50	45.6	91	71-113	
2-Butanone (MEK)	ug/L	<5.0	50	34.1	68	44-162	CC
2-Hexanone	ug/L	<5.0	50	40.0	80	32-183	
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	50	38.5	77	69-132	
Acetone	ug/L	15.2	50	34.3	38	23-188	
Benzene	ug/L	<1.0	50	46.1	92	73-119	
Bromodichloromethane	ug/L	<1.0	50	47.7	95	78-117	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

MATRIX SPIKE SAMPLE: 169551		7027360008	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Bromoform	ug/L	<1.0	50	47.3	95	65-122	
Bromomethane	ug/L	<1.0	50	32.0	64	52-147	CC
Carbon disulfide	ug/L	<1.0	50	33.8	68	41-144	
Carbon tetrachloride	ug/L	<1.0	50	47.8	96	59-120	
Chlorobenzene	ug/L	<1.0	50	47.9	96	75-113	
Chloroethane	ug/L	<1.0	50	33.8	68	49-151	CC
Chloroform	ug/L	<1.0	50	45.9	92	72-122	
Chloromethane	ug/L	<1.0	50	28.8	58	46-144	CC
cis-1,2-Dichloroethene	ug/L	<1.0	50	46.4	93	72-121	
cis-1,3-Dichloropropene	ug/L	<1.0	50	47.3	95	78-116	
Cyclohexane	ug/L	<1.0	50	94.8	190	43-143	M1
Dibromochloromethane	ug/L	<1.0	50	48.2	96	70-120	
Dichlorodifluoromethane	ug/L	<1.0	50	22.2	44	22-154	
Ethylbenzene	ug/L	<1.0	50	47.2	94	70-113	
Isopropylbenzene (Cumene)	ug/L	<1.0	50	45.2	90	67-115	
Methyl acetate	ug/L	<1.0	50	80.7	161	60-140	CC,IH,M1
Methyl-tert-butyl ether	ug/L	<1.0	50	41.1	82	72-131	CC
Methylcyclohexane	ug/L	<1.0	50	50.5	101	60-140	
Methylene Chloride	ug/L	<1.0	50	40.2	80	61-142	CC
Styrene	ug/L	<1.0	50	48.7	97	72-118	
Tetrachloroethene	ug/L	4.0	50	46.6	85	60-128	
Toluene	ug/L	<1.0	50	46.8	94	72-119	
trans-1,2-Dichloroethene	ug/L	<1.0	50	47.1	94	56-142	
trans-1,3-Dichloropropene	ug/L	<1.0	50	48.4	97	79-116	
Trichloroethene	ug/L	<1.0	50	48.2	96	69-117	
Trichlorofluoromethane	ug/L	<1.0	50	37.0	74	27-173	
Vinyl chloride	ug/L	<1.0	50	34.1	68	43-143	
Xylene (Total)	ug/L	<2.0	150	142	95	71-109	
1,2-Dichloroethane-d4 (S)	%				93	68-153	
4-Bromofluorobenzene (S)	%				102	79-124	
Toluene-d8 (S)	%				100	69-124	

SAMPLE DUPLICATE: 169552

Parameter	Units	7027360010	Dup	RPD	Qualifiers
		Result	Result		
1,1,1-Trichloroethane	ug/L	<1.0	<1.0		
1,1,2,2-Tetrachloroethane	ug/L	<1.0	<1.0		
1,1,2-Trichloroethane	ug/L	<1.0	<1.0		
1,1,2-Trichlorotrifluoroethane	ug/L	<1.0	<1.0		
1,1-Dichloroethane	ug/L	<1.0	<1.0		
1,1-Dichloroethene	ug/L	<1.0	<1.0		
1,2,4-Trichlorobenzene	ug/L	<1.0	<1.0		
1,2-Dibromo-3-chloropropane	ug/L	<1.0	<1.0		
1,2-Dibromoethane (EDB)	ug/L	<1.0	<1.0		
1,2-Dichlorobenzene	ug/L	<1.0	<1.0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

SAMPLE DUPLICATE: 169552

Parameter	Units	7027360010 Result	Dup Result	RPD	Qualifiers
1,2-Dichloroethane	ug/L	<1.0	<1.0		
1,2-Dichloropropane	ug/L	<1.0	<1.0		
1,3-Dichlorobenzene	ug/L	<1.0	<1.0		
1,4-Dichlorobenzene	ug/L	<1.0	<1.0		
2-Butanone (MEK)	ug/L	5.0J	5.0J		CC
2-Hexanone	ug/L	<5.0	<5.0		
4-Methyl-2-pentanone (MIBK)	ug/L	<5.0	<5.0		
Acetone	ug/L	24.7	23.6	5	
Benzene	ug/L	<1.0	<1.0		
Bromodichloromethane	ug/L	<1.0	<1.0		
Bromoform	ug/L	<1.0	<1.0		
Bromomethane	ug/L	<1.0	<1.0		CC
Carbon disulfide	ug/L	<1.0	1.3		
Carbon tetrachloride	ug/L	<1.0	<1.0		
Chlorobenzene	ug/L	<1.0	<1.0		
Chloroethane	ug/L	<1.0	<1.0		CC
Chloroform	ug/L	<1.0	<1.0		
Chloromethane	ug/L	<1.0	<1.0		CC
cis-1,2-Dichloroethene	ug/L	<1.0	<1.0		
cis-1,3-Dichloropropene	ug/L	<1.0	<1.0		
Cyclohexane	ug/L	<1.0	11.3		
Dibromochloromethane	ug/L	<1.0	<1.0		
Dichlorodifluoromethane	ug/L	<1.0	<1.0		
Ethylbenzene	ug/L	32.2	32.4	1	
Isopropylbenzene (Cumene)	ug/L	1.9	1.9	1	
Methyl acetate	ug/L	<1.0	<1.0		CC,IH
Methyl-tert-butyl ether	ug/L	<1.0	<1.0		CC
Methylcyclohexane	ug/L	3.9	3.7	5	
Methylene Chloride	ug/L	<1.0	<1.0		CC
Styrene	ug/L	<1.0	<1.0		
Tetrachloroethene	ug/L	2.9	1.5	66	D6
Toluene	ug/L	5.1	5.1	0	
trans-1,2-Dichloroethene	ug/L	<1.0	<1.0		
trans-1,3-Dichloropropene	ug/L	<1.0	<1.0		
Trichloroethene	ug/L	<1.0	<1.0		
Trichlorofluoromethane	ug/L	<1.0	<1.0		
Vinyl chloride	ug/L	<1.0	<1.0		
Xylene (Total)	ug/L	75.0	74.6	1	
1,2-Dichloroethane-d4 (S)	%	95	93	2	
4-Bromofluorobenzene (S)	%	101	102	1	
Toluene-d8 (S)	%	101	102	1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

QC Batch: 268784 Analysis Method: EPA 8270D by SIM  
QC Batch Method: EPA 3546 Analysis Description: 8270D/3546 MSSV PAH by SIM  
Associated Lab Samples: 7027422001, 7027422002, 7027422003

METHOD BLANK: 1323116 Matrix: Solid  
Associated Lab Samples: 7027422001, 7027422002, 7027422003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/kg	<6.7	6.7	08/18/17 15:01	
Acenaphthylene	ug/kg	<6.7	6.7	08/18/17 15:01	
Anthracene	ug/kg	<6.7	6.7	08/18/17 15:01	
Benzo(a)anthracene	ug/kg	<6.7	6.7	08/18/17 15:01	
Benzo(a)pyrene	ug/kg	<6.7	6.7	08/18/17 15:01	
Benzo(b)fluoranthene	ug/kg	<6.7	6.7	08/18/17 15:01	
Benzo(g,h,i)perylene	ug/kg	<6.7	6.7	08/18/17 15:01	
Benzo(k)fluoranthene	ug/kg	<6.7	6.7	08/18/17 15:01	
Chrysene	ug/kg	<6.7	6.7	08/18/17 15:01	
Dibenz(a,h)anthracene	ug/kg	<6.7	6.7	08/18/17 15:01	
Fluoranthene	ug/kg	<6.7	6.7	08/18/17 15:01	
Fluorene	ug/kg	<6.7	6.7	08/18/17 15:01	
Indeno(1,2,3-cd)pyrene	ug/kg	<6.7	6.7	08/18/17 15:01	
Naphthalene	ug/kg	<6.7	6.7	08/18/17 15:01	
Phenanthrene	ug/kg	<6.7	6.7	08/18/17 15:01	
Pyrene	ug/kg	<6.7	6.7	08/18/17 15:01	
2-Fluorobiphenyl (S)	%	78	35-141	08/18/17 15:01	
Terphenyl-d14 (S)	%	112	64-141	08/18/17 15:01	

LABORATORY CONTROL SAMPLE: 1323117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/kg	133	110	83	43-113	
Acenaphthylene	ug/kg	133	131	98	41-114	
Anthracene	ug/kg	133	120	90	59-115	
Benzo(a)anthracene	ug/kg	133	133	100	62-122	
Benzo(a)pyrene	ug/kg	133	132	99	56-113	
Benzo(b)fluoranthene	ug/kg	133	123	92	43-138	
Benzo(g,h,i)perylene	ug/kg	133	125	94	47-143	
Benzo(k)fluoranthene	ug/kg	133	125	94	52-138	
Chrysene	ug/kg	133	115	86	64-119	
Dibenz(a,h)anthracene	ug/kg	133	132	99	59-133	
Fluoranthene	ug/kg	133	128	96	64-122	
Fluorene	ug/kg	133	117	88	46-114	
Indeno(1,2,3-cd)pyrene	ug/kg	133	131	98	59-132	
Naphthalene	ug/kg	133	107	80	47-108	
Phenanthrene	ug/kg	133	114	85	42-122	
Pyrene	ug/kg	133	127	95	64-117	
2-Fluorobiphenyl (S)	%			84	35-141	
Terphenyl-d14 (S)	%			107	64-141	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1323372 1323373											
Parameter	Units	7027422001		MS	MSD	MSD		MS	MSD	% Rec	Qual
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	
Acenaphthene	ug/kg	<92.5	186	185	123	132	66	71	43-113	7	
Acenaphthylene	ug/kg	<92.5	186	185	143	155	74	80	41-114	8	
Anthracene	ug/kg	<92.5	186	185	146	158	78	84	59-115	8	
Benzo(a)anthracene	ug/kg	<92.5	186	185	176	187	95	101	62-122	6	
Benzo(a)pyrene	ug/kg	<92.5	186	185	155	164	83	89	56-113	6	
Benzo(b)fluoranthene	ug/kg	<92.5	186	185	147	153	79	83	43-138	5	
Benzo(g,h,i)perylene	ug/kg	<92.5	186	185	150	157	76	81	47-143	5	
Benzo(k)fluoranthene	ug/kg	<92.5	186	185	147	158	79	86	52-138	7	
Chrysene	ug/kg	<92.5	186	185	142	150	77	81	64-119	5	
Dibenz(a,h)anthracene	ug/kg	<92.5	186	185	158	165	82	86	59-133	5	
Fluoranthene	ug/kg	<92.5	186	185	165	184	87	98	64-122	11	
Fluorene	ug/kg	<92.5	186	185	135	149	73	81	46-114	10	
Indeno(1,2,3-cd)pyrene	ug/kg	<92.5	186	185	155	162	80	85	59-132	5	
Naphthalene	ug/kg	<92.5	186	185	112	110	58	57	47-108	1	
Phenanthrene	ug/kg	<92.5	186	185	153	162	79	85	42-122	6	
Pyrene	ug/kg	<92.5	186	185	164	181	86	95	64-117	10	
2-Fluorobiphenyl (S)	%						62	67	35-141		
Terphenyl-d14 (S)	%						95	106	64-141		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

QC Batch: 268785

Analysis Method: EPA 8270D by SIM

QC Batch Method: EPA 3510C

Analysis Description: 8270D Water PAH by SIM MSSV

Associated Lab Samples: 7027422004, 7027422005

METHOD BLANK: 1323122

Matrix: Water

Associated Lab Samples: 7027422004, 7027422005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acenaphthene	ug/L	<0.10	0.10	08/18/17 19:26	
Anthracene	ug/L	<0.10	0.10	08/18/17 19:26	
Benzo(a)anthracene	ug/L	<0.10	0.10	08/18/17 19:26	
Benzo(a)pyrene	ug/L	<0.10	0.10	08/18/17 19:26	
Benzo(b)fluoranthene	ug/L	<0.10	0.10	08/18/17 19:26	
Benzo(g,h,i)perylene	ug/L	<0.10	0.10	08/18/17 19:26	
Benzo(k)fluoranthene	ug/L	<0.10	0.10	08/18/17 19:26	
Chrysene	ug/L	<0.10	0.10	08/18/17 19:26	
Dibenz(a,h)anthracene	ug/L	<0.10	0.10	08/18/17 19:26	
Fluoranthene	ug/L	<0.10	0.10	08/18/17 19:26	
Fluorene	ug/L	<0.10	0.10	08/18/17 19:26	
Indeno(1,2,3-cd)pyrene	ug/L	<0.10	0.10	08/18/17 19:26	
Naphthalene	ug/L	<0.10	0.10	08/18/17 19:26	
Phenanthrene	ug/L	<0.10	0.10	08/18/17 19:26	
Pyrene	ug/L	<0.10	0.10	08/18/17 19:26	
2-Fluorobiphenyl (S)	%	93	19-123	08/18/17 19:26	
Terphenyl-d14 (S)	%	119	58-130	08/18/17 19:26	

LABORATORY CONTROL SAMPLE: 1323123

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acenaphthene	ug/L	2	1.6	79	48-104	
Anthracene	ug/L	2	1.9	93	49-112	
Benzo(a)anthracene	ug/L	2	2.1	107	63-109	
Benzo(a)pyrene	ug/L	2	2.1	105	51-98 L1	
Benzo(b)fluoranthene	ug/L	2	2.1	105	41-139	
Benzo(g,h,i)perylene	ug/L	2	1.4	69	44-124	
Benzo(k)fluoranthene	ug/L	2	1.8	92	58-125	
Chrysene	ug/L	2	1.7	87	62-115	
Dibenz(a,h)anthracene	ug/L	2	1.7	86	55-124	
Fluoranthene	ug/L	2	2.1	103	65-112	
Fluorene	ug/L	2	1.8	88	49-108	
Indeno(1,2,3-cd)pyrene	ug/L	2	1.6	81	54-125	
Naphthalene	ug/L	2	1.5	73	42-107	
Phenanthrene	ug/L	2	1.7	87	50-109	
Pyrene	ug/L	2	2.0	101	64-109	
2-Fluorobiphenyl (S)	%			79	19-123	
Terphenyl-d14 (S)	%			115	58-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

QC Batch:	35934	Analysis Method:	ASTM D2216-92M
QC Batch Method:	ASTM D2216-92M	Analysis Description:	Dry Weight/Percent Moisture
Associated Lab Samples: 7027422001, 7027422002, 7027422003			

SAMPLE DUPLICATE: 167601

Parameter	Units	7026752002 Result	Dup Result	RPD	Qualifiers
Percent Moisture	%	32.9	34.4	5	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALIFIERS

Project: 2171989-115-121 W 3RD ST  
Pace Project No.: 7027422

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.  
ND - Not Detected at or above adjusted reporting limit.  
TNTC - Too Numerous To Count  
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.  
MDL - Adjusted Method Detection Limit.  
PQL - Practical Quantitation Limit.  
RL - Reporting Limit.  
S - Surrogate  
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.  
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.  
LCS(D) - Laboratory Control Sample (Duplicate)  
MS(D) - Matrix Spike (Duplicate)  
DUP - Sample Duplicate  
RPD - Relative Percent Difference  
NC - Not Calculable.  
SG - Silica Gel - Clean-Up  
U - Indicates the compound was analyzed for, but not detected.  
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.  
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.  
TNI - The NELAC Institute.

### LABORATORIES

PACE-MV Pace Analytical Services - Melville  
PASI-PA Pace Analytical Services - Greensburg

### SAMPLE QUALIFIERS

Sample: 7027422001  
[1] Result confirmed by second analysis.

### BATCH QUALIFIERS

Batch: 268858  
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

### ANALYTE QUALIFIERS

1j	Emulsions were present during the extraction of this sample. Appropriate mechanical means were employed to break up the emulsions and were successful.
A5	Greater than 5% sediment in sample determined by visual observation. Aqueous portion decanted from the sediment and extracted.
CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
ED	Due to the extract's physical characteristics, the analysis was performed at dilution.
IH	This analyte exceeded secondary source verification criteria high for the initial calibration. The reported results should be considered an estimated value.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALIFIERS

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

---

### ANALYTE QUALIFIERS

- |    |  |
|----|--|
| L1 | Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.  |
| L2 | Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.   |
| M0 | Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.  |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.  |
| S0 | Surrogate recovery outside laboratory control limits.  |
| ip | Benzo(b)fluoranthene and benzo(k)fluoranthene were separated in the check standard but did not meet the resolution criteria in SW846 Method 8270D. Whereas sample results included are reported as individual isomers, the lab and the customer must recognize them as an isomeric pair. |

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 2171989-115-121 W 3RD ST

Pace Project No.: 7027422

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7027422001	SB-1 12-14 FT	EPA 3050B	36232	EPA 6010C	36315
7027422002	SB-3 10-12 FT	EPA 3050B	36232	EPA 6010C	36315
7027422003	SB-5 10-12 FT	EPA 3050B	36232	EPA 6010C	36315
7027422001	SB-1 12-14 FT	EPA 7471B	35932	EPA 7471B	35937
7027422002	SB-3 10-12 FT	EPA 7471B	35932	EPA 7471B	35937
7027422003	SB-5 10-12 FT	EPA 7471B	35932	EPA 7471B	35937
7027422001	SB-1 12-14 FT	EPA 3546	268784	EPA 8270D by SIM	268840
7027422002	SB-3 10-12 FT	EPA 3546	268784	EPA 8270D by SIM	268840
7027422003	SB-5 10-12 FT	EPA 3546	268784	EPA 8270D by SIM	268840
7027422004	MW-2	EPA 3510C	268785	EPA 8270D by SIM	268858
7027422005	MW-1	EPA 3510C	268785	EPA 8270D by SIM	268858
7027422001	SB-1 12-14 FT	EPA 5035A-L	36603	EPA 8260C	36605
7027422002	SB-3 10-12 FT	EPA 5035A-H/5030C	36668	EPA 8260C	36670
7027422003	SB-5 10-12 FT	EPA 5035A-H/5030C	36668	EPA 8260C	36670
7027422004	MW-2	EPA 8260C/5030C	36155		
7027422005	MW-1	EPA 8260C/5030C	36155		
7027422001	SB-1 12-14 FT	ASTM D2216-92M	35934		
7027422002	SB-3 10-12 FT	ASTM D2216-92M	35934		
7027422003	SB-5 10-12 FT	ASTM D2216-92M	35934		

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.



The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed

## Section A Required Client Information: Section B Required Project Information:

Company:	LaBella Associates	Report To:	Adam Zebrowski + Shannon Dalton	Attention:
Address:	200 Pearl Street Buffalo, NY	Copy To:	azebrowski@labella.pc.com	Company Name:
Email To:	sdalton@labella.pc.com	Purchase Order No.:		Address:
Phone:	716-710-3043	Project Name:	115-121 W Third St + 200-210 Washington St	Pace Quote Reference:
Fax:		Project Number:	2171989	Pace Project Manager:
Requested Due Date/TAT:	Standard			Pace Profile #:

[illegible]

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			Temp In °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
				[Signature]	8/19/17	P.M.			5.3	Y	N	Y	
<div style="text-align: center; color: red;">ORIGINAL</div> <div>SAMPLER NAME AND SIGNATURE</div> <div>PRINT Name of SAMPLER: Shannon Dalta</div> <div>SIGNATURE of SAMPLER: [Signature] Shannon Dalta</div> <div>DATE Signed (MM/DD/YYYY): 8/15/2017</div>													





# Sample Condition Upon Receipt

Client Name:

Project

WO#: 7027422

PM: JSA Due Date: 08/23/17

CLIENT: LBA-B

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking #:

7749 9898 3269

Seals intact: ☐ Yes ☐ No

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Ziploc ☐ None ☐ Other

Thermometer Used: TH092

Correction Factor:

0

Cooler Temperature (°C):

5.3

Cooler Temperature Corrected (°C):

5.3

Type of Ice: ☒ Wet ☐ Blue ☐ None

☐ Samples on ice, cooling process has begun

Date/Time 5035A kits placed in freezer 8/16/17 14:15

Temp should be above freezing to 6.0°C

USDA Regulated Soil ( ☐ N/A, water sample)

Date and Initials of person examining contents: SB 8/16/17

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? ☐ YES ☐ NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☒ No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume: (Triple volume provided for MS/MSD)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Note if sediment is visible in the dissolved container.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes date/time/ID/Analysis Matrix: SL WT OIL		
All containers needing preservation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
pH paper Lot #		
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl, NaOH > 9 Sulfide, NaOH > 12 Cyanide)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Sample #
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis		
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Residual chlorine strips Lot #		Positive for Res. Chlorine? Y N
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if applicable):		

Field Data Required?

Y / N

Date/Time:

Client Notification/ Resolution:

Person Contacted:

Comments/ Resolution:





## ANALYTICAL REPORT

Lab Number:	L1735924
Client:	LaBella Associates, P.C. 300 Pearl Street Suite 252 Buffalo, NY 14202
ATTN:	Christopher Kibler
Phone:	(716) 551-6281
Project Name:	VIA - JAMESTOWN
Project Number:	2172285
Report Date:	10/09/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), NJ NELAP (MA015), CT (PH-0141), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), 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 #P330-13-00067), USFWS (Permit #LE2069641).

---

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



**Project Name:** VIA - JAMESTOWN  
**Project Number:** 2172285

**Lab Number:** L1735924  
**Report Date:** 10/09/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1735924-01	SS1	SOIL_VAPOR	JAMESTOWN, NY	10/04/17 16:16	10/05/17
L1735924-02	SS2	SOIL_VAPOR	JAMESTOWN, NY	10/04/17 16:15	10/05/17
L1735924-03	SS3	SOIL_VAPOR	JAMESTOWN, NY	10/04/17 16:30	10/05/17
L1735924-04	SS4	SOIL_VAPOR	JAMESTOWN, NY	10/04/17 16:40	10/05/17



**Project Name:** VIA - JAMESTOWN  
**Project Number:** 2172285

**Lab Number:** L1735924  
**Report Date:** 10/09/17

### Case Narrative

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

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

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

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

#### HOLD POLICY

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

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

---

**Project Name:** VIA - JAMESTOWN  
**Project Number:** 2172285

**Lab Number:** L1735924  
**Report Date:** 10/09/17

### Case Narrative (continued)

#### Volatile Organics in Air

Canisters were released from the laboratory on October 3, 2017. The canister certification results are provided as an addendum.

L1735924-01 and -02: The samples have elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the samples.

L1735924-03 and -04: The samples have elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the samples.

L1735924-03 and -04 results for Acetone should be considered estimated due to co-elution with a non-target peak.

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: 10/09/17

**AIR**

**Project Name:** VIA - JAMESTOWN**Project Number:** 2172285**Lab Number:** L1735924**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-01 D  
 Client ID: SS1  
 Sample Location: JAMESTOWN, NY  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/07/17 00:54  
 Analyst: RY

Date Collected: 10/04/17 16:16  
 Date Received: 10/05/17  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	ND	2.00	--	ND	9.89	--		10
Chloromethane	ND	2.00	--	ND	4.13	--		10
Freon-114	ND	2.00	--	ND	14.0	--		10
Vinyl chloride	ND	2.00	--	ND	5.11	--		10
1,3-Butadiene	ND	2.00	--	ND	4.42	--		10
Bromomethane	ND	2.00	--	ND	7.77	--		10
Chloroethane	ND	2.00	--	ND	5.28	--		10
Ethanol	ND	50.0	--	ND	94.2	--		10
Vinyl bromide	ND	2.00	--	ND	8.74	--		10
Acetone	114	10.0	--	271	23.8	--		10
Trichlorofluoromethane	ND	2.00	--	ND	11.2	--		10
Isopropanol	ND	5.00	--	ND	12.3	--		10
1,1-Dichloroethene	ND	2.00	--	ND	7.93	--		10
Tertiary butyl Alcohol	ND	5.00	--	ND	15.2	--		10
Methylene chloride	ND	5.00	--	ND	17.4	--		10
3-Chloropropene	ND	2.00	--	ND	6.26	--		10
Carbon disulfide	34.2	2.00	--	107	6.23	--		10
Freon-113	ND	2.00	--	ND	15.3	--		10
trans-1,2-Dichloroethene	15.8	2.00	--	62.6	7.93	--		10
1,1-Dichloroethane	ND	2.00	--	ND	8.09	--		10
Methyl tert butyl ether	ND	2.00	--	ND	7.21	--		10
2-Butanone	ND	5.00	--	ND	14.7	--		10
cis-1,2-Dichloroethene	39.5	2.00	--	157	7.93	--		10
Ethyl Acetate	ND	5.00	--	ND	18.0	--		10



**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-01 D  
 Client ID: SS1  
 Sample Location: JAMESTOWN, NY

Date Collected: 10/04/17 16:16  
 Date Received: 10/05/17  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	2.00	--	ND	9.77	--		10
Tetrahydrofuran	ND	5.00	--	ND	14.7	--		10
1,2-Dichloroethane	ND	2.00	--	ND	8.09	--		10
n-Hexane	2.30	2.00	--	8.11	7.05	--		10
1,1,1-Trichloroethane	2.21	2.00	--	12.1	10.9	--		10
Benzene	ND	2.00	--	ND	6.39	--		10
Carbon tetrachloride	ND	2.00	--	ND	12.6	--		10
Cyclohexane	ND	2.00	--	ND	6.88	--		10
1,2-Dichloropropane	ND	2.00	--	ND	9.24	--		10
Bromodichloromethane	ND	2.00	--	ND	13.4	--		10
1,4-Dioxane	ND	2.00	--	ND	7.21	--		10
Trichloroethene	343	2.00	--	1840	10.7	--		10
2,2,4-Trimethylpentane	ND	2.00	--	ND	9.34	--		10
Heptane	2.11	2.00	--	8.65	8.20	--		10
cis-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
4-Methyl-2-pentanone	ND	5.00	--	ND	20.5	--		10
trans-1,3-Dichloropropene	ND	2.00	--	ND	9.08	--		10
1,1,2-Trichloroethane	ND	2.00	--	ND	10.9	--		10
Toluene	3.38	2.00	--	12.7	7.54	--		10
2-Hexanone	ND	2.00	--	ND	8.20	--		10
Dibromochloromethane	ND	2.00	--	ND	17.0	--		10
1,2-Dibromoethane	ND	2.00	--	ND	15.4	--		10
Tetrachloroethene	873	2.00	--	5920	13.6	--		10
Chlorobenzene	ND	2.00	--	ND	9.21	--		10
Ethylbenzene	ND	2.00	--	ND	8.69	--		10
p/m-Xylene	ND	4.00	--	ND	17.4	--		10
Bromoform	ND	2.00	--	ND	20.7	--		10
Styrene	ND	2.00	--	ND	8.52	--		10





**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-01 D

Date Collected: 10/04/17 16:16

Client ID: SS1

Date Received: 10/05/17

Sample Location: JAMESTOWN, NY

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	2.00	--	ND	13.7	--		10
o-Xylene	ND	2.00	--	ND	8.69	--		10
4-Ethyltoluene	ND	2.00	--	ND	9.83	--		10
1,3,5-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
1,2,4-Trimethylbenzene	ND	2.00	--	ND	9.83	--		10
Benzyl chloride	ND	2.00	--	ND	10.4	--		10
1,3-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,4-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2-Dichlorobenzene	ND	2.00	--	ND	12.0	--		10
1,2,4-Trichlorobenzene	ND	2.00	--	ND	14.8	--		10
Hexachlorobutadiene	ND	2.00	--	ND	21.3	--		10

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	73		60-140
Bromochloromethane	82		60-140
chlorobenzene-d5	77		60-140



**Project Name:** VIA - JAMESTOWN**Project Number:** 2172285**Lab Number:** L1735924**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-02 D  
 Client ID: SS2  
 Sample Location: JAMESTOWN, NY  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/07/17 01:27  
 Analyst: RY

Date Collected: 10/04/17 16:15  
 Date Received: 10/05/17  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.564	0.400	--	2.79	1.98	--		2
Chloromethane	ND	0.400	--	ND	0.826	--		2
Freon-114	ND	0.400	--	ND	2.80	--		2
Vinyl chloride	ND	0.400	--	ND	1.02	--		2
1,3-Butadiene	ND	0.400	--	ND	0.885	--		2
Bromomethane	ND	0.400	--	ND	1.55	--		2
Chloroethane	ND	0.400	--	ND	1.06	--		2
Ethanol	ND	10.0	--	ND	18.8	--		2
Vinyl bromide	ND	0.400	--	ND	1.75	--		2
Acetone	21.5	2.00	--	51.1	4.75	--		2
Trichlorofluoromethane	ND	0.400	--	ND	2.25	--		2
Isopropanol	ND	1.00	--	ND	2.46	--		2
1,1-Dichloroethene	ND	0.400	--	ND	1.59	--		2
Tertiary butyl Alcohol	ND	1.00	--	ND	3.03	--		2
Methylene chloride	ND	1.00	--	ND	3.47	--		2
3-Chloropropene	ND	0.400	--	ND	1.25	--		2
Carbon disulfide	6.34	0.400	--	19.7	1.25	--		2
Freon-113	ND	0.400	--	ND	3.07	--		2
trans-1,2-Dichloroethene	ND	0.400	--	ND	1.59	--		2
1,1-Dichloroethane	ND	0.400	--	ND	1.62	--		2
Methyl tert butyl ether	ND	0.400	--	ND	1.44	--		2
2-Butanone	ND	1.00	--	ND	2.95	--		2
cis-1,2-Dichloroethene	ND	0.400	--	ND	1.59	--		2
Ethyl Acetate	ND	1.00	--	ND	3.60	--		2



**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-02 D

Date Collected: 10/04/17 16:15

Client ID: SS2

Date Received: 10/05/17

Sample Location: JAMESTOWN, NY

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	0.400	--	ND	1.95	--		2
Tetrahydrofuran	ND	1.00	--	ND	2.95	--		2
1,2-Dichloroethane	ND	0.400	--	ND	1.62	--		2
n-Hexane	1.35	0.400	--	4.76	1.41	--		2
1,1,1-Trichloroethane	1.77	0.400	--	9.66	2.18	--		2
Benzene	0.614	0.400	--	1.96	1.28	--		2
Carbon tetrachloride	ND	0.400	--	ND	2.52	--		2
Cyclohexane	0.656	0.400	--	2.26	1.38	--		2
1,2-Dichloropropane	ND	0.400	--	ND	1.85	--		2
Bromodichloromethane	ND	0.400	--	ND	2.68	--		2
1,4-Dioxane	ND	0.400	--	ND	1.44	--		2
Trichloroethene	7.55	0.400	--	40.6	2.15	--		2
2,2,4-Trimethylpentane	ND	0.400	--	ND	1.87	--		2
Heptane	1.49	0.400	--	6.11	1.64	--		2
cis-1,3-Dichloropropene	ND	0.400	--	ND	1.82	--		2
4-Methyl-2-pentanone	ND	1.00	--	ND	4.10	--		2
trans-1,3-Dichloropropene	ND	0.400	--	ND	1.82	--		2
1,1,2-Trichloroethane	ND	0.400	--	ND	2.18	--		2
Toluene	1.27	0.400	--	4.79	1.51	--		2
2-Hexanone	ND	0.400	--	ND	1.64	--		2
Dibromochloromethane	ND	0.400	--	ND	3.41	--		2
1,2-Dibromoethane	ND	0.400	--	ND	3.07	--		2
Tetrachloroethene	128	0.400	--	868	2.71	--		2
Chlorobenzene	ND	0.400	--	ND	1.84	--		2
Ethylbenzene	ND	0.400	--	ND	1.74	--		2
p/m-Xylene	ND	0.800	--	ND	3.47	--		2
Bromoform	ND	0.400	--	ND	4.14	--		2
Styrene	ND	0.400	--	ND	1.70	--		2



**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-02 D

Date Collected: 10/04/17 16:15

Client ID: SS2

Date Received: 10/05/17

Sample Location: JAMESTOWN, NY

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.400	--	ND	2.75	--		2
o-Xylene	ND	0.400	--	ND	1.74	--		2
4-Ethyltoluene	ND	0.400	--	ND	1.97	--		2
1,3,5-Trimethylbenzene	ND	0.400	--	ND	1.97	--		2
1,2,4-Trimethylbenzene	0.488	0.400	--	2.40	1.97	--		2
Benzyl chloride	ND	0.400	--	ND	2.07	--		2
1,3-Dichlorobenzene	ND	0.400	--	ND	2.40	--		2
1,4-Dichlorobenzene	ND	0.400	--	ND	2.40	--		2
1,2-Dichlorobenzene	ND	0.400	--	ND	2.40	--		2
1,2,4-Trichlorobenzene	ND	0.400	--	ND	2.97	--		2
Hexachlorobutadiene	ND	0.400	--	ND	4.27	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	80		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	81		60-140



**Project Name:** VIA - JAMESTOWN**Project Number:** 2172285**Lab Number:** L1735924**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-03 D  
 Client ID: SS3  
 Sample Location: JAMESTOWN, NY  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/07/17 02:00  
 Analyst: RY

Date Collected: 10/04/17 16:30  
 Date Received: 10/05/17  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.484	0.400	--	2.39	1.98	--		2
Chloromethane	ND	0.400	--	ND	0.826	--		2
Freon-114	ND	0.400	--	ND	2.80	--		2
Vinyl chloride	ND	0.400	--	ND	1.02	--		2
1,3-Butadiene	0.858	0.400	--	1.90	0.885	--		2
Bromomethane	ND	0.400	--	ND	1.55	--		2
Chloroethane	ND	0.400	--	ND	1.06	--		2
Ethanol	ND	10.0	--	ND	18.8	--		2
Vinyl bromide	ND	0.400	--	ND	1.75	--		2
Acetone	21.5	2.00	--	51.1	4.75	--		2
Trichlorofluoromethane	ND	0.400	--	ND	2.25	--		2
Isopropanol	ND	1.00	--	ND	2.46	--		2
1,1-Dichloroethene	ND	0.400	--	ND	1.59	--		2
Tertiary butyl Alcohol	ND	1.00	--	ND	3.03	--		2
Methylene chloride	ND	1.00	--	ND	3.47	--		2
3-Chloropropene	ND	0.400	--	ND	1.25	--		2
Carbon disulfide	0.742	0.400	--	2.31	1.25	--		2
Freon-113	ND	0.400	--	ND	3.07	--		2
trans-1,2-Dichloroethene	ND	0.400	--	ND	1.59	--		2
1,1-Dichloroethane	ND	0.400	--	ND	1.62	--		2
Methyl tert butyl ether	ND	0.400	--	ND	1.44	--		2
2-Butanone	1.86	1.00	--	5.49	2.95	--		2
cis-1,2-Dichloroethene	ND	0.400	--	ND	1.59	--		2
Ethyl Acetate	ND	1.00	--	ND	3.60	--		2



**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-03 D

Date Collected: 10/04/17 16:30

Client ID: SS3

Date Received: 10/05/17

Sample Location: JAMESTOWN, NY

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	0.454	0.400	--	2.22	1.95	--		2
Tetrahydrofuran	ND	1.00	--	ND	2.95	--		2
1,2-Dichloroethane	ND	0.400	--	ND	1.62	--		2
n-Hexane	4.65	0.400	--	16.4	1.41	--		2
1,1,1-Trichloroethane	ND	0.400	--	ND	2.18	--		2
Benzene	1.56	0.400	--	4.98	1.28	--		2
Carbon tetrachloride	ND	0.400	--	ND	2.52	--		2
Cyclohexane	1.58	0.400	--	5.44	1.38	--		2
1,2-Dichloropropane	ND	0.400	--	ND	1.85	--		2
Bromodichloromethane	ND	0.400	--	ND	2.68	--		2
1,4-Dioxane	ND	0.400	--	ND	1.44	--		2
Trichloroethene	ND	0.400	--	ND	2.15	--		2
2,2,4-Trimethylpentane	0.620	0.400	--	2.90	1.87	--		2
Heptane	2.75	0.400	--	11.3	1.64	--		2
cis-1,3-Dichloropropene	ND	0.400	--	ND	1.82	--		2
4-Methyl-2-pentanone	ND	1.00	--	ND	4.10	--		2
trans-1,3-Dichloropropene	ND	0.400	--	ND	1.82	--		2
1,1,2-Trichloroethane	ND	0.400	--	ND	2.18	--		2
Toluene	3.12	0.400	--	11.8	1.51	--		2
2-Hexanone	ND	0.400	--	ND	1.64	--		2
Dibromochloromethane	ND	0.400	--	ND	3.41	--		2
1,2-Dibromoethane	ND	0.400	--	ND	3.07	--		2
Tetrachloroethene	2.27	0.400	--	15.4	2.71	--		2
Chlorobenzene	ND	0.400	--	ND	1.84	--		2
Ethylbenzene	ND	0.400	--	ND	1.74	--		2
p/m-Xylene	1.20	0.800	--	5.21	3.47	--		2
Bromoform	ND	0.400	--	ND	4.14	--		2
Styrene	ND	0.400	--	ND	1.70	--		2



**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-03 D

Date Collected: 10/04/17 16:30

Client ID: SS3

Date Received: 10/05/17

Sample Location: JAMESTOWN, NY

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.400	--	ND	2.75	--		2
o-Xylene	0.582	0.400	--	2.53	1.74	--		2
4-Ethyltoluene	ND	0.400	--	ND	1.97	--		2
1,3,5-Trimethylbenzene	ND	0.400	--	ND	1.97	--		2
1,2,4-Trimethylbenzene	0.850	0.400	--	4.18	1.97	--		2
Benzyl chloride	ND	0.400	--	ND	2.07	--		2
1,3-Dichlorobenzene	ND	0.400	--	ND	2.40	--		2
1,4-Dichlorobenzene	ND	0.400	--	ND	2.40	--		2
1,2-Dichlorobenzene	ND	0.400	--	ND	2.40	--		2
1,2,4-Trichlorobenzene	ND	0.400	--	ND	2.97	--		2
Hexachlorobutadiene	ND	0.400	--	ND	4.27	--		2

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	77		60-140
Bromochloromethane	83		60-140
chlorobenzene-d5	85		60-140





**Project Name:** VIA - JAMESTOWN**Project Number:** 2172285**Lab Number:** L1735924**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-04 D  
 Client ID: SS4  
 Sample Location: JAMESTOWN, NY  
 Matrix: Soil\_Vapor  
 Analytical Method: 48,TO-15  
 Analytical Date: 10/07/17 02:32  
 Analyst: RY

Date Collected: 10/04/17 16:40  
 Date Received: 10/05/17  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Dichlorodifluoromethane	0.820	0.500	--	4.05	2.47	--		2.5
Chloromethane	ND	0.500	--	ND	1.03	--		2.5
Freon-114	ND	0.500	--	ND	3.49	--		2.5
Vinyl chloride	ND	0.500	--	ND	1.28	--		2.5
1,3-Butadiene	ND	0.500	--	ND	1.11	--		2.5
Bromomethane	ND	0.500	--	ND	1.94	--		2.5
Chloroethane	ND	0.500	--	ND	1.32	--		2.5
Ethanol	ND	12.5	--	ND	23.6	--		2.5
Vinyl bromide	ND	0.500	--	ND	2.19	--		2.5
Acetone	33.1	2.50	--	78.6	5.94	--		2.5
Trichlorofluoromethane	ND	0.500	--	ND	2.81	--		2.5
Isopropanol	ND	1.25	--	ND	3.07	--		2.5
1,1-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
Tertiary butyl Alcohol	ND	1.25	--	ND	3.79	--		2.5
Methylene chloride	ND	1.25	--	ND	4.34	--		2.5
3-Chloropropene	ND	0.500	--	ND	1.57	--		2.5
Carbon disulfide	0.875	0.500	--	2.72	1.56	--		2.5
Freon-113	ND	0.500	--	ND	3.83	--		2.5
trans-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
1,1-Dichloroethane	ND	0.500	--	ND	2.02	--		2.5
Methyl tert butyl ether	ND	0.500	--	ND	1.80	--		2.5
2-Butanone	1.51	1.25	--	4.45	3.69	--		2.5
cis-1,2-Dichloroethene	ND	0.500	--	ND	1.98	--		2.5
Ethyl Acetate	ND	1.25	--	ND	4.50	--		2.5



**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-04 D

Date Collected: 10/04/17 16:40

Client ID: SS4

Date Received: 10/05/17

Sample Location: JAMESTOWN, NY

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
Chloroform	ND	0.500	--	ND	2.44	--		2.5
Tetrahydrofuran	ND	1.25	--	ND	3.69	--		2.5
1,2-Dichloroethane	ND	0.500	--	ND	2.02	--		2.5
n-Hexane	4.10	0.500	--	14.4	1.76	--		2.5
1,1,1-Trichloroethane	ND	0.500	--	ND	2.73	--		2.5
Benzene	1.22	0.500	--	3.90	1.60	--		2.5
Carbon tetrachloride	ND	0.500	--	ND	3.15	--		2.5
Cyclohexane	1.59	0.500	--	5.47	1.72	--		2.5
1,2-Dichloropropane	ND	0.500	--	ND	2.31	--		2.5
Bromodichloromethane	ND	0.500	--	ND	3.35	--		2.5
1,4-Dioxane	ND	0.500	--	ND	1.80	--		2.5
Trichloroethene	ND	0.500	--	ND	2.69	--		2.5
2,2,4-Trimethylpentane	ND	0.500	--	ND	2.34	--		2.5
Heptane	3.04	0.500	--	12.5	2.05	--		2.5
cis-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--		2.5
4-Methyl-2-pentanone	ND	1.25	--	ND	5.12	--		2.5
trans-1,3-Dichloropropene	ND	0.500	--	ND	2.27	--		2.5
1,1,2-Trichloroethane	ND	0.500	--	ND	2.73	--		2.5
Toluene	2.99	0.500	--	11.3	1.88	--		2.5
2-Hexanone	ND	0.500	--	ND	2.05	--		2.5
Dibromochloromethane	ND	0.500	--	ND	4.26	--		2.5
1,2-Dibromoethane	ND	0.500	--	ND	3.84	--		2.5
Tetrachloroethene	1.59	0.500	--	10.8	3.39	--		2.5
Chlorobenzene	ND	0.500	--	ND	2.30	--		2.5
Ethylbenzene	ND	0.500	--	ND	2.17	--		2.5
p/m-Xylene	1.46	1.00	--	6.34	4.34	--		2.5
Bromoform	ND	0.500	--	ND	5.17	--		2.5
Styrene	ND	0.500	--	ND	2.13	--		2.5



**Project Name:** VIA - JAMESTOWN**Lab Number:** L1735924**Project Number:** 2172285**Report Date:** 10/09/17**SAMPLE RESULTS**

Lab ID: L1735924-04 D

Date Collected: 10/04/17 16:40

Client ID: SS4

Date Received: 10/05/17

Sample Location: JAMESTOWN, NY

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
1,1,2,2-Tetrachloroethane	ND	0.500	--	ND	3.43	--		2.5
o-Xylene	0.668	0.500	--	2.90	2.17	--		2.5
4-Ethyltoluene	ND	0.500	--	ND	2.46	--		2.5
1,3,5-Trimethylbenzene	ND	0.500	--	ND	2.46	--		2.5
1,2,4-Trimethylbenzene	0.842	0.500	--	4.14	2.46	--		2.5
Benzyl chloride	ND	0.500	--	ND	2.59	--		2.5
1,3-Dichlorobenzene	ND	0.500	--	ND	3.01	--		2.5
1,4-Dichlorobenzene	ND	0.500	--	ND	3.01	--		2.5
1,2-Dichlorobenzene	ND	0.500	--	ND	3.01	--		2.5
1,2,4-Trichlorobenzene	ND	0.500	--	ND	3.71	--		2.5
Hexachlorobutadiene	ND	0.500	--	ND	5.33	--		2.5

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	77		60-140
Bromochloromethane	76		60-140
chlorobenzene-d5	82		60-140



Project Name: VIA - JAMESTOWN

Lab Number: L1735924

Project Number: 2172285

Report Date: 10/09/17

# Method Blank Analysis

## Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 10/06/17 15:04

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-04 Batch: WG1049830-4								
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: VIA - JAMESTOWN

Lab Number: L1735924

Project Number: 2172285

Report Date: 10/09/17

# Method Blank Analysis

## Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 10/06/17 15:04

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-04 Batch: WG1049830-4								
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: VIA - JAMESTOWN

Lab Number: L1735924

Project Number: 2172285

Report Date: 10/09/17

# Method Blank Analysis

## Batch Quality Control

Analytical Method: 48,TO-15

Analytical Date: 10/06/17 15:04

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab for sample(s): 01-04 Batch: WG1049830-4								
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: VIA - JAMESTOWN  
Project Number: 2172285

Lab Number: L1735924  
Report Date: 10/09/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04 Batch: WG1049830-3								
Chlorodifluoromethane	88	-	-	-	70-130	-	-	-
Propylene	89	-	-	-	70-130	-	-	-
Propane	73	-	-	-	70-130	-	-	-
Dichlorodifluoromethane	95	-	-	-	70-130	-	-	-
Chloromethane	82	-	-	-	70-130	-	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	97	-	-	-	70-130	-	-	-
Methanol	74	-	-	-	70-130	-	-	-
Vinyl chloride	84	-	-	-	70-130	-	-	-
1,3-Butadiene	83	-	-	-	70-130	-	-	-
Butane	70	-	-	-	70-130	-	-	-
Bromomethane	89	-	-	-	70-130	-	-	-
Chloroethane	84	-	-	-	70-130	-	-	-
Ethyl Alcohol	88	-	-	-	70-130	-	-	-
Dichlorofluoromethane	90	-	-	-	70-130	-	-	-
Vinyl bromide	90	-	-	-	70-130	-	-	-
Acrolein	76	-	-	-	70-130	-	-	-
Acetone	109	-	-	-	70-130	-	-	-
Acetonitrile	74	-	-	-	70-130	-	-	-
Trichlorofluoromethane	121	-	-	-	70-130	-	-	-
iso-Propyl Alcohol	96	-	-	-	70-130	-	-	-
Acrylonitrile	85	-	-	-	70-130	-	-	-
Pentane	80	-	-	-	70-130	-	-	-
Ethyl ether	87	-	-	-	70-130	-	-	-





# Lab Control Sample Analysis

Batch Quality Control

Project Name: VIA - JAMESTOWN  
Project Number: 2172285

Lab Number: L1735924  
Report Date: 10/09/17

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04 Batch: WG1049830-3								
1,1-Dichloroethene	103		-		70-130	-		
tert-Butyl Alcohol	90		-		70-130	-		
Methylene chloride	102		-		70-130	-		
3-Chloropropene	97		-		70-130	-		
Carbon disulfide	87		-		70-130	-		
1,1,2-Trichloro-1,2,2-Trifluoroethane	104		-		70-130	-		
trans-1,2-Dichloroethene	93		-		70-130	-		
1,1-Dichloroethane	96		-		70-130	-		
Methyl tert butyl ether	96		-		70-130	-		
Vinyl acetate	114		-		70-130	-		
2-Butanone	93		-		70-130	-		
cis-1,2-Dichloroethene	96		-		70-130	-		
Ethyl Acetate	97		-		70-130	-		
Chloroform	105		-		70-130	-		
Tetrahydrofuran	92		-		70-130	-		
2,2-Dichloropropane	101		-		70-130	-		
1,2-Dichloroethane	116		-		70-130	-		
n-Hexane	100		-		70-130	-		
Isopropyl Ether	91		-		70-130	-		
Ethyl-Tert-Butyl-Ether	94		-		70-130	-		
1,1,1-Trichloroethane	122		-		70-130	-		
1,1-Dichloropropene	99		-		70-130	-		
Benzene	96		-		70-130	-		

# Lab Control Sample Analysis

Batch Quality Control

Project Name: VIA - JAMESTOWN  
Project Number: 2172285

Lab Number: L1735924  
Report Date: 10/09/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04 Batch: WG1049830-3								
Carbon tetrachloride	129		-		70-130	-		
Cyclohexane	96		-		70-130	-		
Tertiary-Amyl Methyl Ether	90		-		70-130	-		
Dibromomethane	98		-		70-130	-		
1,2-Dichloropropane	96		-		70-130	-		
Bromodichloromethane	116		-		70-130	-		
1,4-Dioxane	92		-		70-130	-		
Trichloroethene	100		-		70-130	-		
2,2,4-Trimethylpentane	98		-		70-130	-		
Methyl Methacrylate	123		-		70-130	-		
Heptane	105		-		70-130	-		
cis-1,3-Dichloropropene	108		-		70-130	-		
4-Methyl-2-pentanone	111		-		70-130	-		
trans-1,3-Dichloropropene	97		-		70-130	-		
1,1,2-Trichloroethane	104		-		70-130	-		
Toluene	84		-		70-130	-		
1,3-Dichloropropane	82		-		70-130	-		
2-Hexanone	89		-		70-130	-		
Dibromochloromethane	100		-		70-130	-		
1,2-Dibromoethane	88		-		70-130	-		
Butyl Acetate	74		-		70-130	-		
Octane	75		-		70-130	-		
Tetrachloroethene	92		-		70-130	-		

# Lab Control Sample Analysis

Batch Quality Control

Project Name: VIA - JAMESTOWN  
Project Number: 2172285

Lab Number: L1735924  
Report Date: 10/09/17

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04 Batch: WG1049830-3								
1,1,1,2-Tetrachloroethane	88		-		70-130	-		
Chlorobenzene	87		-		70-130	-		
Ethylbenzene	88		-		70-130	-		
p/m-Xylene	90		-		70-130	-		
Bromoform	99		-		70-130	-		
Styrene	87		-		70-130	-		
1,1,2,2-Tetrachloroethane	91		-		70-130	-		
o-Xylene	92		-		70-130	-		
1,2,3-Trichloropropane	85		-		70-130	-		
Nonane (C9)	88		-		70-130	-		
Isopropylbenzene	87		-		70-130	-		
Bromobenzene	82		-		70-130	-		
o-Chlorotoluene	82		-		70-130	-		
n-Propylbenzene	84		-		70-130	-		
p-Chlorotoluene	80		-		70-130	-		
4-Ethyltoluene	88		-		70-130	-		
1,3,5-Trimethylbenzene	94		-		70-130	-		
tert-Butylbenzene	89		-		70-130	-		
1,2,4-Trimethylbenzene	96		-		70-130	-		
Decane (C10)	87		-		70-130	-		
Benzyl chloride	95		-		70-130	-		
1,3-Dichlorobenzene	94		-		70-130	-		
1,4-Dichlorobenzene	93		-		70-130	-		

Lab Control Sample Analysis  
Batch Quality Control

Project Name: VIA - JAMESTOWN  
Project Number: 2172285

Lab Number: L1735924  
Report Date: 10/09/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04 Batch: WG1049830-3								
sec-Butylbenzene	88	-	-	-	70-130	-	-	-
p-Isopropyltoluene	83	-	-	-	70-130	-	-	-
1,2-Dichlorobenzene	93	-	-	-	70-130	-	-	-
n-Butylbenzene	94	-	-	-	70-130	-	-	-
1,2-Dibromo-3-chloropropane	92	-	-	-	70-130	-	-	-
Undecane	91	-	-	-	70-130	-	-	-
Dodecane (C12)	93	-	-	-	70-130	-	-	-
1,2,4-Trichlorobenzene	103	-	-	-	70-130	-	-	-
Naphthalene	89	-	-	-	70-130	-	-	-
1,2,3-Trichlorobenzene	94	-	-	-	70-130	-	-	-
Hexachlorobutadiene	102	-	-	-	70-130	-	-	-



## Lab Duplicate Analysis

Batch Quality Control

**Project Name:** VIA - JAMESTOWN  
**Project Number:** 2172285

**Lab Number:** L1735924  
**Report Date:** 10/09/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1049830-5 QC Sample: L1735459-02 Client ID: DUP Sample						
Vinyl chloride	ND	ND	ppbV	NC		25
1,1-Dichloroethene	9.74	10.2	ppbV	5		25
1,1-Dichloroethane	ND	ND	ppbV	NC		25
cis-1,2-Dichloroethene	26.1	25.1	ppbV	4		25
1,2-Dichloroethane	ND	ND	ppbV	NC		25
1,1,1-Trichloroethane	4.54	5.10	ppbV	12		25
Trichloroethene	1530	1600	ppbV	4		25
Tetrachloroethene	7.44	6.82	ppbV	9		25



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 Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1735924-01	SS1	0080	Flow 4	10/03/17	250558		-	-	-	Pass	9.0	9.4	4
L1735924-01	SS1	481	2.7L Can	10/03/17	250558	L1734697-02	Pass	-30.0	-5.9	-	-	-	-
L1735924-02	SS2	0923	Flow 4	10/03/17	250558		-	-	-	Pass	8.9	8.3	7
L1735924-02	SS2	489	2.7L Can	10/03/17	250558	L1734697-02	Pass	-30.0	-2.1	-	-	-	-
L1735924-03	SS3	0258	Flow 4	10/03/17	250558		-	-	-	Pass	9.0	9.4	4
L1735924-03	SS3	399	2.7L Can	10/03/17	250558	L1734697-02	Pass	-30.0	-7.5	-	-	-	-
L1735924-04	SS4	0068	Flow 4	10/03/17	250558		-	-	-	Pass	8.8	10.0	13
L1735924-04	SS4	1735	2.7L Can	10/03/17	250558	L1734697-02	Pass	-30.0	-7.0	-	-	-	-

Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15  
 Analytical Date: 09/28/17 19:21  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
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
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	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
iso-Propyl Alcohol	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
tert-Butyl Alcohol	ND	0.500	--	ND	1.52	--		1





Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02

Date Collected: 09/27/17 16:00

Client ID: CAN 384 SHELF 9

Date Received: 09/28/17

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
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
1,1,2-Trichloro-1,2,2-Trifluoroethane	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
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
Isopropyl Ether	ND	0.200	--	ND	0.836	--		1
Ethyl-Tert-Butyl-Ether	ND	0.200	--	ND	0.836	--		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
Tertiary-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
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



Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02

Date Collected: 09/27/17 16:00

Client ID: CAN 384 SHELF 9

Date Received: 09/28/17

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
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
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane (C9)	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1



Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02

Date Collected: 09/27/17 16:00

Client ID: CAN 384 SHELF 9

Date Received: 09/28/17

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air - Mansfield Lab								
o-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
p-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 (C10)	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 (C12)	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

Results

Qualifier

Units

RDL

Dilution  
Factor

Tentatively Identified Compounds

No Tentatively Identified Compounds



Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02

Date Collected: 09/27/17 16:00

Client ID: CAN 384 SHELF 9

Date Received: 09/28/17

Sample Location:

Field Prep: Not Specified

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

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	82		60-140
Bromochloromethane	93		60-140
chlorobenzene-d5	86		60-140

Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02  
 Client ID: CAN 384 SHELF 9  
 Sample Location:  
 Matrix: Air  
 Analytical Method: 48,TO-15-SIM  
 Analytical Date: 09/28/17 19:21  
 Analyst: RY

Date Collected: 09/27/17 16:00  
 Date Received: 09/28/17  
 Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	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
Ethyl Alcohol	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	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
tert-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
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		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
Vinyl acetate	ND	1.00	--	ND	3.52	--		1



Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02

Date Collected: 09/27/17 16:00

Client ID: CAN 384 SHELF 9

Date Received: 09/28/17

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Tetrahydrofuran	ND	0.500	--	ND	1.47	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		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
Cyclohexane	ND	0.200	--	ND	0.688	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1
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
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.020	--	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
2-Hexanone	ND	0.200	--	ND	0.820	--		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



Project Name:

Lab Number: L1734697

Project Number: CANISTER QC BAT

Report Date: 10/09/17

## Air Canister Certification Results

Lab ID: L1734697-02

Date Collected: 09/27/17 16:00

Client ID: CAN 384 SHELF 9

Date Received: 09/28/17

Sample Location:

Field Prep: Not Specified

Parameter	ppbV			ug/m3			Qualifier	Dilution Factor
	Results	RL	MDL	Results	RL	MDL		
Volatile Organics in Air by SIM - Mansfield Lab								
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
1,2,3-Trichloropropane	ND	0.020	--	ND	0.121	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethylbenzene	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
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	89		60-140
bromochloromethane	94		60-140



Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information  
Cooler N/A  
Custody Seal Absent

Container Information			Initial		Final		Temp		Pres		Seal		Frozen	Analysis(*)
Container ID	Container Type	Cooler	pH	pH	deg	C					Date/Time			
L1735924-01A	Canister - 2.7 Liter	N/A	NA	NA					Y		Absent		TO15-LL(30)	
L1735924-02A	Canister - 2.7 Liter	N/A	NA	NA					Y		Absent		TO15-LL(30)	
L1735924-03A	Canister - 2.7 Liter	N/A	NA	NA					Y		Absent		TO15-LL(30)	
L1735924-04A	Canister - 2.7 Liter	N/A	NA	NA					Y		Absent		TO15-LL(30)	



Project Name: VIA - JAMESTOWN  
Project Number: 2172285

Lab Number: L1735924  
Report Date: 10/09/17

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

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

### Terms

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

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

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

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

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

### 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

Report Format: Data Usability Report



**Project Name:** VIA - JAMESTOWN  
**Project Number:** 2172285

**Lab Number:** L1735924  
**Report Date:** 10/09/17

#### Data Qualifiers

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

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

**Project Name:** VIA - JAMESTOWN  
**Project Number:** 2172285

**Lab Number:** L1735924  
**Report Date:** 10/09/17

## 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.



**Alpha Analytical, Inc.**

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

**Certification Information**

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

**Westborough Facility****EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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



# AIR ANALYSIS



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

## Client Information

Client: **LaBella Associates**  
Address: **800 Pearl Street**  
**Buffalo, NY 14202**  
Phone: **716-551-6281**  
Fax: **716-551-6282**  
Email: **clibler@labellape.com**

☐ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

PAGE **1** OF **1**

## Project Information

Project Name: **VIA-Jamestown**  
Project Location: **Jamestown, NY**  
Project #: **217285**  
Project Manager:  
ALPHA Quote #:

## Turn-Around Time

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

Date Due: Time:

## All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection				Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	Sample Comments (i.e. PID)
		Date	Start Time	End Time	Initial Vacuum	Final Vacuum					
35924-01	SS1	10/4/17	1215	1616	30	4.63	JLD	481	481	0080	X
02	SS2	10/4/17	1220	1615	30	4.08	JLD	481	481	0923	X
03	SS3	10/4/17	1230	1600	30	5.62	JLD	399	399	0258	X
04	SS4	10/4/17	1240	1640	30	6.01	JLD	1785	1785	0008	X

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

## \*SAMPLE MATRIX CODES

Relinquished By:

Received By:

Date/Time:

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.



## ANALYTICAL REPORT

Lab Number:	L1737991
Client:	LaBella Associates, P.C. 300 Pearl Street Suite 252 Buffalo, NY 14202
ATTN:	Adam Zebrowski
Phone:	(716) 551-6281
Project Name:	W. THIRD ST. & WASHINGTON ST.
Project Number:	2172285
Report Date:	10/30/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

---

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



**Project Name:** W. THIRD ST. & WASHINGTON ST.  
**Project Number:** 2172285

**Lab Number:** L1737991  
**Report Date:** 10/30/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1737991-01	SB-6 14-15FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 08:30	10/19/17
L1737991-02	SB-7 14-15FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 09:15	10/19/17
L1737991-03	SB-8 11-12FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 10:35	10/19/17
L1737991-04	SB-9 10-11FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 11:00	10/19/17
L1737991-05	SB-10 12-13FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 11:15	10/19/17
L1737991-06	SB-11 10-11FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 11:30	10/19/17
L1737991-07	SB-12 12-13FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 12:00	10/19/17
L1737991-08	SB-13 10-11FT	SOIL	115-121 W. THIRD ST. & 200-210 WASHINGTON ST.	10/19/17 12:30	10/19/17

**Project Name:** W. THIRD ST. & WASHINGTON ST.  
**Project Number:** 2172285

**Lab Number:** L1737991  
**Report Date:** 10/30/17

### Case Narrative

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

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

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

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

#### HOLD POLICY

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

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

---



**Project Name:** W. THIRD ST. & WASHINGTON ST.  
**Project Number:** 2172285

**Lab Number:** L1737991  
**Report Date:** 10/30/17

### Case Narrative (continued)

#### Report Submission

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

#### Volatile Organics

L1737991-05 was analyzed as a High Level Methanol in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported.

L1737991-05: The surrogate recovery is outside the acceptance criteria for 4-bromofluorobenzene (136%); however, the sample was not re-analyzed due to coelution with an obvious interference. A copy of the chromatogram is included as an attachment to this report. The results are not considered to be biased.

The WG1057026-5 Method Blank, associated with L1737991-01 through -05, has concentrations above the reporting limits for bromomethane. Since the sample(s) were non-detect to the RL for these target analytes, no further actions were taken. The results of the original analysis are reported.

The WG1057026-3/-4 LCS/LCSD recoveries, associated with L1737991-01 through -05, are below the individual acceptance criteria for bromoform (68%/65%), 2-hexanone (65%/66%), and 1,2-dibromo-3-chloropropane (59%/59%), but within the overall method allowances. The results of the associated samples are reported; however, all results are considered to have a potentially low bias for these compounds.

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:



Kara Soroko

Title: Technical Director/Representative

Date: 10/30/17

# ORGANICS

# VOLATILES

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-01 D2

Date Collected: 10/19/17 08:30

Client ID: SB-6 14-15FT

Date Received: 10/19/17

Sample Location: 115-121 W. THIRD ST. &amp; 200-210 WASHINGTON ST.

Field Prep: Not Specified

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 10/29/17 10:00

Analyst: JC

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

**Volatile Organics by 8260/5035 - Westborough Lab**

Tetrachloroethene	55000		ug/kg	310	95.	20
-------------------	-------	--	-------	-----	-----	----

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	88		70-130
Dibromofluoromethane	91		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-01 D  
 Client ID: SB-6 14-15FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 08:30  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 13:06  
 Analyst: JC  
 Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	1600	260	10
1,1-Dichloroethane	ND		ug/kg	240	42.	10
Chloroform	ND		ug/kg	240	58.	10
Carbon tetrachloride	ND		ug/kg	160	54.	10
1,2-Dichloropropane	ND		ug/kg	550	36.	10
Dibromochloromethane	ND		ug/kg	160	28.	10
1,1,2-Trichloroethane	ND		ug/kg	240	49.	10
Tetrachloroethene	59000	E	ug/kg	160	47.	10
Chlorobenzene	ND		ug/kg	160	55.	10
Trichlorofluoromethane	ND		ug/kg	780	65.	10
1,2-Dichloroethane	ND		ug/kg	160	39.	10
1,1,1-Trichloroethane	ND		ug/kg	160	55.	10
Bromodichloromethane	ND		ug/kg	160	48.	10
trans-1,3-Dichloropropene	ND		ug/kg	160	33.	10
cis-1,3-Dichloropropene	ND		ug/kg	160	36.	10
Bromoform	ND		ug/kg	630	37.	10
1,1,2,2-Tetrachloroethane	ND		ug/kg	160	47.	10
Benzene	ND		ug/kg	160	30.	10
Toluene	ND		ug/kg	240	31.	10
Ethylbenzene	400		ug/kg	160	27.	10
Chloromethane	ND		ug/kg	780	68.	10
Bromomethane	ND		ug/kg	310	53.	10
Vinyl chloride	ND		ug/kg	310	49.	10
Chloroethane	ND		ug/kg	310	50.	10
1,1-Dichloroethene	ND		ug/kg	160	58.	10
trans-1,2-Dichloroethene	ND		ug/kg	240	38.	10
Trichloroethene	ND		ug/kg	160	47.	10
1,2-Dichlorobenzene	ND		ug/kg	780	28.	10
1,3-Dichlorobenzene	ND		ug/kg	780	34.	10
1,4-Dichlorobenzene	ND		ug/kg	780	28.	10

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-01 D**Date Collected:** 10/19/17 08:30**Client ID:** SB-6 14-15FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	310	24.	10
p/m-Xylene	1800		ug/kg	310	55.	10
o-Xylene	340		ug/kg	310	53.	10
cis-1,2-Dichloroethene	ND		ug/kg	160	54.	10
Styrene	ND		ug/kg	310	63.	10
Dichlorodifluoromethane	ND		ug/kg	1600	78.	10
Acetone	ND		ug/kg	1600	360	10
Carbon disulfide	ND		ug/kg	1600	170	10
2-Butanone	ND		ug/kg	1600	110	10
4-Methyl-2-pentanone	ND		ug/kg	1600	38.	10
2-Hexanone	ND		ug/kg	1600	100	10
Bromochloromethane	ND		ug/kg	780	56.	10
1,2-Dibromoethane	ND		ug/kg	630	31.	10
1,2-Dibromo-3-chloropropane	ND		ug/kg	780	62.	10
Isopropylbenzene	1200		ug/kg	160	30.	10
1,2,3-Trichlorobenzene	ND		ug/kg	780	39.	10
1,2,4-Trichlorobenzene	ND		ug/kg	780	34.	10
Methyl Acetate	ND		ug/kg	3100	73.	10
Cyclohexane	870	J	ug/kg	3100	68.	10
1,4-Dioxane	ND		ug/kg	6300	2300	10
Freon-113	ND		ug/kg	3100	81.	10
Methyl cyclohexane	5100		ug/kg	630	38.	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	91		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-02 D2

Date Collected: 10/19/17 09:15

Client ID: SB-7 14-15FT

Date Received: 10/19/17

Sample Location: 115-121 W. THIRD ST. &amp; 200-210 WASHINGTON ST.

Field Prep: Not Specified

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 10/29/17 10:26

Analyst: JC

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

**Volatile Organics by 8260/5035 - Westborough Lab**

Tetrachloroethene	83000		ug/kg	520	160	20
Methyl cyclohexane	100000		ug/kg	2100	120	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	89		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-02 D  
 Client ID: SB-7 14-15FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 09:15  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 13:32  
 Analyst: JC  
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	2600	430	10
1,1-Dichloroethane	ND		ug/kg	390	70.	10
Chloroform	ND		ug/kg	390	96.	10
Carbon tetrachloride	ND		ug/kg	260	90.	10
1,2-Dichloropropane	ND		ug/kg	910	60.	10
Dibromochloromethane	ND		ug/kg	260	46.	10
1,1,2-Trichloroethane	ND		ug/kg	390	82.	10
Tetrachloroethene	84000	E	ug/kg	260	79.	10
Chlorobenzene	ND		ug/kg	260	91.	10
Trichlorofluoromethane	ND		ug/kg	1300	110	10
1,2-Dichloroethane	ND		ug/kg	260	64.	10
1,1,1-Trichloroethane	ND		ug/kg	260	91.	10
Bromodichloromethane	ND		ug/kg	260	80.	10
trans-1,3-Dichloropropene	ND		ug/kg	260	54.	10
cis-1,3-Dichloropropene	ND		ug/kg	260	60.	10
Bromoform	ND		ug/kg	1000	62.	10
1,1,2,2-Tetrachloroethane	ND		ug/kg	260	78.	10
Benzene	140	J	ug/kg	260	50.	10
Toluene	290	J	ug/kg	390	51.	10
Ethylbenzene	3600		ug/kg	260	44.	10
Chloromethane	ND		ug/kg	1300	110	10
Bromomethane	ND		ug/kg	520	88.	10
Vinyl chloride	ND		ug/kg	520	82.	10
Chloroethane	ND		ug/kg	520	82.	10
1,1-Dichloroethene	ND		ug/kg	260	97.	10
trans-1,2-Dichloroethene	66	J	ug/kg	390	63.	10
Trichloroethene	2100		ug/kg	260	79.	10
1,2-Dichlorobenzene	ND		ug/kg	1300	47.	10
1,3-Dichlorobenzene	ND		ug/kg	1300	57.	10
1,4-Dichlorobenzene	ND		ug/kg	1300	47.	10





**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-02 D

Date Collected: 10/19/17 09:15

Client ID: SB-7 14-15FT

Date Received: 10/19/17

Sample Location: 115-121 W. THIRD ST. &amp; 200-210 WASHINGTON ST.

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	520	40.	10
p/m-Xylene	21000		ug/kg	520	92.	10
o-Xylene	2600		ug/kg	520	88.	10
cis-1,2-Dichloroethene	ND		ug/kg	260	89.	10
Styrene	ND		ug/kg	520	100	10
Dichlorodifluoromethane	ND		ug/kg	2600	130	10
Acetone	ND		ug/kg	2600	600	10
Carbon disulfide	ND		ug/kg	2600	290	10
2-Butanone	ND		ug/kg	2600	180	10
4-Methyl-2-pentanone	ND		ug/kg	2600	64.	10
2-Hexanone	ND		ug/kg	2600	170	10
Bromochloromethane	ND		ug/kg	1300	93.	10
1,2-Dibromoethane	ND		ug/kg	1000	52.	10
1,2-Dibromo-3-chloropropane	ND		ug/kg	1300	100	10
Isopropylbenzene	2700		ug/kg	260	51.	10
1,2,3-Trichlorobenzene	ND		ug/kg	1300	66.	10
1,2,4-Trichlorobenzene	ND		ug/kg	1300	56.	10
Methyl Acetate	ND		ug/kg	5200	120	10
Cyclohexane	27000		ug/kg	5200	110	10
1,4-Dioxane	ND		ug/kg	10000	3800	10
Freon-113	ND		ug/kg	5200	130	10
Methyl cyclohexane	100000	E	ug/kg	1000	63.	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	117		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	85		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-03  
 Client ID: SB-8 11-12FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 10:35  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 13:59  
 Analyst: JC  
 Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	330	55.	1
1,1-Dichloroethane	ND		ug/kg	50	9.0	1
Chloroform	ND		ug/kg	50	12.	1
Carbon tetrachloride	ND		ug/kg	33	12.	1
1,2-Dichloropropane	ND		ug/kg	120	7.6	1
Dibromochloromethane	ND		ug/kg	33	5.9	1
1,1,2-Trichloroethane	ND		ug/kg	50	10.	1
Tetrachloroethene	2800		ug/kg	33	10.	1
Chlorobenzene	ND		ug/kg	33	12.	1
Trichlorofluoromethane	ND		ug/kg	170	14.	1
1,2-Dichloroethane	ND		ug/kg	33	8.2	1
1,1,1-Trichloroethane	ND		ug/kg	33	12.	1
Bromodichloromethane	ND		ug/kg	33	10.	1
trans-1,3-Dichloropropene	ND		ug/kg	33	6.9	1
cis-1,3-Dichloropropene	ND		ug/kg	33	7.7	1
Bromoform	ND		ug/kg	130	7.9	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	33	9.9	1
Benzene	ND		ug/kg	33	6.4	1
Toluene	ND		ug/kg	50	6.5	1
Ethylbenzene	ND		ug/kg	33	5.7	1
Chloromethane	ND		ug/kg	170	14.	1
Bromomethane	27	J	ug/kg	67	11.	1
Vinyl chloride	ND		ug/kg	67	10.	1
Chloroethane	ND		ug/kg	67	10.	1
1,1-Dichloroethene	ND		ug/kg	33	12.	1
trans-1,2-Dichloroethene	ND		ug/kg	50	8.0	1
Trichloroethene	ND		ug/kg	33	10.	1
1,2-Dichlorobenzene	ND		ug/kg	170	6.1	1
1,3-Dichlorobenzene	ND		ug/kg	170	7.3	1
1,4-Dichlorobenzene	ND		ug/kg	170	6.1	1

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-03**Date Collected:** 10/19/17 10:35**Client ID:** SB-8 11-12FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	5.6	J	ug/kg	67	5.1	1
p/m-Xylene	ND		ug/kg	67	12.	1
o-Xylene	ND		ug/kg	67	11.	1
cis-1,2-Dichloroethene	ND		ug/kg	33	11.	1
Styrene	ND		ug/kg	67	13.	1
Dichlorodifluoromethane	ND		ug/kg	330	17.	1
Acetone	ND		ug/kg	330	76.	1
Carbon disulfide	ND		ug/kg	330	37.	1
2-Butanone	ND		ug/kg	330	23.	1
4-Methyl-2-pentanone	ND		ug/kg	330	8.1	1
2-Hexanone	ND		ug/kg	330	22.	1
Bromochloromethane	ND		ug/kg	170	12.	1
1,2-Dibromoethane	ND		ug/kg	130	6.6	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	170	13.	1
Isopropylbenzene	ND		ug/kg	33	6.5	1
1,2,3-Trichlorobenzene	ND		ug/kg	170	8.4	1
1,2,4-Trichlorobenzene	ND		ug/kg	170	7.2	1
Methyl Acetate	ND		ug/kg	670	15.	1
Cyclohexane	ND		ug/kg	670	14.	1
1,4-Dioxane	ND		ug/kg	1300	480	1
Freon-113	ND		ug/kg	670	17.	1
Methyl cyclohexane	ND		ug/kg	130	8.0	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	92		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-04  
 Client ID: SB-9 10-11FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 11:00  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 14:25  
 Analyst: BD  
 Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	470	78.	1
1,1-Dichloroethane	ND		ug/kg	71	13.	1
Chloroform	ND		ug/kg	71	17.	1
Carbon tetrachloride	ND		ug/kg	47	16.	1
1,2-Dichloropropane	ND		ug/kg	160	11.	1
Dibromochloromethane	ND		ug/kg	47	8.3	1
1,1,2-Trichloroethane	ND		ug/kg	71	15.	1
Tetrachloroethene	7400		ug/kg	47	14.	1
Chlorobenzene	ND		ug/kg	47	16.	1
Trichlorofluoromethane	ND		ug/kg	240	20.	1
1,2-Dichloroethane	ND		ug/kg	47	12.	1
1,1,1-Trichloroethane	ND		ug/kg	47	16.	1
Bromodichloromethane	ND		ug/kg	47	14.	1
trans-1,3-Dichloropropene	ND		ug/kg	47	9.8	1
cis-1,3-Dichloropropene	ND		ug/kg	47	11.	1
Bromoform	ND		ug/kg	190	11.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	47	14.	1
Benzene	ND		ug/kg	47	9.1	1
Toluene	ND		ug/kg	71	9.2	1
Ethylbenzene	ND		ug/kg	47	8.0	1
Chloromethane	ND		ug/kg	240	20.	1
Bromomethane	40	J	ug/kg	94	16.	1
Vinyl chloride	ND		ug/kg	94	15.	1
Chloroethane	ND		ug/kg	94	15.	1
1,1-Dichloroethene	ND		ug/kg	47	18.	1
trans-1,2-Dichloroethene	ND		ug/kg	71	11.	1
Trichloroethene	ND		ug/kg	47	14.	1
1,2-Dichlorobenzene	ND		ug/kg	240	8.6	1
1,3-Dichlorobenzene	ND		ug/kg	240	10.	1
1,4-Dichlorobenzene	ND		ug/kg	240	8.6	1

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-04**Date Collected:** 10/19/17 11:00**Client ID:** SB-9 10-11FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	8.3	J	ug/kg	94	7.2	1
p/m-Xylene	ND		ug/kg	94	16.	1
o-Xylene	ND		ug/kg	94	16.	1
cis-1,2-Dichloroethene	ND		ug/kg	47	16.	1
Styrene	ND		ug/kg	94	19.	1
Dichlorodifluoromethane	ND		ug/kg	470	24.	1
Acetone	ND		ug/kg	470	110	1
Carbon disulfide	ND		ug/kg	470	52.	1
2-Butanone	ND		ug/kg	470	32.	1
4-Methyl-2-pentanone	ND		ug/kg	470	12.	1
2-Hexanone	ND		ug/kg	470	31.	1
Bromochloromethane	ND		ug/kg	240	17.	1
1,2-Dibromoethane	ND		ug/kg	190	9.4	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	240	19.	1
Isopropylbenzene	ND		ug/kg	47	9.1	1
1,2,3-Trichlorobenzene	ND		ug/kg	240	12.	1
1,2,4-Trichlorobenzene	ND		ug/kg	240	10.	1
Methyl Acetate	ND		ug/kg	940	22.	1
Cyclohexane	ND		ug/kg	940	20.	1
1,4-Dioxane	ND		ug/kg	1900	680	1
Freon-113	ND		ug/kg	940	24.	1
Methyl cyclohexane	ND		ug/kg	190	11.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	91		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-05  
 Client ID: SB-10 12-13FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 11:15  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 03:05  
 Analyst: MV  
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	0.81	1
1,1-Dichloroethane	ND		ug/kg	0.74	0.13	1
Chloroform	ND		ug/kg	0.74	0.18	1
Carbon tetrachloride	ND		ug/kg	0.49	0.17	1
1,2-Dichloropropane	ND		ug/kg	1.7	0.11	1
Dibromochloromethane	ND		ug/kg	0.49	0.09	1
1,1,2-Trichloroethane	ND		ug/kg	0.74	0.15	1
Tetrachloroethene	490	E	ug/kg	0.49	0.15	1
Chlorobenzene	ND		ug/kg	0.49	0.17	1
Trichlorofluoromethane	ND		ug/kg	2.5	0.20	1
1,2-Dichloroethane	ND		ug/kg	0.49	0.12	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	0.17	1
Bromodichloromethane	ND		ug/kg	0.49	0.15	1
trans-1,3-Dichloropropene	ND		ug/kg	0.49	0.10	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	0.11	1
Bromoform	ND		ug/kg	2.0	0.12	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	0.15	1
Benzene	6.2		ug/kg	0.49	0.10	1
Toluene	0.84		ug/kg	0.74	0.10	1
Ethylbenzene	5.6		ug/kg	0.49	0.08	1
Chloromethane	ND		ug/kg	2.5	0.21	1
Bromomethane	ND		ug/kg	0.98	0.17	1
Vinyl chloride	ND		ug/kg	0.98	0.16	1
Chloroethane	ND		ug/kg	0.98	0.16	1
1,1-Dichloroethene	ND		ug/kg	0.49	0.18	1
trans-1,2-Dichloroethene	0.35	J	ug/kg	0.74	0.12	1
Trichloroethene	ND		ug/kg	0.49	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	0.09	1
1,3-Dichlorobenzene	ND		ug/kg	2.5	0.11	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	0.09	1

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-05**Date Collected:** 10/19/17 11:15**Client ID:** SB-10 12-13FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	0.98	0.08	1
p/m-Xylene	31		ug/kg	0.98	0.17	1
o-Xylene	12		ug/kg	0.98	0.17	1
cis-1,2-Dichloroethene	ND		ug/kg	0.49	0.17	1
Styrene	ND		ug/kg	0.98	0.20	1
Dichlorodifluoromethane	ND		ug/kg	4.9	0.25	1
Acetone	16		ug/kg	4.9	1.1	1
Carbon disulfide	ND		ug/kg	4.9	0.54	1
2-Butanone	ND		ug/kg	4.9	0.34	1
4-Methyl-2-pentanone	ND		ug/kg	4.9	0.12	1
2-Hexanone	ND		ug/kg	4.9	0.33	1
Bromochloromethane	ND		ug/kg	2.5	0.18	1
1,2-Dibromoethane	ND		ug/kg	2.0	0.10	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	0.19	1
Isopropylbenzene	25		ug/kg	0.49	0.10	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	0.12	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	0.10	1
Methyl Acetate	ND		ug/kg	9.8	0.23	1
Cyclohexane	140		ug/kg	9.8	0.21	1
1,4-Dioxane	ND		ug/kg	20	7.1	1
Freon-113	ND		ug/kg	9.8	0.25	1
Methyl cyclohexane	570	E	ug/kg	2.0	0.12	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	126		70-130
4-Bromofluorobenzene	136	Q	70-130
Dibromofluoromethane	72		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-05  
 Client ID: SB-10 12-13FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 11:15  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 12:40  
 Analyst: JC  
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	380	63.	1
1,1-Dichloroethane	ND		ug/kg	57	10.	1
Chloroform	ND		ug/kg	57	14.	1
Carbon tetrachloride	ND		ug/kg	38	13.	1
1,2-Dichloropropane	ND		ug/kg	130	8.7	1
Dibromochloromethane	ND		ug/kg	38	6.7	1
1,1,2-Trichloroethane	ND		ug/kg	57	12.	1
Tetrachloroethene	1600		ug/kg	38	12.	1
Chlorobenzene	ND		ug/kg	38	13.	1
Trichlorofluoromethane	ND		ug/kg	190	16.	1
1,2-Dichloroethane	ND		ug/kg	38	9.4	1
1,1,1-Trichloroethane	ND		ug/kg	38	13.	1
Bromodichloromethane	ND		ug/kg	38	12.	1
trans-1,3-Dichloropropene	ND		ug/kg	38	8.0	1
cis-1,3-Dichloropropene	ND		ug/kg	38	8.8	1
Bromoform	ND		ug/kg	150	9.1	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	38	11.	1
Benzene	32	J	ug/kg	38	7.4	1
Toluene	ND		ug/kg	57	7.5	1
Ethylbenzene	27	J	ug/kg	38	6.5	1
Chloromethane	ND		ug/kg	190	17.	1
Bromomethane	27	J	ug/kg	77	13.	1
Vinyl chloride	ND		ug/kg	77	12.	1
Chloroethane	ND		ug/kg	77	12.	1
1,1-Dichloroethene	ND		ug/kg	38	14.	1
trans-1,2-Dichloroethene	ND		ug/kg	57	9.2	1
Trichloroethene	ND		ug/kg	38	12.	1
1,2-Dichlorobenzene	ND		ug/kg	190	7.0	1
1,3-Dichlorobenzene	ND		ug/kg	190	8.4	1
1,4-Dichlorobenzene	ND		ug/kg	190	7.0	1



**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-05**Date Collected:** 10/19/17 11:15**Client ID:** SB-10 12-13FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	77	5.9	1
p/m-Xylene	160		ug/kg	77	13.	1
o-Xylene	64	J	ug/kg	77	13.	1
cis-1,2-Dichloroethene	ND		ug/kg	38	13.	1
Styrene	ND		ug/kg	77	15.	1
Dichlorodifluoromethane	ND		ug/kg	380	19.	1
Acetone	ND		ug/kg	380	88.	1
Carbon disulfide	ND		ug/kg	380	42.	1
2-Butanone	ND		ug/kg	380	26.	1
4-Methyl-2-pentanone	ND		ug/kg	380	9.4	1
2-Hexanone	ND		ug/kg	380	26.	1
Bromochloromethane	ND		ug/kg	190	14.	1
1,2-Dibromoethane	ND		ug/kg	150	7.6	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	190	15.	1
Isopropylbenzene	79		ug/kg	38	7.4	1
1,2,3-Trichlorobenzene	ND		ug/kg	190	9.6	1
1,2,4-Trichlorobenzene	ND		ug/kg	190	8.2	1
Methyl Acetate	ND		ug/kg	770	18.	1
Cyclohexane	200	J	ug/kg	770	16.	1
1,4-Dioxane	ND		ug/kg	1500	550	1
Freon-113	ND		ug/kg	770	20.	1
Methyl cyclohexane	1200		ug/kg	150	9.2	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	90		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-06  
 Client ID: SB-11 10-11FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 11:30  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 03:33  
 Analyst: MV  
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	5.4	0.89	1
1,1-Dichloroethane	ND		ug/kg	0.81	0.14	1
Chloroform	ND		ug/kg	0.81	0.20	1
Carbon tetrachloride	ND		ug/kg	0.54	0.18	1
1,2-Dichloropropane	ND		ug/kg	1.9	0.12	1
Dibromochloromethane	ND		ug/kg	0.54	0.10	1
1,1,2-Trichloroethane	ND		ug/kg	0.81	0.17	1
Tetrachloroethene	35		ug/kg	0.54	0.16	1
Chlorobenzene	ND		ug/kg	0.54	0.19	1
Trichlorofluoromethane	ND		ug/kg	2.7	0.22	1
1,2-Dichloroethane	ND		ug/kg	0.54	0.13	1
1,1,1-Trichloroethane	ND		ug/kg	0.54	0.19	1
Bromodichloromethane	ND		ug/kg	0.54	0.16	1
trans-1,3-Dichloropropene	ND		ug/kg	0.54	0.11	1
cis-1,3-Dichloropropene	ND		ug/kg	0.54	0.12	1
Bromoform	ND		ug/kg	2.2	0.13	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.54	0.16	1
Benzene	ND		ug/kg	0.54	0.10	1
Toluene	ND		ug/kg	0.81	0.10	1
Ethylbenzene	ND		ug/kg	0.54	0.09	1
Chloromethane	ND		ug/kg	2.7	0.23	1
Bromomethane	ND		ug/kg	1.1	0.18	1
Vinyl chloride	ND		ug/kg	1.1	0.17	1
Chloroethane	ND		ug/kg	1.1	0.17	1
1,1-Dichloroethene	ND		ug/kg	0.54	0.20	1
trans-1,2-Dichloroethene	0.33	J	ug/kg	0.81	0.13	1
Trichloroethene	1.2		ug/kg	0.54	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.7	0.10	1
1,3-Dichlorobenzene	ND		ug/kg	2.7	0.12	1
1,4-Dichlorobenzene	ND		ug/kg	2.7	0.10	1

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-06**Date Collected:** 10/19/17 11:30**Client ID:** SB-11 10-11FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	1.1	0.08	1
p/m-Xylene	ND		ug/kg	1.1	0.19	1
o-Xylene	ND		ug/kg	1.1	0.18	1
cis-1,2-Dichloroethene	ND		ug/kg	0.54	0.18	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	5.4	0.27	1
Acetone	1.4	J	ug/kg	5.4	1.2	1
Carbon disulfide	ND		ug/kg	5.4	0.59	1
2-Butanone	ND		ug/kg	5.4	0.37	1
4-Methyl-2-pentanone	ND		ug/kg	5.4	0.13	1
2-Hexanone	ND		ug/kg	5.4	0.36	1
Bromochloromethane	ND		ug/kg	2.7	0.19	1
1,2-Dibromoethane	ND		ug/kg	2.2	0.11	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	0.21	1
Isopropylbenzene	ND		ug/kg	0.54	0.10	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.7	0.14	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.7	0.12	1
Methyl Acetate	ND		ug/kg	11	0.25	1
Cyclohexane	ND		ug/kg	11	0.23	1
1,4-Dioxane	ND		ug/kg	22	7.8	1
Freon-113	ND		ug/kg	11	0.28	1
Methyl cyclohexane	0.40	J	ug/kg	2.2	0.13	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	102		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-07  
 Client ID: SB-12 12-13FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 12:00  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 04:00  
 Analyst: MV  
 Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	6.1	1.0	1
1,1-Dichloroethane	ND		ug/kg	0.92	0.16	1
Chloroform	ND		ug/kg	0.92	0.23	1
Carbon tetrachloride	ND		ug/kg	0.61	0.21	1
1,2-Dichloropropane	ND		ug/kg	2.1	0.14	1
Dibromochloromethane	ND		ug/kg	0.61	0.11	1
1,1,2-Trichloroethane	ND		ug/kg	0.92	0.19	1
Tetrachloroethene	ND		ug/kg	0.61	0.18	1
Chlorobenzene	ND		ug/kg	0.61	0.21	1
Trichlorofluoromethane	ND		ug/kg	3.1	0.26	1
1,2-Dichloroethane	ND		ug/kg	0.61	0.15	1
1,1,1-Trichloroethane	ND		ug/kg	0.61	0.21	1
Bromodichloromethane	ND		ug/kg	0.61	0.19	1
trans-1,3-Dichloropropene	ND		ug/kg	0.61	0.13	1
cis-1,3-Dichloropropene	ND		ug/kg	0.61	0.14	1
Bromoform	ND		ug/kg	2.4	0.14	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.61	0.18	1
Benzene	ND		ug/kg	0.61	0.12	1
Toluene	ND		ug/kg	0.92	0.12	1
Ethylbenzene	ND		ug/kg	0.61	0.10	1
Chloromethane	ND		ug/kg	3.1	0.27	1
Bromomethane	ND		ug/kg	1.2	0.21	1
Vinyl chloride	ND		ug/kg	1.2	0.19	1
Chloroethane	ND		ug/kg	1.2	0.19	1
1,1-Dichloroethene	ND		ug/kg	0.61	0.23	1
trans-1,2-Dichloroethene	ND		ug/kg	0.92	0.15	1
Trichloroethene	ND		ug/kg	0.61	0.18	1
1,2-Dichlorobenzene	ND		ug/kg	3.1	0.11	1
1,3-Dichlorobenzene	ND		ug/kg	3.1	0.13	1
1,4-Dichlorobenzene	ND		ug/kg	3.1	0.11	1

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-07**Date Collected:** 10/19/17 12:00**Client ID:** SB-12 12-13FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	1.2	0.09	1
p/m-Xylene	ND		ug/kg	1.2	0.22	1
o-Xylene	ND		ug/kg	1.2	0.21	1
cis-1,2-Dichloroethene	ND		ug/kg	0.61	0.21	1
Styrene	ND		ug/kg	1.2	0.25	1
Dichlorodifluoromethane	ND		ug/kg	6.1	0.31	1
Acetone	2.6	J	ug/kg	6.1	1.4	1
Carbon disulfide	ND		ug/kg	6.1	0.68	1
2-Butanone	ND		ug/kg	6.1	0.42	1
4-Methyl-2-pentanone	ND		ug/kg	6.1	0.15	1
2-Hexanone	ND		ug/kg	6.1	0.41	1
Bromochloromethane	ND		ug/kg	3.1	0.22	1
1,2-Dibromoethane	ND		ug/kg	2.4	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	0.24	1
Isopropylbenzene	ND		ug/kg	0.61	0.12	1
1,2,3-Trichlorobenzene	ND		ug/kg	3.1	0.15	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.1	0.13	1
Methyl Acetate	ND		ug/kg	12	0.28	1
Cyclohexane	ND		ug/kg	12	0.26	1
1,4-Dioxane	ND		ug/kg	24	8.8	1
Freon-113	ND		ug/kg	12	0.32	1
Methyl cyclohexane	ND		ug/kg	2.4	0.15	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS**

Lab ID: L1737991-08  
 Client ID: SB-13 10-11FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.

Date Collected: 10/19/17 12:30  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 10/26/17 22:04  
 Analyst: KD  
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	5.1	0.84	1
1,1-Dichloroethane	ND		ug/kg	0.76	0.14	1
Chloroform	ND		ug/kg	0.76	0.19	1
Carbon tetrachloride	ND		ug/kg	0.51	0.18	1
1,2-Dichloropropane	ND		ug/kg	1.8	0.12	1
Dibromochloromethane	ND		ug/kg	0.51	0.09	1
1,1,2-Trichloroethane	ND		ug/kg	0.76	0.16	1
Tetrachloroethene	ND		ug/kg	0.51	0.15	1
Chlorobenzene	ND		ug/kg	0.51	0.18	1
Trichlorofluoromethane	ND		ug/kg	2.5	0.21	1
1,2-Dichloroethane	ND		ug/kg	0.51	0.12	1
1,1,1-Trichloroethane	ND		ug/kg	0.51	0.18	1
Bromodichloromethane	ND		ug/kg	0.51	0.16	1
trans-1,3-Dichloropropene	ND		ug/kg	0.51	0.10	1
cis-1,3-Dichloropropene	ND		ug/kg	0.51	0.12	1
Bromoform	ND		ug/kg	2.0	0.12	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.51	0.15	1
Benzene	ND		ug/kg	0.51	0.10	1
Toluene	ND		ug/kg	0.76	0.10	1
Ethylbenzene	ND		ug/kg	0.51	0.09	1
Chloromethane	ND		ug/kg	2.5	0.22	1
Bromomethane	ND		ug/kg	1.0	0.17	1
Vinyl chloride	ND		ug/kg	1.0	0.16	1
Chloroethane	ND		ug/kg	1.0	0.16	1
1,1-Dichloroethene	ND		ug/kg	0.51	0.19	1
trans-1,2-Dichloroethene	ND		ug/kg	0.76	0.12	1
Trichloroethene	ND		ug/kg	0.51	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	0.09	1
1,3-Dichlorobenzene	ND		ug/kg	2.5	0.11	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	0.09	1

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**SAMPLE RESULTS****Lab ID:** L1737991-08**Date Collected:** 10/19/17 12:30**Client ID:** SB-13 10-11FT**Date Received:** 10/19/17**Sample Location:** 115-121 W. THIRD ST. & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	1.0	0.08	1
p/m-Xylene	ND		ug/kg	1.0	0.18	1
o-Xylene	ND		ug/kg	1.0	0.17	1
cis-1,2-Dichloroethene	1.3		ug/kg	0.51	0.17	1
Styrene	ND		ug/kg	1.0	0.20	1
Dichlorodifluoromethane	ND		ug/kg	5.1	0.25	1
Acetone	ND		ug/kg	5.1	1.2	1
Carbon disulfide	ND		ug/kg	5.1	0.56	1
2-Butanone	ND		ug/kg	5.1	0.35	1
4-Methyl-2-pentanone	ND		ug/kg	5.1	0.12	1
2-Hexanone	ND		ug/kg	5.1	0.34	1
Bromochloromethane	ND		ug/kg	2.5	0.18	1
1,2-Dibromoethane	ND		ug/kg	2.0	0.10	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	0.20	1
Isopropylbenzene	ND		ug/kg	0.51	0.10	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	0.13	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	0.11	1
Methyl Acetate	ND		ug/kg	10	0.24	1
Cyclohexane	ND		ug/kg	10	0.22	1
1,4-Dioxane	ND		ug/kg	20	7.3	1
Freon-113	ND		ug/kg	10	0.26	1
Methyl cyclohexane	ND		ug/kg	2.0	0.12	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	108		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/26/17 21:37  
 Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05-08 Batch: WG1056967-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22



**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/26/17 21:37  
 Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05-08 Batch: WG1056967-5					
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Isopropylbenzene	ND		ug/kg	1.0	0.19
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
Methyl Acetate	ND		ug/kg	20	0.46
Cyclohexane	ND		ug/kg	20	0.43
1,4-Dioxane	ND		ug/kg	40	14.
Freon-113	ND		ug/kg	20	0.51
Methyl cyclohexane	ND		ug/kg	4.0	0.24

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C

Analytical Date: 10/26/17 21:37

Analyst: KD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05-08 Batch: WG1056967-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	112		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/29/17 09:34  
 Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG1057026-10					
Methylene chloride	ND		ug/kg	500	82.
1,1-Dichloroethane	ND		ug/kg	75	14.
Chloroform	ND		ug/kg	75	18.
Carbon tetrachloride	ND		ug/kg	50	17.
1,2-Dichloropropane	ND		ug/kg	180	11.
Dibromochloromethane	ND		ug/kg	50	8.8
1,1,2-Trichloroethane	ND		ug/kg	75	16.
Tetrachloroethene	ND		ug/kg	50	15.
Chlorobenzene	ND		ug/kg	50	17.
Trichlorofluoromethane	ND		ug/kg	250	21.
1,2-Dichloroethane	ND		ug/kg	50	12.
1,1,1-Trichloroethane	ND		ug/kg	50	18.
Bromodichloromethane	ND		ug/kg	50	15.
trans-1,3-Dichloropropene	ND		ug/kg	50	10.
cis-1,3-Dichloropropene	ND		ug/kg	50	12.
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	15.
Benzene	ND		ug/kg	50	9.6
Toluene	ND		ug/kg	75	9.8
Ethylbenzene	ND		ug/kg	50	8.5
Chloromethane	ND		ug/kg	250	22.
Bromomethane	72	J	ug/kg	100	17.
Vinyl chloride	ND		ug/kg	100	16.
Chloroethane	ND		ug/kg	100	16.
1,1-Dichloroethene	ND		ug/kg	50	19.
trans-1,2-Dichloroethene	ND		ug/kg	75	12.
Trichloroethene	ND		ug/kg	50	15.
1,2-Dichlorobenzene	ND		ug/kg	250	9.1
1,3-Dichlorobenzene	ND		ug/kg	250	11.

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/29/17 09:34  
 Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG1057026-10					
1,4-Dichlorobenzene	ND		ug/kg	250	9.1
Methyl tert butyl ether	ND		ug/kg	100	7.6
p/m-Xylene	ND		ug/kg	100	18.
o-Xylene	ND		ug/kg	100	17.
cis-1,2-Dichloroethene	ND		ug/kg	50	17.
Styrene	ND		ug/kg	100	20.
Dichlorodifluoromethane	ND		ug/kg	500	25.
Acetone	ND		ug/kg	500	110
Carbon disulfide	ND		ug/kg	500	55.
2-Butanone	ND		ug/kg	500	34.
4-Methyl-2-pentanone	ND		ug/kg	500	12.
2-Hexanone	ND		ug/kg	500	33.
Bromochloromethane	ND		ug/kg	250	18.
1,2-Dibromoethane	ND		ug/kg	200	10.
1,2-Dibromo-3-chloropropane	ND		ug/kg	250	20.
Isopropylbenzene	ND		ug/kg	50	9.7
1,2,3-Trichlorobenzene	ND		ug/kg	250	12.
1,2,4-Trichlorobenzene	ND		ug/kg	250	11.
Methyl Acetate	ND		ug/kg	1000	23.
Cyclohexane	ND		ug/kg	1000	22.
1,4-Dioxane	ND		ug/kg	2000	720
Freon-113	ND		ug/kg	1000	26.
Methyl cyclohexane	ND		ug/kg	200	12.

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 10/29/17 09:34  
Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-02 Batch: WG1057026-10					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	92		70-130

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 08:44  
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-05 Batch: WG1057026-5					
Methylene chloride	ND		ug/kg	500	82.
1,1-Dichloroethane	ND		ug/kg	75	14.
Chloroform	ND		ug/kg	75	18.
Carbon tetrachloride	ND		ug/kg	50	17.
1,2-Dichloropropane	ND		ug/kg	180	11.
Dibromochloromethane	ND		ug/kg	50	8.8
1,1,2-Trichloroethane	ND		ug/kg	75	16.
Tetrachloroethene	ND		ug/kg	50	15.
Chlorobenzene	ND		ug/kg	50	17.
Trichlorofluoromethane	ND		ug/kg	250	21.
1,2-Dichloroethane	ND		ug/kg	50	12.
1,1,1-Trichloroethane	ND		ug/kg	50	18.
Bromodichloromethane	ND		ug/kg	50	15.
trans-1,3-Dichloropropene	ND		ug/kg	50	10.
cis-1,3-Dichloropropene	ND		ug/kg	50	12.
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	15.
Benzene	ND		ug/kg	50	9.6
Toluene	ND		ug/kg	75	9.8
Ethylbenzene	ND		ug/kg	50	8.5
Chloromethane	ND		ug/kg	250	22.
Bromomethane	100		ug/kg	100	17.
Vinyl chloride	ND		ug/kg	100	16.
Chloroethane	ND		ug/kg	100	16.
1,1-Dichloroethene	ND		ug/kg	50	19.
trans-1,2-Dichloroethene	ND		ug/kg	75	12.
Trichloroethene	ND		ug/kg	50	15.
1,2-Dichlorobenzene	ND		ug/kg	250	9.1
1,3-Dichlorobenzene	ND		ug/kg	250	11.

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/27/17 08:44  
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-05 Batch: WG1057026-5					
1,4-Dichlorobenzene	ND		ug/kg	250	9.1
Methyl tert butyl ether	ND		ug/kg	100	7.6
p/m-Xylene	ND		ug/kg	100	18.
o-Xylene	ND		ug/kg	100	17.
cis-1,2-Dichloroethene	ND		ug/kg	50	17.
Styrene	ND		ug/kg	100	20.
Dichlorodifluoromethane	ND		ug/kg	500	25.
Acetone	ND		ug/kg	500	110
Carbon disulfide	ND		ug/kg	500	55.
2-Butanone	ND		ug/kg	500	34.
4-Methyl-2-pentanone	ND		ug/kg	500	12.
2-Hexanone	ND		ug/kg	500	33.
Bromochloromethane	ND		ug/kg	250	18.
1,2-Dibromoethane	ND		ug/kg	200	10.
1,2-Dibromo-3-chloropropane	ND		ug/kg	250	20.
Isopropylbenzene	ND		ug/kg	50	9.7
1,2,3-Trichlorobenzene	ND		ug/kg	250	12.
1,2,4-Trichlorobenzene	ND		ug/kg	250	11.
Methyl Acetate	ND		ug/kg	1000	23.
Cyclohexane	ND		ug/kg	1000	22.
1,4-Dioxane	ND		ug/kg	2000	720
Freon-113	ND		ug/kg	1000	26.
Methyl cyclohexane	ND		ug/kg	200	12.

**Project Name:** W. THIRD ST. & WASHINGTON ST.**Lab Number:** L1737991**Project Number:** 2172285**Report Date:** 10/30/17**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C

Analytical Date: 10/27/17 08:44

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01-05 Batch: WG1057026-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	92		70-130



## Lab Control Sample Analysis

Batch Quality Control

Project Name: W. THIRD ST. &amp; WASHINGTON ST.

Lab Number: L1737991

Project Number: 2172285

Report Date: 10/30/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05-08 Batch: WG1056967-3 WG1056967-4								
Methylene chloride	89		88		70-130	1		30
1,1-Dichloroethane	94		94		70-130	0		30
Chloroform	95		95		70-130	0		30
Carbon tetrachloride	99		99		70-130	0		30
1,2-Dichloropropane	93		94		70-130	1		30
Dibromochloromethane	89		88		70-130	1		30
1,1,2-Trichloroethane	93		93		70-130	0		30
Tetrachloroethene	96		91		70-130	5		30
Chlorobenzene	92		92		70-130	0		30
Trichlorofluoromethane	95		88		70-139	8		30
1,2-Dichloroethane	96		96		70-130	0		30
1,1,1-Trichloroethane	98		98		70-130	0		30
Bromodichloromethane	94		93		70-130	1		30
trans-1,3-Dichloropropene	87		90		70-130	3		30
cis-1,3-Dichloropropene	93		94		70-130	1		30
Bromoform	84		88		70-130	5		30
1,1,2,2-Tetrachloroethane	86		86		70-130	0		30
Benzene	93		93		70-130	0		30
Toluene	90		89		70-130	1		30
Ethylbenzene	93		93		70-130	0		30
Chloromethane	98		97		52-130	1		30
Bromomethane	93		84		57-147	10		30
Vinyl chloride	89		89		67-130	0		30

## Lab Control Sample Analysis

Batch Quality Control

Project Name: W. THIRD ST. &amp; WASHINGTON ST.

Lab Number: L1737991

Project Number: 2172285

Report Date: 10/30/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	RPD	Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05-08 Batch: WG1056967-3 WG1056967-4								
Chloroethane	107		78		50-151	31	Q	30
1,1-Dichloroethene	79		80		65-135	1		30
trans-1,2-Dichloroethene	95		94		70-130	1		30
Trichloroethene	97		96		70-130	1		30
1,2-Dichlorobenzene	90		90		70-130	0		30
1,3-Dichlorobenzene	92		92		70-130	0		30
1,4-Dichlorobenzene	90		91		70-130	1		30
Methyl tert butyl ether	92		94		66-130	2		30
p/m-Xylene	93		95		70-130	2		30
o-Xylene	94		93		70-130	1		30
cis-1,2-Dichloroethene	97		93		70-130	4		30
Styrene	90		92		70-130	2		30
Dichlorodifluoromethane	103		99		30-146	4		30
Acetone	88		80		54-140	10		30
Carbon disulfide	73		75		59-130	3		30
2-Butanone	86		94		70-130	9		30
4-Methyl-2-pentanone	79		82		70-130	4		30
2-Hexanone	76		75		70-130	1		30
Bromochloromethane	100		98		70-130	2		30
1,2-Dibromoethane	90		92		70-130	2		30
1,2-Dibromo-3-chloropropane	78		79		68-130	1		30
Isopropylbenzene	90		90		70-130	0		30
1,2,3-Trichlorobenzene	86		92		70-130	7		30

Lab Control Sample Analysis  
Batch Quality Control

Project Name: W. THIRD ST. & WASHINGTON ST.  
Project Number: 2172285

Lab Number: L1737991  
Report Date: 10/30/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05-08 Batch: WG1056967-3 WG1056967-4								
1,2,4-Trichlorobenzene	92		93		70-130	1		30
Methyl Acetate	93		92		51-146	1		30
Cyclohexane	102		101		59-142	1		30
1,4-Dioxane	87		85		65-136	2		30
Freon-113	90		92		50-139	2		30
Methyl cyclohexane	103		101		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	98		98		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	96		97		70-130
Dibromofluoromethane	101		101		70-130



## Lab Control Sample Analysis

Batch Quality Control

Project Name: W. THIRD ST. &amp; WASHINGTON ST.

Lab Number: L1737991

Project Number: 2172285

Report Date: 10/30/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-05 Batch: WG1057026-3 WG1057026-4								
Methylene chloride	82		80		70-130	2		30
1,1-Dichloroethane	93		90		70-130	3		30
Chloroform	95		91		70-130	4		30
Carbon tetrachloride	82		77		70-130	6		30
1,2-Dichloropropane	96		90		70-130	6		30
Dibromochloromethane	75		73		70-130	3		30
1,1,2-Trichloroethane	98		96		70-130	2		30
Tetrachloroethene	92		87		70-130	6		30
Chlorobenzene	94		90		70-130	4		30
Trichlorofluoromethane	93		88		70-139	6		30
1,2-Dichloroethane	95		89		70-130	7		30
1,1,1-Trichloroethane	89		86		70-130	3		30
Bromodichloromethane	82		78		70-130	5		30
trans-1,3-Dichloropropene	80		78		70-130	3		30
cis-1,3-Dichloropropene	85		82		70-130	4		30
Bromoform	68	Q	65		70-130	5		30
1,1,2,2-Tetrachloroethane	93		91		70-130	2		30
Benzene	96		90		70-130	6		30
Toluene	91		86		70-130	6		30
Ethylbenzene	95		91		70-130	4		30
Chloromethane	93		86		52-130	8		30
Bromomethane	130		120		57-147	8		30
Vinyl chloride	102		94		67-130	8		30

## Lab Control Sample Analysis

Batch Quality Control

Project Name: W. THIRD ST. &amp; WASHINGTON ST.

Lab Number: L1737991

Project Number: 2172285

Report Date: 10/30/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	RPD	Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-05 Batch: WG1057026-3 WG1057026-4								
Chloroethane	118		106		50-151	11		30
1,1-Dichloroethene	83		85		65-135	2		30
trans-1,2-Dichloroethene	94		92		70-130	2		30
Trichloroethene	97		92		70-130	5		30
1,2-Dichlorobenzene	96		93		70-130	3		30
1,3-Dichlorobenzene	96		91		70-130	5		30
1,4-Dichlorobenzene	94		90		70-130	4		30
Methyl tert butyl ether	92		89		66-130	3		30
p/m-Xylene	96		93		70-130	3		30
o-Xylene	95		92		70-130	3		30
cis-1,2-Dichloroethene	96		92		70-130	4		30
Styrene	94		91		70-130	3		30
Dichlorodifluoromethane	86		81		30-146	6		30
Acetone	62		74		54-140	18		30
Carbon disulfide	70		70		59-130	0		30
2-Butanone	78		72		70-130	8		30
4-Methyl-2-pentanone	76		81		70-130	6		30
2-Hexanone	65	Q	66	Q	70-130	2		30
Bromochloromethane	95		90		70-130	5		30
1,2-Dibromoethane	89		89		70-130	0		30
1,2-Dibromo-3-chloropropane	59	Q	59	Q	68-130	0		30
Isopropylbenzene	90		85		70-130	6		30
1,2,3-Trichlorobenzene	90		89		70-130	1		30

## Lab Control Sample Analysis

Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-05 Batch: WG1057026-3 WG1057026-4								
1,2,4-Trichlorobenzene	94		89		70-130	5		30
Methyl Acetate	87		86		51-146	1		30
Cyclohexane	95		90		59-142	5		30
1,4-Dioxane	106		104		65-136	2		30
Freon-113	87		88		50-139	1		30
Methyl cyclohexane	98		92		70-130	6		30

Surrogate	LCS		LCSD		Acceptance	
	%Recovery	Qual	%Recovery	Qual	Criteria	
1,2-Dichloroethane-d4	97		96		70-130	
Toluene-d8	98		98		70-130	
4-Bromofluorobenzene	92		92		70-130	
Dibromofluoromethane	100		99		70-130	



## Lab Control Sample Analysis

Batch Quality Control

Project Name: W. THIRD ST. &amp; WASHINGTON ST.

Lab Number: L1737991

Project Number: 2172285

Report Date: 10/30/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits	Qual	Limits	RPD
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG1057026-8 WG1057026-9								
Methylene chloride	82		84		70-130	2		30
1,1-Dichloroethane	99		98		70-130	1		30
Chloroform	97		96		70-130	1		30
Carbon tetrachloride	90		89		70-130	1		30
1,2-Dichloropropane	99		99		70-130	0		30
Dibromochloromethane	74		77		70-130	4		30
1,1,2-Trichloroethane	93		99		70-130	6		30
Tetrachloroethene	101		102		70-130	1		30
Chlorobenzene	98		98		70-130	0		30
Trichlorofluoromethane	105		103		70-139	2		30
1,2-Dichloroethane	90		90		70-130	0		30
1,1,1-Trichloroethane	96		95		70-130	1		30
Bromodichloromethane	84		83		70-130	1		30
trans-1,3-Dichloropropene	79		81		70-130	3		30
cis-1,3-Dichloropropene	87		86		70-130	1		30
Bromoform	66	Q	68		70-130	3		30
1,1,2,2-Tetrachloroethane	91		93		70-130	2		30
Benzene	101		100		70-130	1		30
Toluene	95		96		70-130	1		30
Ethylbenzene	100		101		70-130	1		30
Chloromethane	103		101		52-130	2		30
Bromomethane	120		124		57-147	3		30
Vinyl chloride	117		113		67-130	3		30

## Lab Control Sample Analysis

Batch Quality Control

Project Name: W. THIRD ST. &amp; WASHINGTON ST.

Lab Number: L1737991

Project Number: 2172285

Report Date: 10/30/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG1057026-8 WG1057026-9								
Chloroethane	122		115		50-151	6		30
1,1-Dichloroethene	105		105		65-135	0		30
trans-1,2-Dichloroethene	102		102		70-130	0		30
Trichloroethene	105		102		70-130	3		30
1,2-Dichlorobenzene	97		98		70-130	1		30
1,3-Dichlorobenzene	98		99		70-130	1		30
1,4-Dichlorobenzene	97		99		70-130	2		30
Methyl tert butyl ether	87		89		66-130	2		30
p/m-Xylene	102		103		70-130	1		30
o-Xylene	99		100		70-130	1		30
cis-1,2-Dichloroethene	99		100		70-130	1		30
Styrene	98		100		70-130	2		30
Dichlorodifluoromethane	96		95		30-146	1		30
Acetone	70		62		54-140	12		30
Carbon disulfide	88		87		59-130	1		30
2-Butanone	91		103		70-130	12		30
4-Methyl-2-pentanone	80		77		70-130	4		30
2-Hexanone	71		71		70-130	0		30
Bromochloromethane	94		95		70-130	1		30
1,2-Dibromoethane	85		89		70-130	5		30
1,2-Dibromo-3-chloropropane	56	Q	58	Q	68-130	4		30
Isopropylbenzene	94		96		70-130	2		30
1,2,3-Trichlorobenzene	90		92		70-130	2		30



Lab Control Sample Analysis  
Batch Quality Control

Project Name: W. THIRD ST. & WASHINGTON ST.  
Project Number: 2172285

Lab Number: L1737991  
Report Date: 10/30/17

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01-02 Batch: WG1057026-8 WG1057026-9								
1,2,4-Trichlorobenzene	94		94		70-130	0		30
Methyl Acetate	86		82		51-146	5		30
Cyclohexane	108		109		59-142	1		30
1,4-Dioxane	102		103		65-136	1		30
Freon-113	107		108		50-139	1		30
Methyl cyclohexane	111		110		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		93		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	91		93		70-130
Dibromofluoromethane	99		99		70-130



# INORGANICS & MISCELLANEOUS

Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-01  
 Client ID: SB-6 14-15FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 08:30  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.7		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI



Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-02  
 Client ID: SB-7 14-15FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 09:15  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI



Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-03  
 Client ID: SB-8 11-12FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 10:35  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.3		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI



Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-04  
 Client ID: SB-9 10-11FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 11:00  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.3		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI



Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-05  
 Client ID: SB-10 12-13FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 11:15  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	80.0		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI



Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-06  
 Client ID: SB-11 10-11FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 11:30  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.6		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI





Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-07  
 Client ID: SB-12 12-13FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 12:00  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.4		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI



Project Name: W. THIRD ST. & WASHINGTON ST.  
 Project Number: 2172285

Lab Number: L1737991  
 Report Date: 10/30/17

## SAMPLE RESULTS

Lab ID: L1737991-08  
 Client ID: SB-13 10-11FT  
 Sample Location: 115-121 W. THIRD ST. & 200-210  
 Matrix: Soil

Date Collected: 10/19/17 12:30  
 Date Received: 10/19/17  
 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.9		%	0.100	NA	1	-	10/26/17 10:05	121,2540G	RI



Lab Duplicate Analysis

Project Name: W. THIRD ST. & WASHINGTON ST.  
Project Number: 2172285

Lab Number: L1737991  
Report Date: 10/30/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1056504-1 QC Sample: L1737875-01 Client ID: DUP Sample						
Solids, Total	89.8	90.1	%	0		20



Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

CoolerA

Custody SealAbsent

Container Information			Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
Container ID	Container Type									
L1737991-01A	Vial MeOH preserved		A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1737991-01B	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:55	NYTCL-8260HLW(14)
L1737991-01C	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:55	NYTCL-8260HLW(14)
L1737991-01D	Plastic 2oz unpreserved for TS		A	NA		3.0	Y	Absent		TS(7)
L1737991-02A	Vial MeOH preserved		A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1737991-02B	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-02C	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-02D	Plastic 2oz unpreserved for TS		A	NA		3.0	Y	Absent		TS(7)
L1737991-03A	Vial MeOH preserved		A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1737991-03B	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-03C	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-03D	Plastic 2oz unpreserved for TS		A	NA		3.0	Y	Absent		TS(7)
L1737991-04A	Vial MeOH preserved		A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1737991-04B	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-04C	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-04D	Plastic 2oz unpreserved for TS		A	NA		3.0	Y	Absent		TS(7)
L1737991-05A	Vial MeOH preserved		A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1737991-05B	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-05C	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-05D	Plastic 2oz unpreserved for TS		A	NA		3.0	Y	Absent		TS(7)
L1737991-06A	Vial MeOH preserved		A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1737991-06B	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)
L1737991-06C	Vial water preserved		A	NA		3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)



**Project Name:** W. THIRD ST. & WASHINGTON ST.  
**Project Number:** 2172285

**Serial No:**10301716:58  
**Lab Number:** L1737991  
**Report Date:** 10/30/17

Container Information			Initial		Final		Temp		Frozen		Analysis(*)
Container ID	Container Type	Cooler	pH	pH	deg	C	Pres	Seal	Date/Time		
L1737991-06D	Plastic 2oz unpreserved for TS	A	NA	NA	3.0	3.0	Y	Absent		TS(7)	
L1737991-07A	Vial MeOH preserved	A	NA	NA	3.0	3.0	Y	Absent		NYTCL-8260HLW(14)	
L1737991-07B	Vial water preserved	A	NA	NA	3.0	3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)	
L1737991-07C	Vial water preserved	A	NA	NA	3.0	3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)	
L1737991-07D	Plastic 2oz unpreserved for TS	A	NA	NA	3.0	3.0	Y	Absent		TS(7)	
L1737991-08A	Vial MeOH preserved	A	NA	NA	3.0	3.0	Y	Absent		NYTCL-8260HLW(14)	
L1737991-08B	Vial water preserved	A	NA	NA	3.0	3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)	
L1737991-08C	Vial water preserved	A	NA	NA	3.0	3.0	Y	Absent	20-OCT-17 03:52	NYTCL-8260HLW(14)	
L1737991-08D	Plastic 2oz unpreserved for TS	A	NA	NA	3.0	3.0	Y	Absent		TS(7)	

**Project Name:** W. THIRD ST. & WASHINGTON ST.  
**Project Number:** 2172285

**Lab Number:** L1737991  
**Report Date:** 10/30/17

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

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

### Terms

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

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

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

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

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

### 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

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** W. THIRD ST. & WASHINGTON ST.  
**Project Number:** 2172285

**Lab Number:** L1737991  
**Report Date:** 10/30/17

#### Data Qualifiers

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

- C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I - The lower value for the two columns has been reported due to obvious interference.
- M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R - Analytical results are from sample re-analysis.
- RE - Analytical results are from sample re-extraction.
- S - Analytical results are from modified screening analysis.
- J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: W. THIRD ST. & WASHINGTON ST.  
Project Number: 2172285

Lab Number: L1737991  
Report Date: 10/30/17

## REFERENCES

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

## LIMITATION OF LIABILITIES

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

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





**Alpha Analytical, Inc.**

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

---

**Certification Information**

---

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

**Westborough Facility****EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

---

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

---

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

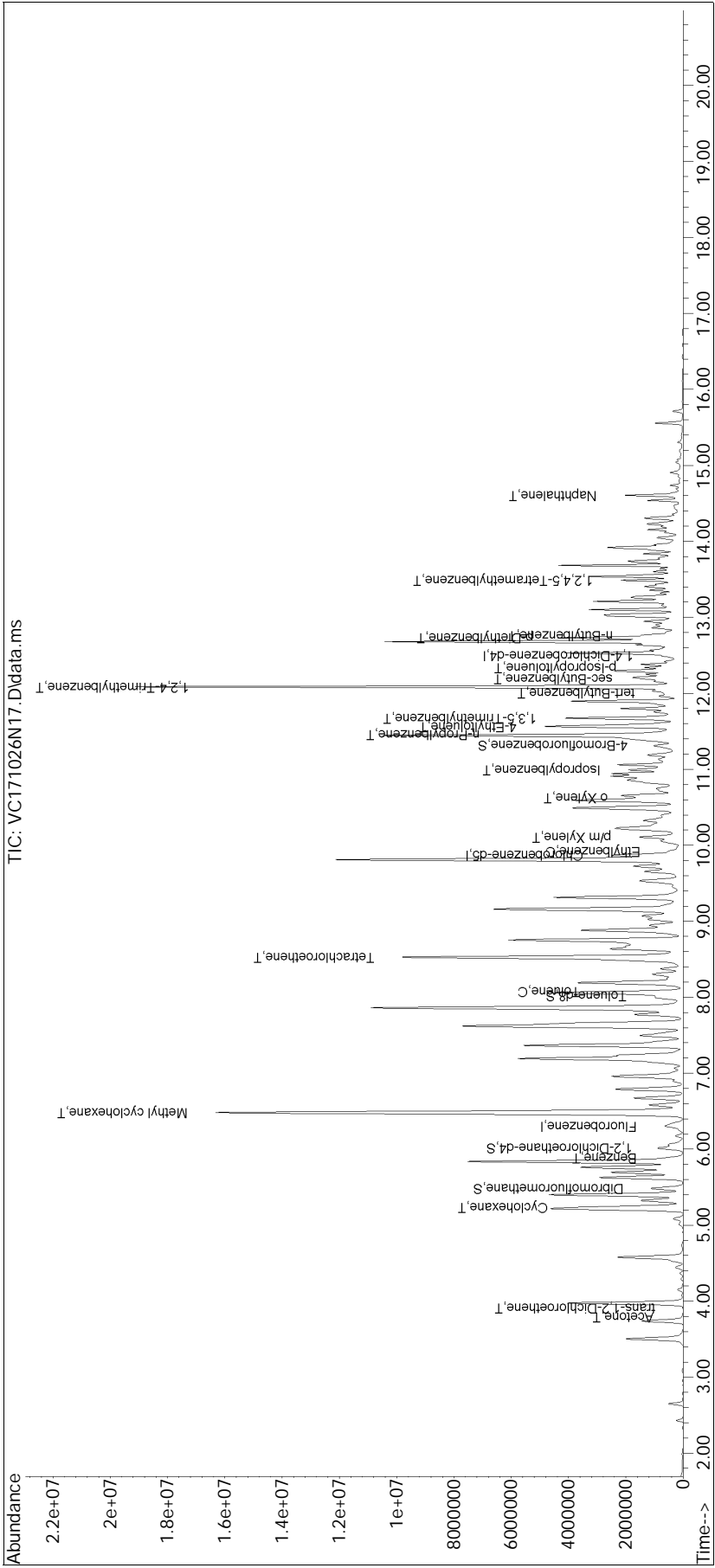


Quantitation Report (QT Reviewed)

Data Path : I:\VOLATILES\Charlie\2017\171026N\  
Data File : VC171026N17.D  
Acq On : 27 Oct 2017 3:05 am  
Operator : CHARLIE:MV  
Sample : 11737991-05,31,12.7,5,,b  
Misc : WG1056967,ICAL14108  
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Oct 27 05:52:53 2017  
Quant Method : I:\VOLATILES\Charlie\2017\171026N\C\_171019\_8260.m  
Quant Title : VOLATILES BY GC/MS  
Qlast Update : Thu Oct 19 18:18:03 2017  
Response via : Initial Calibration

Sub List : 8260-CurveSoil - Megamix plus Diox26N\VC171026N01.D●





## ANALYTICAL REPORT

Lab Number:	L1738251
Client:	LaBella Associates, P.C. 300 Pearl Street Suite 252 Buffalo, NY 14202
ATTN:	Adam Zebrowski
Phone:	(716) 551-6281
Project Name:	115-121 W THIRD ST&200-210 W.S
Project Number:	2172285
Report Date:	10/31/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

---

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



**Project Name:** 115-121 W THIRD ST&200-210 W.S  
**Project Number:** 2172285

**Lab Number:** L1738251  
**Report Date:** 10/31/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1738251-01	PMW-1	WATER	115-121 W THIRD ST. & 200-210 WASHINGTON ST., JAMESTOWN, NY	10/20/17 09:10	10/20/17
L1738251-02	PMW-3	WATER	115-121 W THIRD ST. & 200-210 WASHINGTON ST., JAMESTOWN, NY	10/20/17 10:20	10/20/17
L1738251-03	TRIP BLANK	WATER	115-121 W THIRD ST. & 200-210 WASHINGTON ST., JAMESTOWN, NY	10/20/17 00:00	10/20/17



**Project Name:** 115-121 W THIRD ST&200-210 W.S  
**Project Number:** 2172285

**Lab Number:** L1738251  
**Report Date:** 10/31/17

### Case Narrative

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

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

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

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

#### HOLD POLICY

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

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

**Project Name:** 115-121 W THIRD ST&200-210 W.S  
**Project Number:** 2172285

**Lab Number:** L1738251  
**Report Date:** 10/31/17

**Case Narrative (continued)**

Report Submission

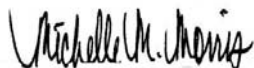
All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L1738251-03: A sample identified as "TRIP BLANK" was received but not listed on the Chain of Custody. This sample was not analyzed.

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

Authorized Signature:

 Michelle M. Morris

Title: Technical Director/Representative

Date: 10/31/17

# ORGANICS



# VOLATILES

**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17**SAMPLE RESULTS**

**Lab ID:** L1738251-01      **D**  
**Client ID:** PMW-1  
**Sample Location:** 115-121 W THIRD ST. & 200-210 WASHINGTON ST.,  
 JAMESTOWN, NY  
**Matrix:** Water  
**Analytical Method:** 1,8260C  
**Analytical Date:** 10/26/17 16:46  
**Analyst:** PD

**Date Collected:** 10/20/17 09:10  
**Date Received:** 10/20/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	500	140	200
1,1-Dichloroethane	ND		ug/l	500	140	200
Chloroform	ND		ug/l	500	140	200
Carbon tetrachloride	ND		ug/l	100	27.	200
1,2-Dichloropropane	ND		ug/l	200	27.	200
Dibromochloromethane	ND		ug/l	100	30.	200
1,1,2-Trichloroethane	ND		ug/l	300	100	200
Tetrachloroethene	36000		ug/l	100	36.	200
Chlorobenzene	ND		ug/l	500	140	200
Trichlorofluoromethane	ND		ug/l	500	140	200
1,2-Dichloroethane	ND		ug/l	100	26.	200
1,1,1-Trichloroethane	ND		ug/l	500	140	200
Bromodichloromethane	ND		ug/l	100	38.	200
trans-1,3-Dichloropropene	ND		ug/l	100	33.	200
cis-1,3-Dichloropropene	ND		ug/l	100	29.	200
Bromoform	ND		ug/l	400	130	200
1,1,2,2-Tetrachloroethane	ND		ug/l	100	33.	200
Benzene	ND		ug/l	100	32.	200
Toluene	ND		ug/l	500	140	200
Ethylbenzene	ND		ug/l	500	140	200
Chloromethane	ND		ug/l	500	140	200
Bromomethane	ND		ug/l	500	140	200
Vinyl chloride	ND		ug/l	200	14.	200
Chloroethane	ND		ug/l	500	140	200
1,1-Dichloroethene	ND		ug/l	100	34.	200
trans-1,2-Dichloroethene	ND		ug/l	500	140	200
Trichloroethene	96	J	ug/l	100	35.	200
1,2-Dichlorobenzene	ND		ug/l	500	140	200
1,3-Dichlorobenzene	ND		ug/l	500	140	200
1,4-Dichlorobenzene	ND		ug/l	500	140	200

**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17**SAMPLE RESULTS****Lab ID:** L1738251-01 D**Date Collected:** 10/20/17 09:10**Client ID:** PMW-1**Date Received:** 10/20/17**Sample Location:** 115-121 W THIRD ST. & 200-210 WASHINGTON ST.,  
JAMESTOWN, NY**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	500	140	200
p/m-Xylene	ND		ug/l	500	140	200
o-Xylene	ND		ug/l	500	140	200
cis-1,2-Dichloroethene	ND		ug/l	500	140	200
Styrene	ND		ug/l	500	140	200
Dichlorodifluoromethane	ND		ug/l	1000	200	200
Acetone	400	J	ug/l	1000	290	200
Carbon disulfide	ND		ug/l	1000	200	200
2-Butanone	ND		ug/l	1000	390	200
4-Methyl-2-pentanone	ND		ug/l	1000	200	200
2-Hexanone	ND		ug/l	1000	200	200
Bromochloromethane	ND		ug/l	500	140	200
1,2-Dibromoethane	ND		ug/l	400	130	200
1,2-Dibromo-3-chloropropane	ND		ug/l	500	140	200
Isopropylbenzene	ND		ug/l	500	140	200
1,2,3-Trichlorobenzene	ND		ug/l	500	140	200
1,2,4-Trichlorobenzene	ND		ug/l	500	140	200
Methyl Acetate	ND		ug/l	400	47.	200
Cyclohexane	ND		ug/l	2000	54.	200
1,4-Dioxane	ND		ug/l	50000	12000	200
Freon-113	ND		ug/l	500	140	200
Methyl cyclohexane	ND		ug/l	2000	79.	200

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17**SAMPLE RESULTS**

Lab ID: L1738251-02

Date Collected: 10/20/17 10:20

Client ID: PMW-3

Date Received: 10/20/17

Sample Location: 115-121 W THIRD ST. & 200-210 WASHINGTON ST.,  
JAMESTOWN, NY

Field Prep: Not Specified

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 10/25/17 17:53

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	2.5	0.70	1
1,1-Dichloroethane	ND		ug/l	2.5	0.70	1
Chloroform	ND		ug/l	2.5	0.70	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.14	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	2.5	0.70	1
Trichlorofluoromethane	ND		ug/l	2.5	0.70	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	2.5	0.70	1
Ethylbenzene	ND		ug/l	2.5	0.70	1
Chloromethane	ND		ug/l	2.5	0.70	1
Bromomethane	ND		ug/l	2.5	0.70	1
Vinyl chloride	ND		ug/l	1.0	0.07	1
Chloroethane	ND		ug/l	2.5	0.70	1
1,1-Dichloroethene	ND		ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1

**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17**SAMPLE RESULTS****Lab ID:** L1738251-02**Date Collected:** 10/20/17 10:20**Client ID:** PMW-3**Date Received:** 10/20/17**Sample Location:** 115-121 W THIRD ST. & 200-210 WASHINGTON ST.,  
JAMESTOWN, NY**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	3.3	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0	1
2-Hexanone	ND		ug/l	5.0	1.0	1
Bromochloromethane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	ND		ug/l	10	0.27	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
Methyl cyclohexane	ND		ug/l	10	0.40	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: 115-121 W THIRD ST&amp;200-210 W.S

Lab Number: L1738251

Project Number: 2172285

Report Date: 10/31/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/25/17 09:52  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1056460-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

Project Name: 115-121 W THIRD ST&amp;200-210 W.S

Lab Number: L1738251

Project Number: 2172285

Report Date: 10/31/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/25/17 09:52  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1056460-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C

Analytical Date: 10/25/17 09:52

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1056460-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	100		70-130



**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/26/17 08:16  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1056605-5					
Methylene chloride	ND		ug/l	2.5	0.70
1,1-Dichloroethane	ND		ug/l	2.5	0.70
Chloroform	ND		ug/l	2.5	0.70
Carbon tetrachloride	ND		ug/l	0.50	0.13
1,2-Dichloropropane	ND		ug/l	1.0	0.14
Dibromochloromethane	ND		ug/l	0.50	0.15
1,1,2-Trichloroethane	ND		ug/l	1.5	0.50
Tetrachloroethene	ND		ug/l	0.50	0.18
Chlorobenzene	ND		ug/l	2.5	0.70
Trichlorofluoromethane	ND		ug/l	2.5	0.70
1,2-Dichloroethane	ND		ug/l	0.50	0.13
1,1,1-Trichloroethane	ND		ug/l	2.5	0.70
Bromodichloromethane	ND		ug/l	0.50	0.19
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14
Bromoform	ND		ug/l	2.0	0.65
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17
Benzene	ND		ug/l	0.50	0.16
Toluene	ND		ug/l	2.5	0.70
Ethylbenzene	ND		ug/l	2.5	0.70
Chloromethane	ND		ug/l	2.5	0.70
Bromomethane	ND		ug/l	2.5	0.70
Vinyl chloride	ND		ug/l	1.0	0.07
Chloroethane	ND		ug/l	2.5	0.70
1,1-Dichloroethene	ND		ug/l	0.50	0.17
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Trichloroethene	ND		ug/l	0.50	0.18
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70

**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 10/26/17 08:16  
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1056605-5					
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70
Methyl tert butyl ether	ND		ug/l	2.5	0.70
p/m-Xylene	ND		ug/l	2.5	0.70
o-Xylene	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
Styrene	ND		ug/l	2.5	0.70
Dichlorodifluoromethane	ND		ug/l	5.0	1.0
Acetone	ND		ug/l	5.0	1.5
Carbon disulfide	ND		ug/l	5.0	1.0
2-Butanone	ND		ug/l	5.0	1.9
4-Methyl-2-pentanone	ND		ug/l	5.0	1.0
2-Hexanone	ND		ug/l	5.0	1.0
Bromochloromethane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
Methyl Acetate	ND		ug/l	2.0	0.23
Cyclohexane	ND		ug/l	10	0.27
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
Methyl cyclohexane	ND		ug/l	10	0.40

**Project Name:** 115-121 W THIRD ST&200-210 W.S**Lab Number:** L1738251**Project Number:** 2172285**Report Date:** 10/31/17**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C

Analytical Date: 10/26/17 08:16

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1056605-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	99		70-130

## Lab Control Sample Analysis

Batch Quality Control

Project Name: 115-121 W THIRD ST&amp;200-210 W.S

Lab Number: L1738251

Project Number: 2172285

Report Date: 10/31/17

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1056460-3 WG1056460-4								
Methylene chloride	88		87		70-130	1		20
1,1-Dichloroethane	91		89		70-130	2		20
Chloroform	90		88		70-130	2		20
Carbon tetrachloride	83		81		63-132	2		20
1,2-Dichloropropane	93		92		70-130	1		20
Dibromochloromethane	85		85		63-130	0		20
1,1,2-Trichloroethane	94		93		70-130	1		20
Tetrachloroethene	84		83		70-130	1		20
Chlorobenzene	88		87		75-130	1		20
Trichlorofluoromethane	83		80		62-150	4		20
1,2-Dichloroethane	96		96		70-130	0		20
1,1,1-Trichloroethane	86		86		67-130	0		20
Bromodichloromethane	89		89		67-130	0		20
trans-1,3-Dichloropropene	86		85		70-130	1		20
cis-1,3-Dichloropropene	89		87		70-130	2		20
Bromoform	86		86		54-136	0		20
1,1,2,2-Tetrachloroethane	91		91		67-130	0		20
Benzene	88		86		70-130	2		20
Toluene	87		86		70-130	1		20
Ethylbenzene	90		88		70-130	2		20
Chloromethane	67		67		64-130	0		20
Bromomethane	86		83		39-139	4		20
Vinyl chloride	77		74		55-140	4		20

## Lab Control Sample Analysis

Batch Quality Control

Project Name: 115-121 W THIRD ST&amp;200-210 W.S

Lab Number: L1738251

Project Number: 2172285

Report Date: 10/31/17

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1056460-3 WG1056460-4								
Chloroethane	97		96		55-138	1		20
1,1-Dichloroethene	84		81		61-145	4		20
trans-1,2-Dichloroethene	86		84		70-130	2		20
Trichloroethene	90		86		70-130	5		20
1,2-Dichlorobenzene	89		87		70-130	2		20
1,3-Dichlorobenzene	88		87		70-130	1		20
1,4-Dichlorobenzene	89		87		70-130	2		20
Methyl tert butyl ether	88		88		63-130	0		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	90		90		70-130	0		20
cis-1,2-Dichloroethene	88		88		70-130	0		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	61		58		36-147	5		20
Acetone	88		93		58-148	6		20
Carbon disulfide	77		74		51-130	4		20
2-Butanone	86		83		63-138	4		20
4-Methyl-2-pentanone	92		92		59-130	0		20
2-Hexanone	90		93		57-130	3		20
Bromochloromethane	94		91		70-130	3		20
1,2-Dibromoethane	90		90		70-130	0		20
1,2-Dibromo-3-chloropropane	80		77		41-144	4		20
Isopropylbenzene	90		88		70-130	2		20
1,2,3-Trichlorobenzene	96		93		70-130	3		20

## Lab Control Sample Analysis

Batch Quality Control

Project Name: 115-121 W THIRD ST&amp;200-210 W.S

Lab Number: L1738251

Project Number: 2172285

Report Date: 10/31/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1056460-3 WG1056460-4								
1,2,4-Trichlorobenzene	89		87		70-130	2		20
Methyl Acetate	98		100		70-130	2		20
Cyclohexane	95		92		70-130	3		20
1,4-Dioxane	100		98		56-162	2		20
Freon-113	87		84		70-130	4		20
Methyl cyclohexane	92		89		70-130	3		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	115		117		70-130
Toluene-d8	100		99		70-130
4-Bromofluorobenzene	100		99		70-130
Dibromofluoromethane	101		101		70-130

## Lab Control Sample Analysis

Batch Quality Control

Project Name: 115-121 W THIRD ST&amp;200-210 W.S

Lab Number: L1738251

Project Number: 2172285

Report Date: 10/31/17

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1056605-3 WG1056605-4								
Methylene chloride	95		86		70-130	10		20
1,1-Dichloroethane	100		92		70-130	8		20
Chloroform	100		93		70-130	7		20
Carbon tetrachloride	94		87		63-132	8		20
1,2-Dichloropropane	110		97		70-130	13		20
Dibromochloromethane	98		88		63-130	11		20
1,1,2-Trichloroethane	100		95		70-130	5		20
Tetrachloroethene	97		88		70-130	10		20
Chlorobenzene	100		92		75-130	8		20
Trichlorofluoromethane	89		84		62-150	6		20
1,2-Dichloroethane	120		100		70-130	18		20
1,1,1-Trichloroethane	98		90		67-130	9		20
Bromodichloromethane	100		95		67-130	5		20
trans-1,3-Dichloropropene	100		88		70-130	13		20
cis-1,3-Dichloropropene	100		94		70-130	6		20
Bromoform	97		89		54-136	9		20
1,1,2,2-Tetrachloroethane	100		94		67-130	6		20
Benzene	98		90		70-130	9		20
Toluene	99		88		70-130	12		20
Ethylbenzene	100		93		70-130	7		20
Chloromethane	78		72		64-130	8		20
Bromomethane	75		70		39-139	7		20
Vinyl chloride	80		74		55-140	8		20

Lab Control Sample Analysis  
Batch Quality Control

Project Name: 115-121 W THIRD ST&200-210 W.S  
Project Number: 2172285

Lab Number: L1738251  
Report Date: 10/31/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1056605-3 WG1056605-4								
Chloroethane	97		90		55-138	7		20
1,1-Dichloroethene	88		83		61-145	6		20
trans-1,2-Dichloroethene	93		86		70-130	8		20
Trichloroethene	100		91		70-130	9		20
1,2-Dichlorobenzene	100		92		70-130	8		20
1,3-Dichlorobenzene	100		93		70-130	7		20
1,4-Dichlorobenzene	100		92		70-130	8		20
Methyl tert butyl ether	100		92		63-130	8		20
p/m-Xylene	105		95		70-130	10		20
o-Xylene	110		95		70-130	15		20
cis-1,2-Dichloroethene	96		88		70-130	9		20
Styrene	105		95		70-130	10		20
Dichlorodifluoromethane	67		62		36-147	8		20
Acetone	100		89		58-148	12		20
Carbon disulfide	80		74		51-130	8		20
2-Butanone	95		94		63-138	1		20
4-Methyl-2-pentanone	110		96		59-130	14		20
2-Hexanone	110		98		57-130	12		20
Bromochloromethane	100		94		70-130	6		20
1,2-Dibromoethane	100		91		70-130	9		20
1,2-Dibromo-3-chloropropane	94		84		41-144	11		20
Isopropylbenzene	100		92		70-130	8		20
1,2,3-Trichlorobenzene	110		100		70-130	10		20





Lab Control Sample Analysis  
Batch Quality Control

Project Name: 115-121 W THIRD ST&200-210 W.S  
Project Number: 2172285

Lab Number: L1738251  
Report Date: 10/31/17

Parameter	LCS		LCSD		%Recovery		RPD	
	%Recovery	Qual	%Recovery	Qual	Limits		Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1056605-3 WG1056605-4								
1,2,4-Trichlorobenzene	100		94		70-130		6	20
Methyl Acetate	110		99		70-130		11	20
Cyclohexane	100		95		70-130		5	20
1,4-Dioxane	92		100		56-162		8	20
Freon-113	92		85		70-130		8	20
Methyl cyclohexane	100		93		70-130		7	20

Surrogate	LCS		LCSD		Acceptance	
	%Recovery	Qual	%Recovery	Qual	Criteria	
1,2-Dichloroethane-d4	110		116		70-130	
Toluene-d8	99		99		70-130	
4-Bromofluorobenzene	97		98		70-130	
Dibromofluoromethane	100		102		70-130	



Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information  
Cooler A  
Custody Seal Absent

Container Information			Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
Container ID	Container Type									
L1738251-01A	Vial HCl preserved		A	NA		4.3	Y	Absent		NYTCL-8260(14)
L1738251-01B	Vial HCl preserved		A	NA		4.3	Y	Absent		NYTCL-8260(14)
L1738251-01C	Vial HCl preserved		A	NA		4.3	Y	Absent		NYTCL-8260(14)
L1738251-02A	Vial HCl preserved		A	NA		4.3	Y	Absent		NYTCL-8260(14)
L1738251-02B	Vial HCl preserved		A	NA		4.3	Y	Absent		NYTCL-8260(14)
L1738251-02C	Vial HCl preserved		A	NA		4.3	Y	Absent		NYTCL-8260(14)
L1738251-03A	Vial HCl preserved		A	NA		4.3	Y	Absent		ARCHIVE0
L1738251-03B	Vial HCl preserved		A	NA		4.3	Y	Absent		ARCHIVE0

Project Name: 115-121 W THIRD ST&200-210 W.S  
Project Number: 2172285

Lab Number: L1738251  
Report Date: 10/31/17

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

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

### Terms

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

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

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

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

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

### 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

Report Format: DU Report with 'J' Qualifiers



**Project Name:** 115-121 W THIRD ST&200-210 W.S  
**Project Number:** 2172285

**Lab Number:** L1738251  
**Report Date:** 10/31/17

#### Data Qualifiers

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

- C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I - The lower value for the two columns has been reported due to obvious interference.
- M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R - Analytical results are from sample re-analysis.
- RE - Analytical results are from sample re-extraction.
- S - Analytical results are from modified screening analysis.
- J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



**Project Name:** 115-121 W THIRD ST&200-210 W.S  
**Project Number:** 2172285

**Lab Number:** L1738251  
**Report Date:** 10/31/17

## REFERENCES

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

## LIMITATION OF LIABILITIES

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

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



**Alpha Analytical, Inc.**

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

**Certification Information**

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

**Westborough Facility****EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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





February 9, 2018

Mr. Gregory Linquist  
GPatti Enterprises, LLC  
115 Livingston Avenue  
Jamestown, New York 14701

Re: Supplemental Soil Investigation  
Jamestown Brewery  
115-121 West 3<sup>rd</sup> Street and 200-210 Washington Street  
Jamestown, New York

Dear Mr. Linquist:

LaBella Associates, D.P.C (LaBella) conducted supplementary soil investigations at the Site (Figure 1) on December 22, 2017 and January 11 and 12, 2018 to further evaluate the subsurface conditions at the Site. LaBella's scope of work included advancement of seven hand-auger soil borings up to five feet below the ground surface (ft bgs) and 20 direct-push soil borings to depths of between 12 and 24 ft bgs on the southern portion of the Site and east of the Site Building in the asphalt-paved parking areas. Figures 2 depicts the locations of the aforementioned borings including previously-advanced borings at the Site associated with this overall investigation.

Non-native materials at the Site consisted of asphalt followed by a gravel sub-base and a gravelly fill material including brick throughout various depths within the borings advanced. Native soils at the Site mainly consisted of brown and gray clayey silts. Saturated conditions were encountered in SB-21-SB-24, SB-30, SB-32 and SB-33 at depths ranging between 8 and 20 ft bgs. Field evidence of impairment in the form of petroleum-type odors and elevated photoionization readings were identified in SB-21, SB-22 and SB-30-SB-33 at depths ranging between 11 and 20 ft bgs. A copy of the field boring logs is included in Appendix 1.

Laboratory soil analytical results do not suggest the presence of semi-volatile organic compounds or metals in the Site subsurface soils. One volatile organic compound (m/p-Xylenes) was identified at a concentration of 270 micrograms per kilogram (ug/kg) in SB-23 only slightly exceeding the NYSDEC Commissioner Policy (CP)-51 Soil Cleanup Guidance of 260 ug/kg. Tetrachloroethene (PCE) was identified at a concentration of 240,000 ug/kg in SB-30 exceeding the NYSDEC Part 375 Commercial Use Soil Cleanup Objective (SCO) of 150,000 ug/kg. It should also be noted that while below NYSDEC Part 375 Commercial Use SCO, a PCE concentration of 120,000 ug/kg was identified in SB-23. A summary of the laboratory soil analytical results is included in Table 1 and copies of the laboratory analytical reports are included in Appendix 2.

We appreciate the opportunity to serve your professional environmental engineering needs. If you have any questions please do not hesitate to contact me at (716) 840-2548.

Respectfully submitted,

LABELLA ASSOCIATES, D.P.C.

A handwritten signature in black ink, appearing to read 'Adam Zebrowski'.

Adam Zebrowski  
Project Manager  
Environmental Professional

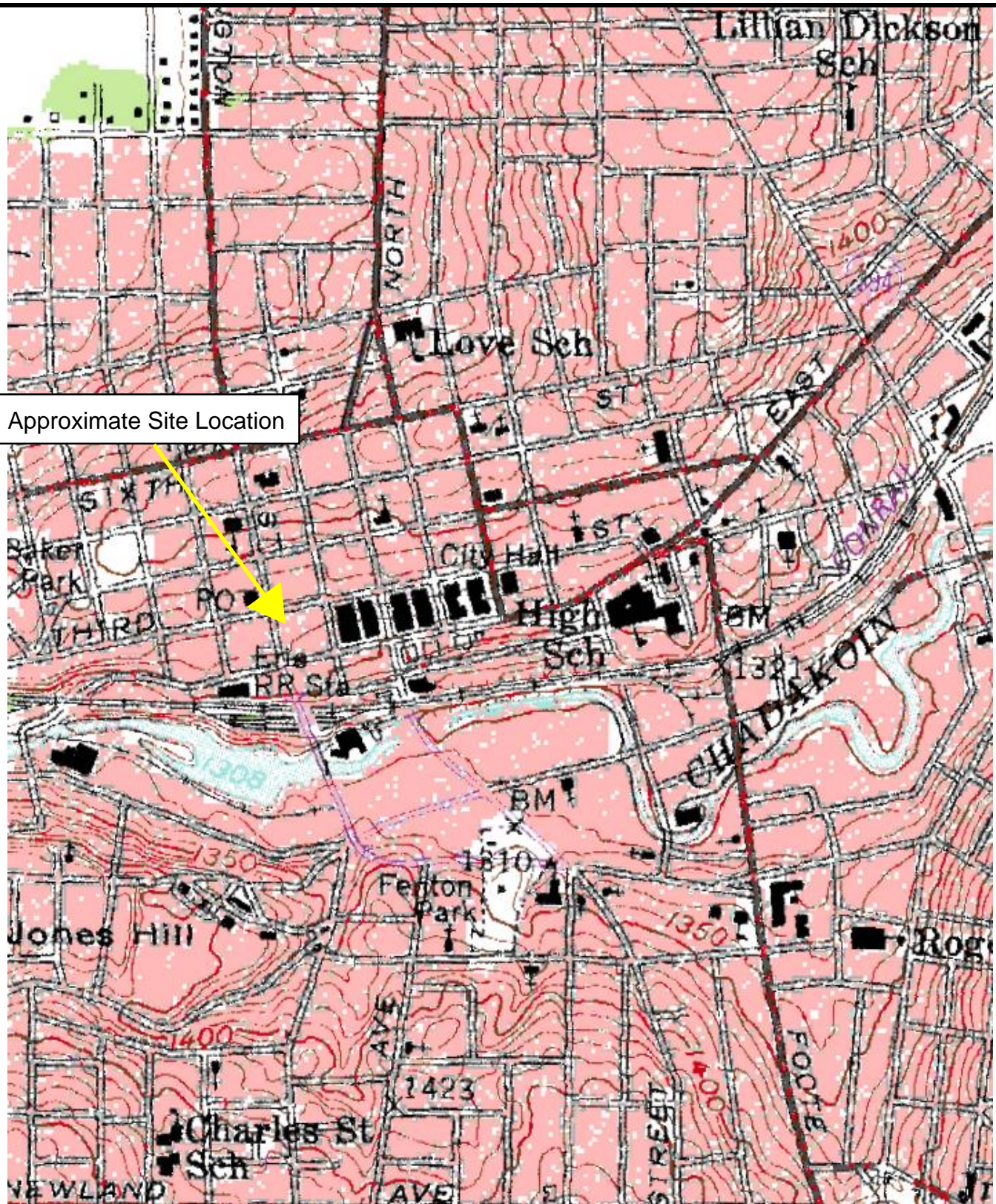
A handwritten signature in black ink, appearing to read 'Chris Kibler'.

Chris Kibler  
Senior Environmental Analyst  
Environmental Professional

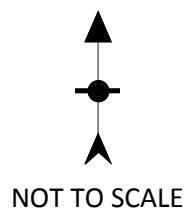


## FIGURES





Approximate Site Location

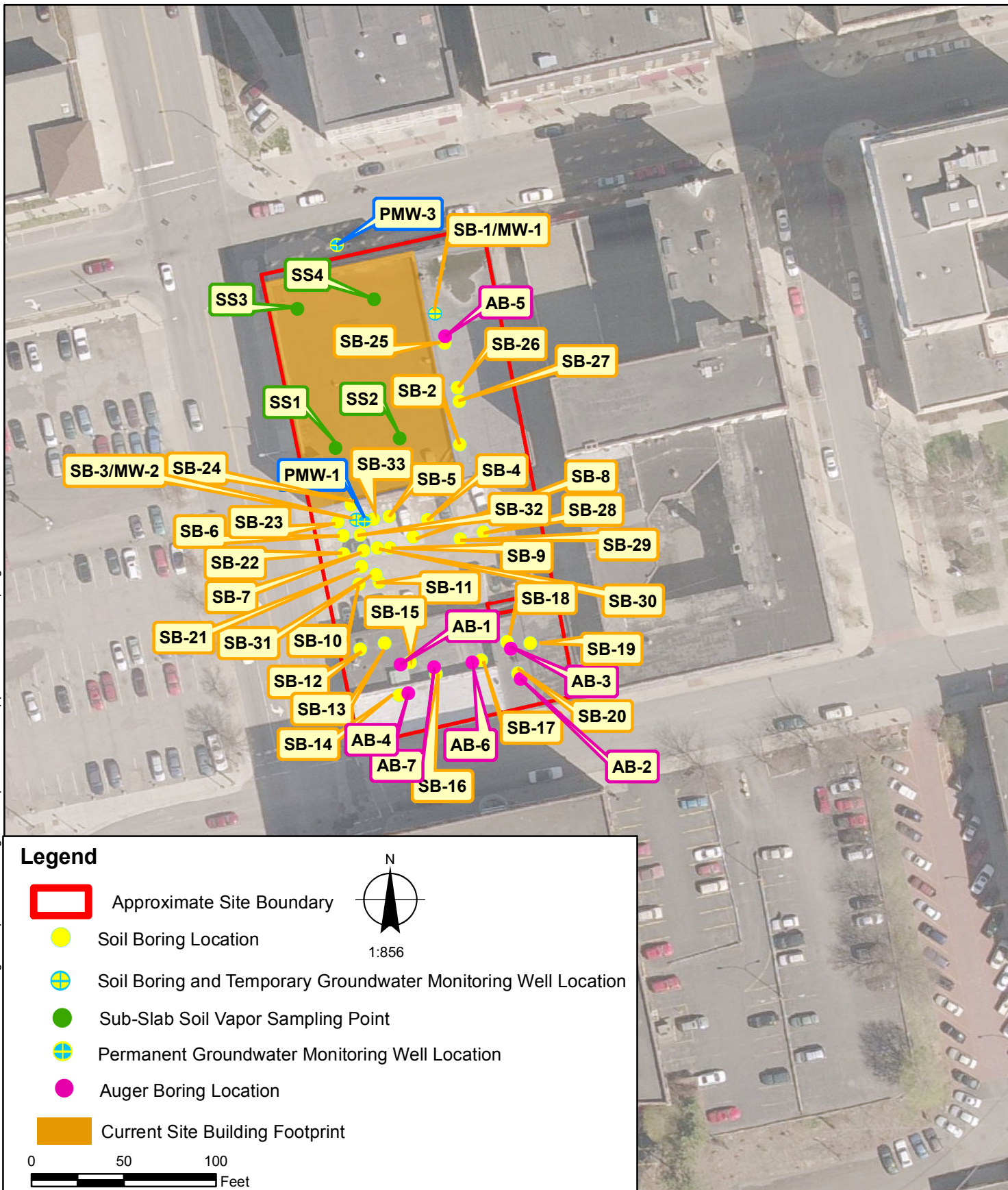


**FIGURE 1**  
**SITE LOCATION MAP**

Jamestown Brewery  
115-121 West Third Street and 200-210 Washington Street  
Jamestown, New York

**LABELLA**





PROJECT/DRAWING NUMBER

[ ] [ ]

[ ] [ ]

DRAWING TITLE

**SUPPLEMENTAL SOIL SAMPLING LOCATIONS**

ISSUED FOR

REVIEW

DESIGNED BY: SND

DRAWN BY: SND

DATE: JANUARY 2018

REVIEWED BY: CK

PROJECT/CLIENT

**Supplemental Soil Investigation**

**JAMESTOWN BREWERY**

**115-121 WEST THIRD STREET**

**& 200-210 WASHINGTON STREET**

**JAMESTOWN, NEW YORK**

**ABELLA**

Associates, D.P.C.

300 PEARL STREET  
BUFFALO, NY 14202  
P: (716) 551-6281  
F: (716) 551-6282

www.labellapc.com

COPYRIGHT 2003

# TABLES

Table 1  
115-121 West Third Street and 200-210 Washington Street  
Jamestown, New York  
Supplemental Soil Investigation  
Summary of Subsurface Soil Analytical Results

Sample ID	AB-1	AB-2	AB-4	AB-5	AB-7	SB-16	SB-17	SB-18	SB-19	SB-20	SB-21	SB-22	SB-23	SB-26	SB-28	SB-29	SB-30	CP-51 SCG	Part 375 Commercial Use SCOs
Depth (ft bgs)	0.25-0.5	1-2	0.25-0.5	1-2	0.25-0.5	2-5	2-5	1-4	2-5	1-4	14-15	15-16	15-16	0.5-2	0.5-2	3-5	14-15		
Sample Date	12/22/2017	12/22/2017	12/22/2017	12/22/2017	12/22/2017	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/11/2018	1/12/2018	1/12/2018	1/12/2018	1/12/2018		
Volatile Organic Compounds (µg/kg)																			
Acetone	NA	NA	NA	NA	NA	<	<	<	<	<	<	<	<	<	<	<	<	NL	500,000
Benzene	NA	NA	NA	NA	NA	<	<	<	<	<	<	<	<	<	<	<	<	60	44,000
Bromethane	NA	NA	NA	NA	NA	<	<	<	<	<	<	<	<	<	<	<	<	NL	NL
Cyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.2 J	420 J	17,000	NA	NA	NA	810 J	NL	NL
cis-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.72	<	<	NA	NA	NA	<	NL	500,000
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7	<	<	NA	NA	NA	<	NL	500,000
Ethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.9	<	<	NA	NA	NA	<	1,000	390,000
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.41 J	26 J	1,100	NA	NA	NA	<	2,300	NL
Methylcyclohexane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	1,900	58,000	NA	NA	NA	5,100 J	NL	NL
Methylene chloride	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<	130 J	2,900 J	NA	NA	NA	6,700 J	NL	500,000
Methyl ethyl ketone (2-Butanone)	NA	NA	NA	NA	NA	<	<	<	<	<	<	<	<	<	<	<	<	NL	500,000
Methyl-tert-butyl-ether	NA	NA	NA	NA	NA	<	<	<	<	<	<	<	<	<	<	<	<	930	500,000
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	550 E	710	120,000	NA	NA	NA	240,000	NL	150,000
Toluene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.51	<	<	NA	NA	NA	<	700	500,000
Trichloroethene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	<	<	NA	NA	NA	<	NL	200,000
m/p - Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.2	<	270 J	NA	NA	NA	<	260*	500,000*
o - Xylenes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.5	<	<	NA	NA	NA	<	260*	500,000*
Semi-Volatile Organic Compounds (µg/kg)																			
Acenaphthene	<	33 J	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	20,000	500,000
Anthracene	<	150	35 J	<	<	<	<	<	<	<	<	<	<	<	<	<	<	100,000	500,000
Benzo(a)anthracene	99 J	360	120	<	130	<	<	<	<	79 J	<	<	<	<	<	<	<	1,000	5,600
Benzo(b)fluoranthene	150	410	140	<	190	<	<	<	<	110 J	<	<	<	42 J	<	<	<	1,000	5,600
Benzo(k)fluoranthene	49 J	140	50 J	<	58 J	<	<	<	<	<	<	<	<	<	<	<	<	800	56,000
Benzo(g,h,i)perylene	89 J	200	84 J	<	150	<	<	<	<	100 J	<	<	<	150	<	<	<	100,000	500,000
Benzo(a)pyrene	100 J	290	110 J	<	160	<	<	<	<	<	<	<	<	<	<	<	<	1,000	1,000
Biphenyl	<	<	<	<	<	<	<	<	<	<	54 J	<	<	<	<	<	250 J	NL	NL
Chrysene	130	360	120	<	130	<	<	40 J	<	92 J	<	<	<	39 J	<	<	<	1,000	56,000
Dibenzo(a,h)anthracene	<	55 J	21 J	<	33 J	<	<	<	<	<	<	<	<	<	<	<	<	330	560
Fluoranthene	270	940	240	<	210	<	<	58 J	<	180 J	<	<	<	<	<	<	<	100,000	500,000
Fluorene	<	48 J	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	30,000	500,000
Indeno(1,2,3-cd)pyrene	86 J	220	88 J	<	140 J	<	<	<	<	60 J	<	<	<	34 J	<	<	<	500	5,600
Naphthalene	<	24 J	<	<	<	<	<	<	<	<	1,600	120 J	<	<	<	<	1,100	12,000	500,000
Phenanthrene	130	760	140	<	81 J	<	<	<	<	130 J	<	<	<	<	<	<	<	100,000	500,000
Pyrene	220	720	200	<	200	<	<	46 J	<	150 J	<	<	<	<	<	<	<	100,000	500,000
2-Methylnaphthalene	<	<	<	<	<	<	<	<	<	<	1,700	160 J	900	<	<	<	3,500	NL	NL
Metals (mg/kg)																			
Arsenic	8.59	7.99	7.36	7.58	6.9	8.48	11.8	9.12	9.9	10	NA	NA	NA	7.75	8.31	12.6	NA	NL	16
Barium	73.2	83.6	69.1	36.5	81.1	64.2	79.5	99.5	93.4	73.6	NA	NA	NA	38.8	118	25.5	NA	NL	400
Cadmium	0.1 J	0.162 J	0.073 J	0.06 J	0.101 J	0.639	1.05	0.757	0.962	0.796	NA	NA	NA	0.622	0.584	0.687	NA	NL	9.3
Chromium	9.51	8.81	7.68	7.85	9.11	7.91	16.3	11.4	14.6	8.15	NA	NA	NA	7.56	9.96	8.97	NA	NL	400/1,500**
Lead	74.7	267	18	10.6	20.7	36	7.12	13.8	7.52	134	NA	NA	NA	10	114	12.2	NA	NL	1,000
Mercury	0.29	0.48	0.07	0.01 J	0.04 J	0.04 J	<	<	<	0.3	NA	NA	NA	<	0.45	0.04 J	NA	NL	2.8
Selenium	0.502 J	0.554 J	0.405 J	0.386 J	0.438 J	0.172 J	<	0.168	<	0.156 J	NA	NA	NA	<	0.579 J	0.167 J	NA	NL	1,500
Silver	<	<	<	<	<	0.172 J	<	0.168	<	0.156 J	NA	NA	NA	<	0.579 J	0.167 J	NA	NL	1,500

CP-51 SCG = New York State Department of Environmental Conservation (NYSDEC) Commissioner Policy, 51 (CP-51) Soil Cleanup Guidance (SCG) for Gasoline and Fuel Oil Contaminated Soils, Tables 2 and 3 (December 2010)

NYSDEC Part 375 Commercial Use Soil Cleanup Objectives (SCOs), Table 375-6.8(b) (December 2006)

Concentrations in gray exceed Part 375 Commercial Use SCOs

Concentrations in bold exceed CP-51 SCG

< = Not detected

NL = Not listed

NA = Not analyzed

ft bgs = Feet below the ground surface

µg/kg = Micrograms per kilogram

mg/kg = Milligrams per kilogram

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

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

\* = Guidance for total xylenes

\*\* = Chromium, hexavalent/Chromium, trivalent (The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.)

# APPENDIX 1

## Field Logs

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: AB-1  Sheet 1 of <b>JOB: 2180345</b> Checked by:	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: LaBella Envir. LLc						TIME: 9:30 to
DRILLER:						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 12/22/17		END DATE: 12/22/17		
TYPE OF DRILL RIG:			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0.25-0.5		6	0.3		No odors or staining	0-0.25 asphalt
						0.25-0.5 brown clay silt mixed with gravel (m,m)
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>				TEST BORING LOG			BORING: AB-2  Sheet 1 of <b>JOB: 2180345</b> Checked by:	
				Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: LaBella Envir. LLc						TIME: 10:15 to		
DRILLER:						DATUM:		
LABELLA REPRESENTATIVE: S. Dalton						START DATE: 12/22/17    END DATE: 12/22/17		
TYPE OF DRILL RIG:						DRIVE SAMPLER TYPE:		
AUGER SIZE AND TYPE:						INSIDE DIAMETER: ~		
OVERBURDEN SAMPLING METHOD: Direct Push						OTHER:		
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION		
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE				
0.25-1		12	0		No odors or staining	0-0.25 asphalt		
1-2		12	0		No odors or staining	0.25-1 light brown sandy silt mixed with gravel (m,m)		
						1-1.5 brown sandy silt mixed with gravel (m,m)		
						1.5-2 brown gray clay silt mixed with gravel (m,m)		
GROUNDWATER ENCOUNTERED					NOTES:			
DATE	DEPTH	WELL INSTALLED	WELL ID					




<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: AB-3  Sheet 1 of <b>JOB: 2180345</b> Checked by:	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: LaBella Envir. LLc						TIME: 11:00 to
DRILLER:						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 12/22/17		END DATE: 12/22/17		
TYPE OF DRILL RIG:			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0.25-1		6	0		No odors or staining	0-0.25 asphalt
						0.25-1 brown clay silt mixed with gravel (m,m)
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>					TEST BORING LOG		BORING: AB-4  Sheet 1 of 1 <b>JOB:</b> 2180345 Checked by: CK	
					Phase II ESA			
115-121 West Third Street and 200-210 Washington Street, Jamestown, New York								
CONTRACTOR: LaBella Envir. LLc						TIME: 11:20 to		
DRILLER:						DATUM:		
LABELLA REPRESENTATIVE: S. Dalton						START DATE: 12/22/17      END DATE: 12/22/17		
TYPE OF DRILL RIG:					DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:					INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push					OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION		
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE				
0.25-0.5		6	0		No odors or staining	0-0.25 asphalt		
						0.25-0.5 brown clay silt mixed with gravel (m,m)		
GROUNDWATER ENCOUNTERED					NOTES:			
DATE	DEPTH	WELL INSTALLED	WELL ID					


<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: AB-5  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: LaBella Envir. LLc						TIME: 12:00 to
DRILLER:						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 12/22/17		END DATE: 12/22/17		
TYPE OF DRILL RIG:			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0.25-1		12	0		No odors or staining	0-0.25 asphalt  0.25-2 brown sandy silt (m,m)
1-2		12	0		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: AB-6  Sheet 1 of <b>JOB:</b> 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: LaBella Envir. LLc						TIME: 13:10 to
DRILLER:						DATUM:
LABELLA REPRESENTATIVE: S. Dalton						START DATE: 12/22/17
						END DATE: 12/22/17
TYPE OF DRILL RIG:				DRIVE SAMPLER TYPE:		
AUGER SIZE AND TYPE:				INSIDE DIAMETER: ~		
OVERBURDEN SAMPLING METHOD: Direct Push				OTHER:		
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0.25-0.5		6	0		No odors or staining	0-0.25 asphalt
						0.25-2 brown clay silt (m,w)
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: AB-7  Sheet 1 of 1 <b>JOB:</b> 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: LaBella Envir. LLc						TIME: 13:50 to
DRILLER:						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 12/22/17		END DATE: 12/22/17		
TYPE OF DRILL RIG:			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0.25-0.5		6	0		No odors or staining	0-0.25 asphalt
						0.25-0.5 brown clay silt (m,w)
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <div> Engineering Architecture Environmental Planning </div> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-14</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. DRILLER: Art Koske LABELLA REPRESENTATIVE: S. Dalton      START DATE: 1/11/18      END DATE:				
TYPE OF DRILL RIG: AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push			DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	0			0.5-1 brown sandy silt (m,m)
1-1.5		6	0			1-3 brown sandy silt mixed with gravel (m,m)
1.5-2		6	0			3-4 dark brown sandy silt mixed with gravel (m,m)
2-2.5		6	0			4-6 brown sandy silt mixed with gravel (m,m)
2.5-3		6	0			6-7 brown sandy silt mixed with red brick (m,m)
3-3.5		6	0			7-8 gray brown clay silt mixed with gravel (m,m)
3.5-4		6	0			8-10 dark brown clay silt mixed with gravel (m,m)
4-5		6	0			10-12 brown clay silt mixed with gravel (m,m)
5-6		6	0			
6-7		6	0			
7-8		6	0			
8-9		5	0			
9-10		5	0			
10-11		5	0			
11-12		5	0			
12-13		5	0			
13-14		5	0			
14-15		5	0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 1-4 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div>LABELLA</div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-14  Sheet 2 of 2 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 9:00 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
15-16		6	0.4		No odors or staining	12-13 brown silt mixed with gravel (m,m)
16-16.5		6	1.2			13-16 red brown clay silt mixed with gravel (m,m)
16.5-17		6	1.0			16-20 light brown sandy silt mixed with gravel (m,m)
17-17.5		6	1.0			
17.5-18		6	0.5			
18-18.5		6	0.7			
18.5-19		6	0.3			
19-19.5		6	0.2			
19.5-20		6	0.1			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 1-4 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <b>Engineering Architecture Environmental Planning</b> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-15</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. <span style="float: right;">TIME: 9:30 to</span> DRILLER: Art Koske <span style="float: right;">DATUM:</span> LABELLA REPRESENTATIVE: S. Dalton <span style="float: right;">START DATE: 1/11/18</span> <span style="float: right;">END DATE:</span>				
TYPE OF DRILL RIG: 6620 DT		DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:		INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	0.1			0.5-1 gray clay silt mixed with gravel (m,m)
1-1.5		6	0			1-3 brown clay silt mixed with gravel (m,m)
1.5-2		6	0			3-4 brown silt clay (m,m,m)
2-2.5		6	0			4-5 light brown clay (l,s,m)
2.5-3		6	0			5-6 asphalt mixed with light brown clay (l,s,m)
3-3.5		6	0			6-10 light brown clay (l,s,m)
3.5-4		6	0			10-12 dark brown clay mixed with gravel (l,s,m)
4-4.5		6	0			
4.5-5		6	0			
5-5.5		6	0			
5.5-6		6	0			
6-6.5		7	0			
6.5-7		7	0.1			
7-7.5		7	0.2			
7.5-8		7	0			
8-9		7	0			
9-10		7	0			
10-11		7	0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 1-4 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			



<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-15  Sheet 2 of 2 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 9:30 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
11-12		7	0		No odors or staining	12-14 brown gray silt clay mixed with gravel (m,m,m)
12-13		7	0			14-16 brown orange silty clay (m,m,m)
13-14		7	0			
14-15		7	0			
15-16		7	0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 1-4 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <b>Engineering Architecture Environmental Planning</b> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-16</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. <span style="float: right;">TIME: 10:00 to</span> DRILLER: Art Koske <span style="float: right;">DATUM:</span> LABELLA REPRESENTATIVE: S. Dalton <span style="margin-left: 50px;">START DATE: 1/11/18</span> <span style="margin-left: 50px;">END DATE:</span>				
TYPE OF DRILL RIG: 6620 DT		DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:		INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	0.1			0.5-1 brown clay silt with gravel (m,m)
1-1.5		6	0.2			1-2 white brown clay silt mixed with gravel(m,m)
1.5-2		6	0			2-3 gray brown clay silt mixed with gravel (m,m)
2-2.5		6	0			3-4 brown orange clay silt mixed with gravel (m,m)
2.5-3		6	0.1			4-9 brown clay (l,s,m)
3-3.5		6	0.1			9-10 gray clay (l,s,m)
3.5-4		6	0.2			10-11 brown clay (l,s,m)
4-4.5		6	0.6			11-12 brown silty clay (m,m)
4.5-5		6	0.9			
5-5.5		6	1.2			
5.5-6		6	1.1			
6-6.5		6	1.2			
6.5-7		6	0.5			
7-7.5		6	0.6			
7.5-8		6	0.9			
8-9		6	0.5			
9-10		6	0.6			
10-11		6	0.4			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 2-5 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div>LABELLA</div><div>Associates</div></div> <div>Engineering Architecture Environmental Planning</div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-16  Sheet 2 of 2 JOB: 2180345 Checked by: CK		
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York					
CONTRACTOR: SJB Services, Inc.						TIME: 10:00 to	
DRILLER: Art Koske						DATUM:	
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:			
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION	
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE			
11-12		6	0.3		No odors or staining	12-16 brown clay (l,s,m)	
12-13		6	0.2				
13-14		6	0.5				
14-15		6	0.5				
15-16		6	0.2				
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 2-5 feet		
DATE	DEPTH	WELL INSTALLED	WELL ID				

 <div> Engineering Architecture Environmental Planning </div> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-17</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. DRILLER: Art Koske LABELLA REPRESENTATIVE: S. Dalton      START DATE: 1/11/18      END DATE:				
TYPE OF DRILL RIG: 6620 DT AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push					DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:	
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	0.9			0.5-1 brown sandy silt (m,m)
1-1.5		6	0.9			1-2 light brown silt mixed with gravel (m,m)
1.5-2		6	0.8			2-4 brown clay mixed with gravel (l,s,m)
2-2.5		6	1.0			4-6 brown clay mixed with gravel (l,s,m)
2.5-3		6	0.5			6-8 brown clay silt mixed with gravel (m,m)
3-3.5		6	0.2			8-10 brown gray silty clay mixed with gravel (l,s,m)
3.5-4		6	0.3			10-11 brown silty clay mixed with gravel (l,s,m)
4-5		7	0.1			11-12 brown sandy silt (m,m)
5-6		7	0.2			
6-7		7	0			
7-8		7	0			
8-9		6	0.6			
9-10		6	0.1			
10-11		6	0			
11-12		6	1.1			
12-13		6	0.6			
13-14		6	1.2			
14-15		6	0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 2-5 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			


<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-17  Sheet 2 of 2 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 10:30 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
15-16		6	0		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 2-5 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-18  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA				
115-121 West Third Street and 200-210 Washington Street, Jamestown, New York						
CONTRACTOR: SJB Services, Inc. DRILLER: Art Koske LABELLA REPRESENTATIVE: S. Dalton					TIME: 11:00 to DATUM:	
START DATE: 1/11/18			END DATE:			
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	0.9			0.5-1.5 dark brown sandy silt mixed with gravel (m,m)
1-1.5		6	1.1			1.5-2 brown sandy silt mixed with gravel (m,m)
1.5-2		6	0			2-2.5 white gray sandy silt mixed with gravel (m,m)
2-2.5		6	0			2.5-4 brown sandy silt mixed with gravel (m,m)
2.5-3		6	0			4-12 no recovery
3-3.5		6	0			
3.5-4		6	0			
4-12		0	--			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 1-4 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <div> Engineering Architecture Environmental Planning </div> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-19</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. DRILLER: Art Koske LABELLA REPRESENTATIVE: S. Dalton      START DATE: 1/11/18      END DATE:				
TYPE OF DRILL RIG: 6620 DT AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push					DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:	
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	0.9			0.5-2.5 brown orange sandy silt mixed with gravel (m,m)
1-1.5		6	0.5			2.5-3 light brown silt mixed with gravel (m,m)
1.5-2		6	0.1			3-4 gray brown clay silt mixed with gravel (m,m)
2-2.5		6	0.1			4-5 brown gray clay silt mixed with gravel (m,m)
2.5-3		6	0			5-7 brown sandy silt (m,m)
3-3.5		6	0			7-8 brown clay mixed with gravel (l,s,m)
3.5-4		6	0			8-10 brown clay silt (m,m)
4-5		7	0.3			10-12 brown gray clay silt (m,m)
5-6		7	0.4			12-16 brown clay silt mixed with gravel (m,m)
6-7		7	0.4			
7-8		7	0.4			
8-9		6	1.3			
9-10		6	0.5			
10-11		6	0.1			
11-12		6	0.1			
12-13		7	0			
13-14		7	0			
14-15		7	0.3			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 2-5 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div>LABELLA</div><div>Associates</div></div> <div>Engineering Architecture Environmental Planning</div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-19  Sheet 2 of 2 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 11:15 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
15-16		7	0		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 2-5 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			




 <b>Engineering Architecture Environmental Planning</b> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-20</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. <span style="float: right;">TIME: 11:40 to</span> DRILLER: Art Koske <span style="float: right;">DATUM:</span> LABELLA REPRESENTATIVE: S. Dalton <span style="float: right;">START DATE: 1/11/18</span> <span style="float: right;">END DATE:</span>				
TYPE OF DRILL RIG: 6620 DT		DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:		INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		5	--		No odors or staining	0-0.5 asphalt
0.5-1		5	0.5			0.5-2.5 brown yellow clay silt mixed with gravel (m,m)
1-1.5		5	0.1			2.5-3 light brown clay silt mixed with gravel (m,m)
1.5-2		5	0			3-3.5 red brick
2-2.5		5	0			3.5-4 brown clay silt (m,m)
2.5-3		5	0.2			4-6 brown gray clay (m,m,m)
3-3.5		4	--			6-8 light brown clay mixed with gravel (m,m)
3.5-4		5	0			8-10 brown clay silt (m,m)
4-5		7	0.6			10-12 light brown clay silt mixed with gravel (m,m)
5-6		7	0.1			12-14 dark brown clay silt mixed with gravel (m,m)
6-7		7	0.2			14-16 light brown clay silt mixed with gravel (m,m)
7-8		7	0			
8-9		6	0.6			
9-10		6	0			
10-11		6	0			
11-12		6	0			
12-13		7	0			
13-14		7	0			
14-15		7	0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 1-4 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			


<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-20  Sheet 2 of 2 <b>JOB:</b> 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 11:40 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
15-16		7	0		No odors or staining	
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 1-4 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <div> Engineering Architecture Environmental Planning </div> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-21</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. DRILLER: Art Koske LABELLA REPRESENTATIVE: S. Dalton      START DATE: 1/11/18      END DATE:				
TYPE OF DRILL RIG: 6620 DT AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push		DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	0.6			0.5-1 orange rock
1-1.5		6	0.3			1-2 light brown clay silt mixed with gravel (m,m)
1.5-2		6	0.6			2-4 white brown clay silt mixed with gravel (m,m)
2-2.5		6	0.9			4-10 light brown clay silt mixed with gravel (m,m)
2.5-3		6	0.9			10-12 brown sandy silt (m,m)
3-3.5		6	0.6			12-13 brown clay silt mixed with gravel (m,m)
3.5-4		6	0.7			13-16 gray silty clay (m,m,m)
4-5		6	0.5			
5-6		6	0.6			
6-7		6	0.5			
7-8		6	0.1			
8-9		6	0.7			
9-10		7	0.6			
10-11		7	0.9			
11-12		7	0.5			
12-13		5	1.5			
13-14		5	128.8			
14-15		5	1,193		Petroleum odor, no staining	
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 14-15 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-21  Sheet 2 of 2 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 12:15 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
15-16		5	373		Petroleum odor, no staining	16-20 brown silty clay mixed with gravel (m,w)  20-24 no recovery
16-18		5	39.7			
18-20		5	23.5		No odors or staining	
20-24		0	--			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 14-15 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

 <b>Engineering Architecture Environmental Planning</b> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-22</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. <span style="float: right;">TIME: 13:00 to</span> DRILLER: Art Koske <span style="float: right;">DATUM:</span> LABELLA REPRESENTATIVE: S. Dalton <span style="margin-left: 50px;">START DATE: 1/11/18</span> <span style="margin-left: 50px;">END DATE:</span>				
TYPE OF DRILL RIG: 6620 DT		DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:		INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		6	--		No odors or staining	0-0.5 asphalt
0.5-1		6	1.7			0.5-1.5 brown black clay mixed with gravel (l,s,m)
1-1.5		6	7.6			1.5-4 brown red clay (l,s,m)
1.5-2		6	3.3			4-5 brown orange clay (m,m,m)
2-2.5		6	8.6			5-6 light brown clay silt mixed with gravel (m,m)
2.5-3		6	7.6			6-8 brown silty clay mixed with gravel (m,m,m)
3-3.5		6	1.2			8-10 brown clay silt mixed with gravel (m,m)
3.5-4		6	1.5			10-11 gray silt clay mixed with gravel (m,m,m)
4-5		6	0.9			11-12 gray clay (l,s,m)
5-6		6	0.7			12-15 brown clay mixed with gravel (m,m,m)
6-7		6	0.3			
7-8		6	1.3			
8-9		6	1.3			
9-10		7	0.1			
10-11		7	0.4			
11-12		7	0.8			
12-13		5	1.1		Petroleum odor, no staining	
13-14		5	22.9			
14-15		5	2.5			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 15-16 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-22  Sheet 2 of 2 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 13:00 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
15-16		5	234.5		Petroleum odor, no staining	15-16 gray clay silt (m,m)
16-17		5	270			16-20 brown clay silt (m,w)
17-18		5	612			20-24 no recovery
18-19		5	12.2			
19-20		5	2			
20-24		0	--			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 15-16 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

 <b>Engineering Architecture Environmental Planning</b> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-23</b>  Sheet 1 of 1 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. <span style="float: right;">TIME: 13:40 to</span> DRILLER: Art Koske <span style="float: right;">DATUM:</span> LABELLA REPRESENTATIVE: S. Dalton <span style="margin-left: 50px;">START DATE: 1/11/18</span> <span style="margin-left: 50px;">END DATE:</span>				
TYPE OF DRILL RIG: 6620 DT		DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:		INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		3	--		No odors or staining	0-0.5 asphalt
0.5-1		3	0.8			0.5-2 gray clay silt mixed with gravel (m,m)
1-2		6	1.3			2-4 red orange clay (m,m,m)
2-3		6	1.6			4-11 brown silt clay mixed with gravel (m,m,m)
3-4		6	2.2			11-12 gray clay (l,s,m)
4-5		5	0.8			12-15 brown silt clay mixed with gravel (m,m,m)
5-6		5	1.0			15-16 gray silty clay (m,m,m)
6-7		5	0.9			
7-8		5	0.9			
8-9		7	0.5			
9-10		7	0.2			
10-11		7	0.7			
11-12		7	6			
12-13		7	0.1			
13-14		7	0.1			
14-15		7	6.5			
15-16		7	450			
16-20		2	0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 15-16 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

 <b>Engineering Architecture Environmental Planning</b> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-24</b>  Sheet 1 of 2 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. <span style="float: right;">TIME: 13:40 to</span> DRILLER: Art Koske <span style="float: right;">DATUM:</span> LABELLA REPRESENTATIVE: S. Dalton <span style="float: right;">START DATE: 1/11/18</span> <span style="float: right;">END DATE:</span>				
TYPE OF DRILL RIG: 6620 DT		DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:		INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		3	--		No odors or staining	0-0.5 asphalt
0.5-1		3	0.5			0.5-1 brown clay silt mixed with gravel (m,m)
1-2		6	1.0			1-2 dark brown gray clay mixed with gravel (m,m,m)
2-3		6	0.4			2-3 white brown clay silt mixed with gravel (m,m)
3-4		6	0.5			3-4 brown clay silt mixed with gravel (m,m)
4-5		5	0.7			4-5 dark brown clay silt mixed with gravel (m,m)
5-6		5	1.3			5-8 brown clay mixed with gravel (m,m,m)
6-7		5	0.8			8-10 dark gray silty clay (m,m,m)
7-8		5	1.4			10-11 dark gray silty clay mixed with gravel (m,m)
8-9		6	0.2			11-12 brown silty clay mixed with gravel (m,m,m)
9-10		6	12.9			12-16 brown silty clay (m,m,m)
10-11		6	11.6			
11-12		6	8.4			
12-13		7	2.2			
13-14		7	2.1			
14-15		7	2.7			
15-16		7	8.4			
16-17		2	0			
17-18		2	0			
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			



<div><div>LABELLA</div><div>Associates</div></div> <div>Engineering Architecture Environmental Planning</div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-24  Sheet 2 of 2 JOB: 2180345 Checked by: CK		
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York					
CONTRACTOR: SJB Services, Inc.						TIME: 13:40 to	
DRILLER: Art Koske						DATUM:	
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/11/18		END DATE:			
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION	
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE			
18-19			0		No odors or staining	16-20 gray silty clay (h,s,w)	
19-20			0				
GROUNDWATER ENCOUNTERED					NOTES:		
DATE	DEPTH	WELL INSTALLED	WELL ID				


<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-25  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 8:30 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/12/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		3.5	--		No odors or staining	0-0.5 asphalt
0.5-1		3.5	1.2			0.5-4 brown clay mixed with gravel (l,s,m)
1-2		7	1.8			4-6 brown clay silt mixed with gravel (m,m,m)
2-3		7	0.9			6-6.5 red brick
3-4		7	2.2			6.5-7 asphalt
4-5		7	0			7-8 light brown sandy silt mixed with gravel (m,m,m)
5-6		7	0			8-9 brown clay mixed with gravel (m,m,m)
6-7		7	--			9-12 orange brown clay mixed with gravel (m,m,m)
7-8		7	0.4			
8-9		5	1.4			
9-10		5	1.7			
10-11		5	0.6			
11-12		5	2.7			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 0.5-2 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-26  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 9:00 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/12/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		7	--		No odors or staining	0-0.5 asphalt
0.5-1		7	3.1			0.5-1 light brown gray sandy silt mixed with gravel (m,m)
1-2		7	0.6			1-4 brown silty clay mixed with gravel (l,s,m)
2-3		7	1.1			4-5.5 brown silty clay mixed with gravel (l,s,m)
3-4		7	2.2			5.5-6 red brick
4-5		10	0.7			
5-6		10	--			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 0.5-2 feet Refusal at 6 feet due to red brick	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-27  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 9:20 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/12/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		3.5	--		No odors or staining	0-0.5 asphalt
0.5-1		3.5	1.2			0.5-1 brown sandy silt mixed with gravel (m,m)
1-2		7	2.2			1-4 brown orange silty sand mixed with gravel (m,m)
2-3		7	0.6			6-7 asphalt and brick
3-4		7	1.9			7-8 brown orange clay silt mixed with gravel (m,m)
4-5		8	0.5			8-10 brown clay silt mixed with gravel (m,m)
5-6		8	2.8			10-11 brown gray clay (m,m,m)
6-7		8	--			11-12 dark brown black clay (m,m,m)
7-8		8	2.7			
8-9		6	1.9			
9-10		6	1.2			
10-11		6	2.1			
11-12		6	1.7			
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			


<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-28  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 9:50 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/12/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		4	--		No odors or staining	0-0.5 asphalt
0.5-1		4	4.1			0.5-1 gray silty clay mixed with gravel (m,m,m)
1-2		8	0.8			1-3 orange brown clay (l,s,m)
2-3		8	0.6			3-4 light brown clay silt mixed with gravel (m,m)
3-4		8	2.3			4-5 brown clay silt mixed with gravel (m,m)
4-5		6	3.3			5-7 brown silt mixed with gravel (m,m)
5-6		6	0			7-8 brown clay silt mixed with gravel (m,m)
6-7		6	0			8-10 brown clay silt (m,m)
7-8		6	0.9			10-12 gray sandy silt mixed with gravel (m,m)
8-9		8	0.1			
9-10		8	1.2			
10-11		8	0			
11-12		8	0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 0.5-2 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-29  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 10:20 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/12/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		4.5	--		No odors or staining	0-0.5 asphalt
0.5-1		4.5	2.1			0.5-1 brown clay silt (m,m)
1-2		9	0.9			1-2 orange brown clay (m,m,m)
2-3		9	4.2			2-3 brown clay silt mixed with gravel (m,m)
3-4		9	2.8			3-4 brown gray clay silt mixed with gravel (m,m)
4-5		8	3.98			4-8 light brown clay silt mixed with gravel (m,m)
5-6		8	3.1			8-10 brown clay silt mixed with gravel (m,m)
6-7		8	0.9			10-12 gray sandy silt mixed with gravel (m,m)
7-8		8	2.3			
8-9		7	2.9			
9-10		7	2.7			
10-11		7	2.3			
11-12		7	3.1			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 3-5 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			


 <div> Engineering Architecture Environmental Planning </div> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-30</b>  Sheet 1 of 1 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. DRILLER: Art Koske LABELLA REPRESENTATIVE: S. Dalton      START DATE: 1/12/18      END DATE:				
TYPE OF DRILL RIG: 6620 DT AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push		DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		4	--		No odors or staining	0-0.5 asphalt
0.5-1		4	2.3			0.5-1 brown gray clay silt (m,m)
1-2		8	3.6			1-2 brown orange clay (l,s,m)
2-3		8	1.3			2-5 light brown clay silt mixed with gravel (m,m)
3-4		8	2.5			5-6 white gray brown clay silt mixed with gravel (m,m)
4-5		9	1.9			6-9 light brown clay silt mixed with gravel (m,m)
5-6		9	2.5			9-10 brown clay silt (m,m)
6-7		9	0.6			10-14 brown clay silt mixed with gravel (m,m)
7-8		9	1.2			14-16 gray clay silt (m,w)
8-9		9	0.9			16-20 brown clay silt mixed with gravel (m,w)
9-10		9	3.4			
10-11		9	1.3			
11-12		9	35			
12-13		7	20.5		Petroleum odor, no staining	
13-14		7	4.1			
14-15		7	845			
15-16		7	30.1			
16-18		5	40.1		No odors or staining	
18-20		5	35.2			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 14-15 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-31  Sheet 1 of 1 JOB: 2180345 Checked by: CK	
		Phase II ESA				
115-121 West Third Street and 200-210 Washington Street, Jamestown, New York						
CONTRACTOR: SJB Services, Inc.					TIME: 11:30 to	
DRILLER: Art Koske					DATUM:	
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/12/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT					DRIVE SAMPLER TYPE:	
AUGER SIZE AND TYPE:					INSIDE DIAMETER: ~	
OVERBURDEN SAMPLING METHOD: Direct Push					OTHER:	
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		4	--		No odors or staining	0-0.5 asphalt
0.5-1		4	1.6			0.5-1 dark brown black clay silt mixed with gravel (m,m)
1-2		8	1.8			1-2 dark brown clay with orange streaks (m,m,m)
2-3		8	10.1			2-4 light brown clay silt mixed with gravel (m,m)
3-4		8	1.0			4-5 light brown clay silt mixed with gravel (m,m)
4-5		6	0.5			5-6 gray clay silt mixed with gravel (m,m)
5-6		6	0.7			6-12 brown clay silt mixed with gravel (m,m)
6-7		6	2.0			12-16 brown clay silt mixed with gravel (m,w)
7-8		6	2.3			
8-12		4	1.0			
12-13		6	1.2			
13-14		6	1.7			
14-15		6	8.0			Petroleum odor, no staining
15-16		6	35			
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			



 <b>Engineering Architecture Environmental Planning</b> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-32</b>  Sheet 1 of 1 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. <span style="float: right;">TIME: 12:00 to</span> DRILLER: Art Koske <span style="float: right;">DATUM:</span> LABELLA REPRESENTATIVE: S. Dalton <span style="float: right;">START DATE: 1/12/18</span> <span style="float: right;">END DATE:</span>				
TYPE OF DRILL RIG: 6620 DT		DRIVE SAMPLER TYPE:				
AUGER SIZE AND TYPE:		INSIDE DIAMETER: ~				
OVERBURDEN SAMPLING METHOD: Direct Push		OTHER:				
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		3	--		No odors or staining	0-0.5 asphalt
0.5-1		3	0.7			0.5-1 brown clay silt mixed with gravel (m,m)
1-2		6	0.6			1-2 dark brown sandy silt mixed with gravel (m,w)
2-3		6	1.3			2-5 brown clay silt mixed with gravel (m,m)
3-4		6	0.9			5-6 dark brown clay silt mixed with gravel (m,m)
4-5		7	0			6-15 brown clay silt mixed with gravel (m,m)
5-6		7	1.0			15-16 gray clay silt mixed with gravel (m,w)
6-7		7	1.2			16-20 brown clay silt mixed with gravel (m,w)
7-8		7	2.0			
8-9		7	0			
9-10		7	1.2			
10-11		7	0.2			
11-12		7	0.8			
12-13		7	1.0			
13-14		7	2.6			
14-15		7	7.5		Petroleum odor, no staining	
15-16		7	347		No odors or staining	
16-17		6	14.5			
17-18		6	12.0			
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			

<div><div><div>LABELLA</div><div>Associates</div></div><div>Engineering Architecture Environmental Planning</div></div> <div>300 Pearl Street, Suite 130</div>		TEST BORING LOG			BORING: SB-32  Sheet 2 of 2 JOB: 2180345 Checked by: CK	
		Phase II ESA  115-121 West Third Street and 200-210 Washington Street, Jamestown, New York				
CONTRACTOR: SJB Services, Inc.						TIME: 11:30 to
DRILLER: Art Koske						DATUM:
LABELLA REPRESENTATIVE: S. Dalton		START DATE: 1/12/18		END DATE:		
TYPE OF DRILL RIG: 6620 DT			DRIVE SAMPLER TYPE:			
AUGER SIZE AND TYPE:			INSIDE DIAMETER: ~			
OVERBURDEN SAMPLING METHOD: Direct Push			OTHER:			
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
18-19		6	22.4		Petroleum	18-20 brown silt mixed with gravel (m,w)
19-20		6	15.1		odor, no staining	
GROUNDWATER ENCOUNTERED					NOTES:	
DATE	DEPTH	WELL INSTALLED	WELL ID			

 <div> Engineering Architecture Environmental Planning </div> 300 Pearl Street, Suite 130		<b>TEST BORING LOG</b> Phase II ESA 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York			<b>BORING: SB-33</b>  Sheet 1 of 1 <b>JOB: 2180345</b> Checked by: CK	
		CONTRACTOR: SJB Services, Inc. DRILLER: Art Koske LABELLA REPRESENTATIVE: S. Dalton      START DATE: 1/12/18      END DATE:				
TYPE OF DRILL RIG: 6620 DT AUGER SIZE AND TYPE: OVERBURDEN SAMPLING METHOD: Direct Push					DRIVE SAMPLER TYPE: INSIDE DIAMETER: ~ OTHER:	
DEPTH (Feet)	BLOW COUNT	SAMPLE			REMARKS	VISUAL CLASSIFICATION
		SAMPLE RECOVERY (Inches)	PID FIELD SCREEN (Parts per million)	STRATA CHANGE		
0-0.5		4	--		No odors or staining	0-0.5 asphalt
0.5-1		4	0.6			0.5-2 brown clay silt mixed with gravel (m,m)
1-2		8	1.2			2-4 dark brown clay silt mixed with gravle (m,m)
2-3		8	1.1			4-5 dark brown clay silt (m,m)
3-4		8	1.6			5-8 brown orange clay silt mixed with gravel (m,m)
4-5		7	0.6			8-12 brown clay silt mixed with gravel (m,m)
5-6		7	1.7			12-18 brown clay silt mixed with gravel (m,w)
6-7		7	0			18-20 gray clay silt (m,w)
7-8		7	0			
8-9		7	0			
9-10		7	0			
10-11		7	8.8			
11-12		7	34.7		Petroleum odor, no staining	
12-16		4	3.5		No odors or staining	
16-17		4	0.4			
17-18		4	2.8			
18-19		4	8.2			
19-20		4	7.0			
GROUNDWATER ENCOUNTERED					NOTES: Sample collected at 11-12 feet	
DATE	DEPTH	WELL INSTALLED	WELL ID			

## APPENDIX 2

### Laboratory Reports



## ANALYTICAL REPORT

Lab Number:	L1747441
Client:	LaBella Associates, P.C. 300 Pearl Street Suite 252 Buffalo, NY 14202
ATTN:	Adam Zebrowski
Phone:	(716) 551-6281
Project Name:	115-121 W 3RD ST+200-210 W. ST
Project Number:	2180345
Report Date:	12/26/17

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

---

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



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1747441-01	AB-1 0.25-0.5 FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 09:30	12/22/17
L1747441-02	AB-2 0.25-1FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 10:15	12/22/17
L1747441-03	AB-2 1-2FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 10:15	12/22/17
L1747441-04	AB-3 0.25-0.5 FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 11:00	12/22/17
L1747441-05	AB-4 0.25-0.5 FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 11:20	12/22/17
L1747441-06	AB-5 0.25-1 FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 12:00	12/22/17
L1747441-07	AB-5 1-2 FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 12:00	12/22/17
L1747441-08	AB-6 0.25-0.5 FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 13:10	12/22/17
L1747441-09	AB-7 0.25-0.5 FT	SOIL	115-121 W 3RD ST. + 200-210 WASHINGTON ST.	12/22/17 13:50	12/22/17

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

### Case Narrative

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

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

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

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

#### HOLD POLICY

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

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

---

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**Case Narrative (continued)**

Report Submission

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

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

Authorized Signature:

 Melissa Cripps

Title: Technical Director/Representative

Date: 12/26/17



# ORGANICS

# SEMIVOLATILES

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1747441**Project Number:** 2180345**Report Date:** 12/26/17**SAMPLE RESULTS**

Lab ID: L1747441-01  
 Client ID: AB-1 0.25-0.5 FT  
 Sample Location: 115-121 W 3RD ST. + 200-210 WASHINGTON ST.

Date Collected: 12/22/17 09:30  
 Date Received: 12/22/17  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/23/17 02:48

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 12/23/17 16:52  
 Analyst: EK  
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Fluoranthene	270		ug/kg	110	21.	1
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	99	J	ug/kg	110	21.	1
Benzo(a)pyrene	100	J	ug/kg	150	45.	1
Benzo(b)fluoranthene	150		ug/kg	110	31.	1
Benzo(k)fluoranthene	49	J	ug/kg	110	30.	1
Chrysene	130		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	89	J	ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	130		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	86	J	ug/kg	150	26.	1
Pyrene	220		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	86		30-120
4-Terphenyl-d14	91		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1747441**Project Number:** 2180345**Report Date:** 12/26/17**SAMPLE RESULTS**

Lab ID: L1747441-03  
 Client ID: AB-2 1-2FT  
 Sample Location: 115-121 W 3RD ST. + 200-210 WASHINGTON ST.

Date Collected: 12/22/17 10:15

Date Received: 12/22/17

Field Prep: Not Specified

Extraction Method: EPA 3546

Extraction Date: 12/23/17 02:48

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 12/23/17 17:18  
 Analyst: EK  
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	33	J	ug/kg	150	19.	1
Fluoranthene	940		ug/kg	110	22.	1
Naphthalene	24	J	ug/kg	190	23.	1
Benzo(a)anthracene	360		ug/kg	110	21.	1
Benzo(a)pyrene	290		ug/kg	150	46.	1
Benzo(b)fluoranthene	410		ug/kg	110	32.	1
Benzo(k)fluoranthene	140		ug/kg	110	30.	1
Chrysene	360		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	150		ug/kg	110	37.	1
Benzo(ghi)perylene	200		ug/kg	150	22.	1
Fluorene	48	J	ug/kg	190	18.	1
Phenanthrene	760		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	55	J	ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	220		ug/kg	150	26.	1
Pyrene	720		ug/kg	110	19.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	98		30-120
4-Terphenyl-d14	104		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1747441**Project Number:** 2180345**Report Date:** 12/26/17**SAMPLE RESULTS**

Lab ID: L1747441-05  
 Client ID: AB-4 0.25-0.5 FT  
 Sample Location: 115-121 W 3RD ST. + 200-210 WASHINGTON ST.

Date Collected: 12/22/17 11:20  
 Date Received: 12/22/17  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 12/23/17 02:48

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 12/23/17 17:45  
 Analyst: EK  
 Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	18.	1
Fluoranthene	240		ug/kg	110	20.	1
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	120		ug/kg	110	20.	1
Benzo(a)pyrene	110	J	ug/kg	140	44.	1
Benzo(b)fluoranthene	140		ug/kg	110	30.	1
Benzo(k)fluoranthene	50	J	ug/kg	110	28.	1
Chrysene	120		ug/kg	110	18.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	35	J	ug/kg	110	35.	1
Benzo(ghi)perylene	84	J	ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	1
Phenanthrene	140		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	21	J	ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	88	J	ug/kg	140	25.	1
Pyrene	200		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	96		23-120
2-Fluorobiphenyl	100		30-120
4-Terphenyl-d14	87		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-07  
**Client ID:** AB-5 1-2 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WASHINGTON ST.

**Date Collected:** 12/22/17 12:00  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 12/23/17 02:48

**Matrix:** Soil  
**Analytical Method:** 1,8270D  
**Analytical Date:** 12/23/17 18:11  
**Analyst:** EK  
**Percent Solids:** 92%

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	110	20.	1
Naphthalene	ND		ug/kg	180	22.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	44.	1
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Benzo(k)fluoranthene	ND		ug/kg	110	28.	1
Chrysene	ND		ug/kg	110	18.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	ND		ug/kg	110	35.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	ND		ug/kg	180	17.	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	140	25.	1
Pyrene	ND		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	93		30-120
4-Terphenyl-d14	92		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-09  
**Client ID:** AB-7 0.25-0.5 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WASHINGTON ST.

**Date Collected:** 12/22/17 13:50  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified  
**Extraction Method:** EPA 3546  
**Extraction Date:** 12/23/17 02:48

**Matrix:** Soil  
**Analytical Method:** 1,8270D  
**Analytical Date:** 12/23/17 18:37  
**Analyst:** EK  
**Percent Solids:** 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Fluoranthene	210		ug/kg	110	21.	1
Naphthalene	ND		ug/kg	190	23.	1
Benzo(a)anthracene	130		ug/kg	110	21.	1
Benzo(a)pyrene	160		ug/kg	150	46.	1
Benzo(b)fluoranthene	190		ug/kg	110	31.	1
Benzo(k)fluoranthene	58	J	ug/kg	110	30.	1
Chrysene	130		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	150		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	81	J	ug/kg	110	23.	1
Dibenzo(a,h)anthracene	33	J	ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	140	J	ug/kg	150	26.	1
Pyrene	200		ug/kg	110	18.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	92		30-120
4-Terphenyl-d14	83		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 12/23/17 13:48  
**Analyst:** EK

**Extraction Method:** EPA 3546  
**Extraction Date:** 12/22/17 18:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05,07,09 Batch: WG1076021-1					
Acenaphthene	ND		ug/kg	130	17.
Fluoranthene	ND		ug/kg	98	19.
Naphthalene	ND		ug/kg	160	20.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	27.
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.

**Tentatively Identified Compounds**

No Tentatively Identified Compounds ND ug/kg



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1747441**Project Number:** 2180345**Report Date:** 12/26/17**Method Blank Analysis  
Batch Quality Control**

Analytical Method: 1,8270D  
 Analytical Date: 12/23/17 13:48  
 Analyst: EK

Extraction Method: EPA 3546  
 Extraction Date: 12/22/17 18:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05,07,09 Batch: WG1076021-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	75		25-120
Phenol-d6	79		10-120
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	71		10-136
4-Terphenyl-d14	84		18-120

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Project Number:** 2180345

**Lab Number:** L1747441

**Report Date:** 12/26/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05,07,09 Batch: WG1076021-2 WG1076021-3								
Acenaphthene	71		72		31-137	1		50
Fluoranthene	81		82		40-140	1		50
Naphthalene	82		80		40-140	2		50
Benzo(a)anthracene	82		82		40-140	0		50
Benzo(a)pyrene	88		92		40-140	4		50
Benzo(b)fluoranthene	86		87		40-140	1		50
Benzo(k)fluoranthene	88		87		40-140	1		50
Chrysene	81		83		40-140	2		50
Acenaphthylene	103		95		40-140	8		50
Anthracene	80		84		40-140	5		50
Benzo(ghi)perylene	97		97		40-140	0		50
Fluorene	73		76		40-140	4		50
Phenanthrene	77		82		40-140	6		50
Dibenzo(a,h)anthracene	94		95		40-140	1		50
Indeno(1,2,3-cd)pyrene	98		97		40-140	1		50
Pyrene	79		79		35-142	0		50

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1747441**Project Number:** 2180345**Report Date:** 12/26/17

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
------------------	--------------------------	-------------	---------------------------	-------------	-----------------------------	------------	-------------	-----------------------

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05,07,09 Batch: WG1076021-2 WG1076021-3

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
2-Fluorophenol	83		79		25-120
Phenol-d6	87		81		10-120
Nitrobenzene-d5	80		77		23-120
2-Fluorobiphenyl	90		86		30-120
2,4,6-Tribromophenol	80		82		10-136
4-Terphenyl-d14	79		78		18-120

## METALS

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1747441

Project Number: 2180345

Report Date: 12/26/17

## SAMPLE RESULTS

Lab ID: L1747441-01

Date Collected: 12/22/17 09:30

Client ID: AB-1 0.25-0.5 FT

Date Received: 12/22/17

Sample Location: 115-121 W 3RD ST. + 200-210 WA

Field Prep: Not Specified

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	8.59		mg/kg	0.437	0.091	1	12/23/17 08:00	12/26/17 11:17	EPA 3050B	1,6010C	PS
Barium, Total	73.2		mg/kg	0.437	0.076	1	12/23/17 08:00	12/26/17 11:17	EPA 3050B	1,6010C	PS
Cadmium, Total	0.100	J	mg/kg	0.437	0.043	1	12/23/17 08:00	12/26/17 11:17	EPA 3050B	1,6010C	PS
Chromium, Total	9.51		mg/kg	0.437	0.042	1	12/23/17 08:00	12/26/17 11:17	EPA 3050B	1,6010C	PS
Lead, Total	74.7		mg/kg	2.18	0.117	1	12/23/17 08:00	12/26/17 11:17	EPA 3050B	1,6010C	PS
Mercury, Total	0.29		mg/kg	0.07	0.02	1	12/23/17 11:00	12/26/17 11:13	EPA 7471B	1,7471B	MG
Selenium, Total	0.502	J	mg/kg	0.874	0.113	1	12/23/17 08:00	12/26/17 11:17	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.437	0.124	1	12/23/17 08:00	12/26/17 11:17	EPA 3050B	1,6010C	PS



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-03  
**Client ID:** AB-2 1-2FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil  
**Percent Solids:** 88%

**Date Collected:** 12/22/17 10:15  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	7.99		mg/kg	0.436	0.091	1	12/23/17 08:00	12/26/17 11:22	EPA 3050B	1,6010C	PS
Barium, Total	83.6		mg/kg	0.436	0.076	1	12/23/17 08:00	12/26/17 11:22	EPA 3050B	1,6010C	PS
Cadmium, Total	0.162	J	mg/kg	0.436	0.043	1	12/23/17 08:00	12/26/17 11:22	EPA 3050B	1,6010C	PS
Chromium, Total	8.81		mg/kg	0.436	0.042	1	12/23/17 08:00	12/26/17 11:22	EPA 3050B	1,6010C	PS
Lead, Total	267		mg/kg	2.18	0.117	1	12/23/17 08:00	12/26/17 11:22	EPA 3050B	1,6010C	PS
Mercury, Total	0.48		mg/kg	0.07	0.02	1	12/23/17 11:00	12/26/17 11:19	EPA 7471B	1,7471B	MG
Selenium, Total	0.554	J	mg/kg	0.873	0.113	1	12/23/17 08:00	12/26/17 11:22	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.436	0.124	1	12/23/17 08:00	12/26/17 11:22	EPA 3050B	1,6010C	PS



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-05  
**Client ID:** AB-4 0.25-0.5 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil  
**Percent Solids:** 91%

**Date Collected:** 12/22/17 11:20  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	7.36		mg/kg	0.431	0.090	1	12/23/17 08:00	12/26/17 13:05	EPA 3050B	1,6010C	PS
Barium, Total	69.1		mg/kg	0.431	0.075	1	12/23/17 08:00	12/26/17 13:05	EPA 3050B	1,6010C	PS
Cadmium, Total	0.073	J	mg/kg	0.431	0.042	1	12/23/17 08:00	12/26/17 13:05	EPA 3050B	1,6010C	PS
Chromium, Total	7.68		mg/kg	0.431	0.041	1	12/23/17 08:00	12/26/17 13:05	EPA 3050B	1,6010C	PS
Lead, Total	18.0		mg/kg	2.15	0.115	1	12/23/17 08:00	12/26/17 13:05	EPA 3050B	1,6010C	PS
Mercury, Total	0.07		mg/kg	0.07	0.01	1	12/23/17 11:00	12/26/17 11:20	EPA 7471B	1,7471B	MG
Selenium, Total	0.405	J	mg/kg	0.862	0.111	1	12/23/17 08:00	12/26/17 13:05	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.431	0.122	1	12/23/17 08:00	12/26/17 13:05	EPA 3050B	1,6010C	PS



Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1747441

Project Number: 2180345

Report Date: 12/26/17

## SAMPLE RESULTS

Lab ID: L1747441-07

Date Collected: 12/22/17 12:00

Client ID: AB-5 1-2 FT

Date Received: 12/22/17

Sample Location: 115-121 W 3RD ST. + 200-210 WA

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	7.58		mg/kg	0.429	0.089	1	12/23/17 08:00	12/26/17 13:09	EPA 3050B	1,6010C	PS
Barium, Total	36.5		mg/kg	0.429	0.075	1	12/23/17 08:00	12/26/17 13:09	EPA 3050B	1,6010C	PS
Cadmium, Total	0.060	J	mg/kg	0.429	0.042	1	12/23/17 08:00	12/26/17 13:09	EPA 3050B	1,6010C	PS
Chromium, Total	7.85		mg/kg	0.429	0.041	1	12/23/17 08:00	12/26/17 13:09	EPA 3050B	1,6010C	PS
Lead, Total	10.6		mg/kg	2.14	0.115	1	12/23/17 08:00	12/26/17 13:09	EPA 3050B	1,6010C	PS
Mercury, Total	0.01	J	mg/kg	0.07	0.01	1	12/23/17 11:00	12/26/17 11:22	EPA 7471B	1,7471B	MG
Selenium, Total	0.386	J	mg/kg	0.858	0.111	1	12/23/17 08:00	12/26/17 13:09	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.429	0.121	1	12/23/17 08:00	12/26/17 13:09	EPA 3050B	1,6010C	PS





**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-09  
**Client ID:** AB-7 0.25-0.5 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil  
**Percent Solids:** 88%

**Date Collected:** 12/22/17 13:50  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	6.90		mg/kg	0.438	0.091	1	12/23/17 08:00	12/26/17 13:14	EPA 3050B	1,6010C	PS
Barium, Total	81.1		mg/kg	0.438	0.076	1	12/23/17 08:00	12/26/17 13:14	EPA 3050B	1,6010C	PS
Cadmium, Total	0.101	J	mg/kg	0.438	0.043	1	12/23/17 08:00	12/26/17 13:14	EPA 3050B	1,6010C	PS
Chromium, Total	9.11		mg/kg	0.438	0.042	1	12/23/17 08:00	12/26/17 13:14	EPA 3050B	1,6010C	PS
Lead, Total	20.7		mg/kg	2.19	0.117	1	12/23/17 08:00	12/26/17 13:14	EPA 3050B	1,6010C	PS
Mercury, Total	0.04	J	mg/kg	0.07	0.02	1	12/23/17 11:00	12/26/17 11:24	EPA 7471B	1,7471B	MG
Selenium, Total	0.438	J	mg/kg	0.876	0.113	1	12/23/17 08:00	12/26/17 13:14	EPA 3050B	1,6010C	PS
Silver, Total	ND		mg/kg	0.438	0.124	1	12/23/17 08:00	12/26/17 13:14	EPA 3050B	1,6010C	PS



Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1747441

Project Number: 2180345

Report Date: 12/26/17

## Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03,05,07,09 Batch: WG1076082-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	12/23/17 08:00	12/26/17 10:40	1,6010C	PS
Barium, Total	ND		mg/kg	0.400	0.070	1	12/23/17 08:00	12/26/17 10:40	1,6010C	PS
Cadmium, Total	ND		mg/kg	0.400	0.039	1	12/23/17 08:00	12/26/17 10:40	1,6010C	PS
Chromium, Total	0.040	J	mg/kg	0.400	0.038	1	12/23/17 08:00	12/26/17 10:40	1,6010C	PS
Lead, Total	ND		mg/kg	2.00	0.107	1	12/23/17 08:00	12/26/17 10:40	1,6010C	PS
Selenium, Total	ND		mg/kg	0.800	0.103	1	12/23/17 08:00	12/26/17 10:40	1,6010C	PS
Silver, Total	ND		mg/kg	0.400	0.113	1	12/23/17 08:00	12/26/17 10:40	1,6010C	PS

### Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03,05,07,09 Batch: WG1076084-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	12/23/17 11:00	12/26/17 10:59	1,7471B	MG

### Prep Information

Digestion Method: EPA 7471B

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,09 Batch: WG1076082-2 SRM Lot Number: D098-540								
Arsenic, Total	101		-		83-117	-		
Barium, Total	97		-		82-118	-		
Cadmium, Total	98		-		82-117	-		
Chromium, Total	101		-		83-119	-		
Lead, Total	96		-		82-117	-		
Selenium, Total	100		-		78-121	-		
Silver, Total	100		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,09 Batch: WG1076084-2 SRM Lot Number: D098-540								
Mercury, Total	109		-		50-149	-		

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,09 QC Batch ID: WG1076082-3 QC Sample: L1745322-07 Client ID: MS Sample												
Arsenic, Total	1.96	9.91	11.7	98		-	-		75-125	-		20
Barium, Total	13.4	165	181	101		-	-		75-125	-		20
Cadmium, Total	0.163J	4.21	4.24	101		-	-		75-125	-		20
Chromium, Total	17.9	16.5	39.4	130	Q	-	-		75-125	-		20
Lead, Total	7.01	42.1	50.6	103		-	-		75-125	-		20
Selenium, Total	0.301J	9.91	9.28	94		-	-		75-125	-		20
Silver, Total	ND	24.8	26.3	106		-	-		75-125	-		20
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,09 QC Batch ID: WG1076084-3 QC Sample: L1745322-07 Client ID: MS Sample												
Mercury, Total	0.03J	0.134	0.19	142	Q	-	-		80-120	-		20

# **Lab Duplicate Analysis** Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,09 QC Batch ID: WG1076082-4 QC Sample: L1745322-07 Client ID: DUP Sample						
Arsenic, Total	1.96	2.42	mg/kg	21	Q	20
Barium, Total	13.4	24.3	mg/kg	58	Q	20
Cadmium, Total	0.163J	0.280J	mg/kg	NC		20
Chromium, Total	17.9	34.9	mg/kg	64	Q	20
Lead, Total	7.01	15.5	mg/kg	75	Q	20
Selenium, Total	0.301J	0.280J	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01,03,05,07,09 QC Batch ID: WG1076084-4 QC Sample: L1745322-07 Client ID: DUP Sample						
Mercury, Total	0.03J	0.03J	mg/kg	NC		20

# **INORGANICS & MISCELLANEOUS**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-01  
**Client ID:** AB-1 0.25-0.5 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil

**Date Collected:** 12/22/17 09:30  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.8		%	0.100	NA	1	-	12/23/17 08:19	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-03  
**Client ID:** AB-2 1-2FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil

**Date Collected:** 12/22/17 10:15  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.3		%	0.100	NA	1	-	12/23/17 08:19	121,2540G	RI





**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

### SAMPLE RESULTS

**Lab ID:** L1747441-05  
**Client ID:** AB-4 0.25-0.5 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil

**Date Collected:** 12/22/17 11:20  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	12/23/17 08:19	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

**SAMPLE RESULTS**

**Lab ID:** L1747441-07  
**Client ID:** AB-5 1-2 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil

**Date Collected:** 12/22/17 12:00  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.6		%	0.100	NA	1	-	12/23/17 08:19	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

### SAMPLE RESULTS

**Lab ID:** L1747441-09  
**Client ID:** AB-7 0.25-0.5 FT  
**Sample Location:** 115-121 W 3RD ST. + 200-210 WA  
**Matrix:** Soil

**Date Collected:** 12/22/17 13:50  
**Date Received:** 12/22/17  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.5		%	0.100	NA	1	-	12/23/17 08:19	121,2540G	RI



# **Lab Duplicate Analysis** Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01,03,05,07,09 QC Batch ID: WG1076128-1 QC Sample: L1747441-01 Client ID: AB-1 0.25-0.5 FT						
Solids, Total	88.8	86.8	%	2		20

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Serial\_No:** 12261716:21  
**Lab Number:** L1747441  
**Report Date:** 12/26/17

**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(*)
L1747441-01A	Glass 120ml/4oz unpreserved	A	NA		2.4	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)
L1747441-01B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		NYTCL-8270(14),TS(7)
L1747441-02A	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1747441-02B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L1747441-03A	Glass 120ml/4oz unpreserved	A	NA		2.4	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)
L1747441-03B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		NYTCL-8270(14),TS(7)
L1747441-04A	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1747441-04B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L1747441-05A	Glass 120ml/4oz unpreserved	A	NA		2.4	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)
L1747441-05B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		NYTCL-8270(14),TS(7)
L1747441-06A	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1747441-06B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L1747441-07A	Glass 120ml/4oz unpreserved	A	NA		2.4	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)
L1747441-07B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		NYTCL-8270(14),TS(7)
L1747441-08A	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-METAL(180)
L1747441-08B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		HOLD-WETCHEM(),HOLD-8270(14)
L1747441-09A	Glass 120ml/4oz unpreserved	A	NA		2.4	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)
L1747441-09B	Glass 120ml/4oz unpreserved	A	NA		2.4	Y	Absent		NYTCL-8270(14),TS(7)

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

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

### Terms

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

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

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

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

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

### 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

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

#### Data Qualifiers

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

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1747441  
**Report Date:** 12/26/17

## REFERENCES

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

## LIMITATION OF LIABILITIES

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

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





**Alpha Analytical, Inc.**

ID No.:17873

Facility: **Company-wide**

Revision 10

Department: **Quality Assurance**

Published Date: 1/16/2017 11:00:05 AM

Title: **Certificate/Approval Program Summary**

Page 1 of 1

**Certification Information**


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

**Westborough Facility****EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** NPW and SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**EPA 9012B:** NPW: Total Cyanide**EPA 9050A:** NPW: Specific Conductance**SM3500:** NPW: Ferrous Iron**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**SM5310C:** DW: Dissolved Organic Carbon**Mansfield Facility****SM 2540D:** TSS**EPA 3005A** NPW**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

**Westborough Facility:****Drinking Water****EPA 300.0:** Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1:** Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E.****Mansfield Facility:****Drinking Water****EPA 200.7:** Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. **EPA 200.8:** Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. **EPA 245.1 Hg.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

 <b>NEW YORK CHAIN OF CUSTODY</b> Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		<b>Service Centers</b> 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 <b>12/23/17</b>		ALPHA Job # <b>L1747441</b>																																																																																																																																																																																												
Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		<b>Project Information</b> Project Name: <b>115-121 W 3rd St + 200-210 Washington St</b> Project Location: <b>115-121 W 3rd St + 200-210 Washington St</b> Project # <b>2180346</b> (Use Project name as Project #) <input type="checkbox"/>				<b>Deliverables</b> <input type="checkbox"/> ASP-A <input type="checkbox"/> ASP-B <input type="checkbox"/> EQuIS (1 File) <input type="checkbox"/> EQuIS (4 File) <input type="checkbox"/> Other		<b>Billing Information</b> <input type="checkbox"/> Same as Client Info PO #																																																																																																																																																																																												
<b>Client Information</b> Client: <b>Labella Associates</b> Address: <b>300 Pearl St</b> <b>Buffalo, NY</b> Phone: <b>716-710-3043</b> Fax: Email: <b>jdomarowski@labellape.com</b>		Project Manager: <b>Adam Zebronski</b> ALPHAQuote #: Turn-Around Time Standard <input type="checkbox"/> Due Date: Rush (only if pre approved) <input checked="" type="checkbox"/> # of Days: <b>1 day turn</b>		<b>Regulatory Requirement</b> <input type="checkbox"/> NY TOGS <input type="checkbox"/> NY Part 375 <input type="checkbox"/> AWQ Standards <input type="checkbox"/> NY CP-51 <input type="checkbox"/> NY Restricted Use <input type="checkbox"/> Other <input type="checkbox"/> NY Unrestricted Use <input type="checkbox"/> NYC Sewer Discharge		<b>Disposal Site Information</b> Please identify below location of applicable disposal facilities. Disposal Facility: <input type="checkbox"/> NJ <input type="checkbox"/> NY <input type="checkbox"/> Other:																																																																																																																																																																																														
These samples have been previously analyzed by Alpha <input type="checkbox"/> Other project specific requirements/comments: <b>email to jdomarowski@labellape.com</b> <b>C Kiber@labellape.com</b> Please specify Metals or TAL.		<b>ANALYSIS</b>				<b>Sample Filtration</b> <input type="checkbox"/> Done <input type="checkbox"/> Lab to do Preservation <input type="checkbox"/> Lab to do (Please Specify below)		Total Bottles																																																																																																																																																																																												
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">ALPHA Lab ID (Lab Use Only)</th> <th rowspan="2">Sample ID</th> <th colspan="2">Collection</th> <th rowspan="2">Sample Matrix</th> <th rowspan="2">Sampler's Initials</th> <th colspan="10"></th> <th rowspan="2">Sample Specific Comments</th> </tr> <tr> <th>Date</th> <th>Time</th> <th colspan="10"></th> </tr> </thead> <tbody> <tr> <td rowspan="7" style="text-align: center; vertical-align: middle;"> <b>47441</b>  <b>83</b>  <b>85</b>  <b>86</b>  <b>87</b>  <b>88</b>  <b>89</b> </td> <td>AB-1 0.25-0.5 ft</td> <td>12/22/17</td> <td>9:30</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td> </tr> <tr> <td>AB-2 0.25-1 ft</td> <td>12/22/17</td> <td>10:15</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td>ON HOLD</td> </tr> <tr> <td>AB-2 1-2 ft</td> <td>12/22/17</td> <td>10:15</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td> </tr> <tr> <td>AB-3 0.25-0.5 ft</td> <td>12/22/17</td> <td>11:00</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td>ON HOLD</td> </tr> <tr> <td>AB-4 0.25-0.5 ft</td> <td>12/22/17</td> <td>11:20</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td> </tr> <tr> <td>AB-5 0.25-1 ft</td> <td>12/22/17</td> <td>12:00</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td>ON HOLD</td> </tr> <tr> <td>AB-5 1-2 ft</td> <td>12/22/17</td> <td>12:00</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td> </tr> <tr> <td>AB-6 0.25-0.5 ft</td> <td>12/22/17</td> <td>13:10</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td>ON HOLD</td> </tr> <tr> <td>AB-7 0.25-0.5 ft</td> <td>12/22/17</td> <td>13:50</td> <td>Soil</td> <td>SD</td> <td>X</td> <td>X</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td> </tr> </tbody> </table>		ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials												Sample Specific Comments	Date	Time											<b>47441</b> <b>83</b> <b>85</b> <b>86</b> <b>87</b> <b>88</b> <b>89</b>	AB-1 0.25-0.5 ft	12/22/17	9:30	Soil	SD	X	X												AB-2 0.25-1 ft	12/22/17	10:15	Soil	SD	X	X											ON HOLD	AB-2 1-2 ft	12/22/17	10:15	Soil	SD	X	X												AB-3 0.25-0.5 ft	12/22/17	11:00	Soil	SD	X	X											ON HOLD	AB-4 0.25-0.5 ft	12/22/17	11:20	Soil	SD	X	X												AB-5 0.25-1 ft	12/22/17	12:00	Soil	SD	X	X											ON HOLD	AB-5 1-2 ft	12/22/17	12:00	Soil	SD	X	X												AB-6 0.25-0.5 ft	12/22/17	13:10	Soil	SD	X	X											ON HOLD	AB-7 0.25-0.5 ft	12/22/17	13:50	Soil	SD	X	X												CPSI SVCS RCRA Metals	
ALPHA Lab ID (Lab Use Only)	Sample ID			Collection					Sample Matrix	Sampler's Initials											Sample Specific Comments																																																																																																																																																																															
		Date	Time																																																																																																																																																																																																	
<b>47441</b> <b>83</b> <b>85</b> <b>86</b> <b>87</b> <b>88</b> <b>89</b>	AB-1 0.25-0.5 ft	12/22/17	9:30	Soil	SD	X	X																																																																																																																																																																																													
	AB-2 0.25-1 ft	12/22/17	10:15	Soil	SD	X	X												ON HOLD																																																																																																																																																																																	
	AB-2 1-2 ft	12/22/17	10:15	Soil	SD	X	X																																																																																																																																																																																													
	AB-3 0.25-0.5 ft	12/22/17	11:00	Soil	SD	X	X												ON HOLD																																																																																																																																																																																	
	AB-4 0.25-0.5 ft	12/22/17	11:20	Soil	SD	X	X																																																																																																																																																																																													
	AB-5 0.25-1 ft	12/22/17	12:00	Soil	SD	X	X												ON HOLD																																																																																																																																																																																	
	AB-5 1-2 ft	12/22/17	12:00	Soil	SD	X	X																																																																																																																																																																																													
AB-6 0.25-0.5 ft	12/22/17	13:10	Soil	SD	X	X											ON HOLD																																																																																																																																																																																			
AB-7 0.25-0.5 ft	12/22/17	13:50	Soil	SD	X	X																																																																																																																																																																																														
Preservative Code: A = None B = HCl C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 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		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.)																																																																																																																																																																																												
Relinquished By: <b>Shirley D. Diller</b> <b>Shirley Diller</b>		Date/Time: <b>12/22/17 14:20</b> <b>12/22/17 14:30</b>		Received By: <b>Andrew Wiley</b> <b>Andrew Wiley</b>		Date/Time: <b>12/22/17 14:20</b> <b>12/23/17 00:28</b>																																																																																																																																																																																														



## ANALYTICAL REPORT

Lab Number:	L1801264
Client:	LaBella Associates, P.C. 300 Pearl Street Suite 252 Buffalo, NY 14202
ATTN:	Adam Zebrowski
Phone:	(716) 551-6281
Project Name:	115-121 W 3RD ST+200-210 W. ST
Project Number:	2180345
Report Date:	01/19/18

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

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

---

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



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1801264-01	SB-14 2-3 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 09:00	01/12/18
L1801264-02	SB-15 2-3 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 09:30	01/12/18
L1801264-03	SB-16 2-5 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 10:00	01/12/18
L1801264-04	SB-17 2-5 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 10:30	01/12/18
L1801264-05	SB-18 1-4 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 11:00	01/12/18
L1801264-06	SB-19 2-5 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 11:15	01/12/18
L1801264-07	SB-20 1-4 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 11:40	01/12/18
L1801264-08	SB-21 14-15 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 12:15	01/12/18
L1801264-09	SB-22 15-16 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 13:00	01/12/18
L1801264-10	SB-23 15-16 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/11/18 13:40	01/12/18
L1801264-11	SB-30 14-15 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/12/18 10:50	01/12/18
L1801264-12	SB-33 15-16 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/12/18 12:40	01/12/18
L1801264-13	SB-26 0.5-2 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/12/18 09:00	01/12/18
L1801264-14	SB-28 0.5-2 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/12/18 09:50	01/12/18
L1801264-15	SB-29 3-5 FT	SOIL	115-121 W. THIRD ST., & 200-210 WASHINGTON ST.	01/12/18 10:20	01/12/18

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

### Case Narrative

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

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

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

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

#### HOLD POLICY

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

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



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

### Case Narrative (continued)

#### Report Submission

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

#### Sample Receipt

The Client IDs and analyses performed were specified by the client.

#### Volatile Organics

L1801264-08 was analyzed as a High Level Methanol in order to quantitate the sample within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration on the initial Low Level analysis. The results of both analyses are reported.

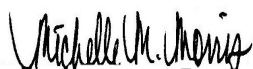
#### Semivolatile Organics

L1801264-03, -04, -05, -06, -07, -14 and -15: The sample has elevated detection limits due to the limited sample volume utilized during extraction, as required by the sample matrix.

L1801264-11: The sample has elevated detection limits due to the dilution required by the sample matrix.

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

Authorized Signature:



Michelle M. Morris

Title: Technical Director/Representative

Date: 01/19/18

# ORGANICS

# **VOLATILES**



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-08**Date Collected:** 01/11/18 12:15**Client ID:** SB-21 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified**Matrix:** Soil**Analytical Method:** 1,8260C**Analytical Date:** 01/18/18 14:52**Analyst:** AD**Percent Solids:** 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	4.6	0.77	1
1,1-Dichloroethane	ND		ug/kg	0.70	0.12	1
Chloroform	ND		ug/kg	0.70	0.17	1
Carbon tetrachloride	ND		ug/kg	0.46	0.16	1
1,2-Dichloropropane	ND		ug/kg	1.6	0.10	1
Dibromochloromethane	ND		ug/kg	0.46	0.08	1
1,1,2-Trichloroethane	ND		ug/kg	0.70	0.14	1
Tetrachloroethene	550	E	ug/kg	0.46	0.14	1
Chlorobenzene	ND		ug/kg	0.46	0.16	1
Trichlorofluoromethane	ND		ug/kg	2.3	0.19	1
1,2-Dichloroethane	ND		ug/kg	0.46	0.11	1
1,1,1-Trichloroethane	ND		ug/kg	0.46	0.16	1
Bromodichloromethane	ND		ug/kg	0.46	0.14	1
trans-1,3-Dichloropropene	ND		ug/kg	0.46	0.10	1
cis-1,3-Dichloropropene	ND		ug/kg	0.46	0.11	1
Bromoform	ND		ug/kg	1.8	0.11	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.46	0.14	1
Benzene	ND		ug/kg	0.46	0.09	1
Toluene	0.51	J	ug/kg	0.70	0.09	1
Ethylbenzene	0.90		ug/kg	0.46	0.08	1
Chloromethane	ND		ug/kg	2.3	0.20	1
Bromomethane	ND		ug/kg	0.93	0.16	1
Vinyl chloride	ND		ug/kg	0.93	0.15	1
Chloroethane	ND		ug/kg	0.93	0.15	1
1,1-Dichloroethene	ND		ug/kg	0.46	0.17	1
trans-1,2-Dichloroethene	2.7		ug/kg	0.70	0.11	1
Trichloroethene	7.1		ug/kg	0.46	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.08	1
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.10	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.08	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-08**Date Collected:** 01/11/18 12:15**Client ID:** SB-21 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	0.93	0.07	1
p/m-Xylene	6.2		ug/kg	0.93	0.16	1
o-Xylene	1.5		ug/kg	0.93	0.16	1
cis-1,2-Dichloroethene	0.72		ug/kg	0.46	0.16	1
Styrene	ND		ug/kg	0.93	0.19	1
Dichlorodifluoromethane	ND		ug/kg	4.6	0.23	1
Acetone	ND		ug/kg	4.6	1.1	1
Carbon disulfide	ND		ug/kg	4.6	0.51	1
2-Butanone	ND		ug/kg	4.6	0.32	1
4-Methyl-2-pentanone	ND		ug/kg	4.6	0.11	1
2-Hexanone	ND		ug/kg	4.6	0.31	1
Bromochloromethane	ND		ug/kg	2.3	0.16	1
1,2-Dibromoethane	ND		ug/kg	1.8	0.09	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.3	0.18	1
Isopropylbenzene	0.41	J	ug/kg	0.46	0.09	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.12	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.10	1
Methyl Acetate	ND		ug/kg	9.3	0.22	1
Cyclohexane	8.2	J	ug/kg	9.3	0.20	1
1,4-Dioxane	ND		ug/kg	18	6.7	1
Freon-113	ND		ug/kg	9.3	0.24	1
Methyl cyclohexane	21		ug/kg	1.8	0.11	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	91		70-130

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-08**Date Collected:** 01/11/18 12:15**Client ID:** SB-21 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified**Matrix:** Soil**Analytical Method:** 1,8260C**Analytical Date:** 01/19/18 08:18**Analyst:** MV**Percent Solids:** 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	150	J	ug/kg	350	58.	1
1,1-Dichloroethane	ND		ug/kg	53	9.6	1
Chloroform	ND		ug/kg	53	13.	1
Carbon tetrachloride	ND		ug/kg	35	12.	1
1,2-Dichloropropane	ND		ug/kg	120	8.1	1
Dibromochloromethane	ND		ug/kg	35	6.2	1
1,1,2-Trichloroethane	ND		ug/kg	53	11.	1
Tetrachloroethene	2000		ug/kg	35	11.	1
Chlorobenzene	ND		ug/kg	35	12.	1
Trichlorofluoromethane	ND		ug/kg	180	15.	1
1,2-Dichloroethane	ND		ug/kg	35	8.7	1
1,1,1-Trichloroethane	ND		ug/kg	35	12.	1
Bromodichloromethane	ND		ug/kg	35	11.	1
trans-1,3-Dichloropropene	ND		ug/kg	35	7.4	1
cis-1,3-Dichloropropene	ND		ug/kg	35	8.2	1
Bromoform	ND		ug/kg	140	8.4	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	35	10.	1
Benzene	ND		ug/kg	35	6.8	1
Toluene	ND		ug/kg	53	6.9	1
Ethylbenzene	ND		ug/kg	35	6.0	1
Chloromethane	ND		ug/kg	180	15.	1
Bromomethane	ND		ug/kg	71	12.	1
Vinyl chloride	ND		ug/kg	71	11.	1
Chloroethane	ND		ug/kg	71	11.	1
1,1-Dichloroethene	ND		ug/kg	35	13.	1
trans-1,2-Dichloroethene	ND		ug/kg	53	8.5	1
Trichloroethene	ND		ug/kg	35	11.	1
1,2-Dichlorobenzene	ND		ug/kg	180	6.4	1
1,3-Dichlorobenzene	ND		ug/kg	180	7.7	1
1,4-Dichlorobenzene	ND		ug/kg	180	6.4	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-08**Date Collected:** 01/11/18 12:15**Client ID:** SB-21 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	71	5.4	1
p/m-Xylene	ND		ug/kg	71	12.	1
o-Xylene	ND		ug/kg	71	12.	1
cis-1,2-Dichloroethene	ND		ug/kg	35	12.	1
Styrene	ND		ug/kg	71	14.	1
Dichlorodifluoromethane	ND		ug/kg	350	18.	1
Acetone	ND		ug/kg	350	81.	1
Carbon disulfide	ND		ug/kg	350	39.	1
2-Butanone	ND		ug/kg	350	24.	1
4-Methyl-2-pentanone	ND		ug/kg	350	8.6	1
2-Hexanone	ND		ug/kg	350	24.	1
Bromochloromethane	ND		ug/kg	180	13.	1
1,2-Dibromoethane	ND		ug/kg	140	7.0	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	180	14.	1
Isopropylbenzene	ND		ug/kg	35	6.9	1
1,2,3-Trichlorobenzene	ND		ug/kg	180	8.9	1
1,2,4-Trichlorobenzene	ND		ug/kg	180	7.6	1
Methyl Acetate	ND		ug/kg	710	16.	1
Cyclohexane	ND		ug/kg	710	15.	1
1,4-Dioxane	ND		ug/kg	1400	510	1
Freon-113	ND		ug/kg	710	18.	1
Methyl cyclohexane	ND		ug/kg	140	8.5	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	85		70-130

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-09**Date Collected:** 01/11/18 13:00**Client ID:** SB-22 15-16 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified**Matrix:** Soil**Analytical Method:** 1,8260C**Analytical Date:** 01/19/18 08:43**Analyst:** MV**Percent Solids:** 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	130	J	ug/kg	600	98.	1
1,1-Dichloroethane	ND		ug/kg	89	16.	1
Chloroform	ND		ug/kg	89	22.	1
Carbon tetrachloride	ND		ug/kg	60	20.	1
1,2-Dichloropropane	ND		ug/kg	210	14.	1
Dibromochloromethane	ND		ug/kg	60	10.	1
1,1,2-Trichloroethane	ND		ug/kg	89	19.	1
Tetrachloroethene	710		ug/kg	60	18.	1
Chlorobenzene	ND		ug/kg	60	21.	1
Trichlorofluoromethane	ND		ug/kg	300	25.	1
1,2-Dichloroethane	ND		ug/kg	60	15.	1
1,1,1-Trichloroethane	ND		ug/kg	60	21.	1
Bromodichloromethane	ND		ug/kg	60	18.	1
trans-1,3-Dichloropropene	ND		ug/kg	60	12.	1
cis-1,3-Dichloropropene	ND		ug/kg	60	14.	1
Bromoform	ND		ug/kg	240	14.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	60	18.	1
Benzene	ND		ug/kg	60	12.	1
Toluene	ND		ug/kg	89	12.	1
Ethylbenzene	ND		ug/kg	60	10.	1
Chloromethane	ND		ug/kg	300	26.	1
Bromomethane	ND		ug/kg	120	20.	1
Vinyl chloride	ND		ug/kg	120	19.	1
Chloroethane	ND		ug/kg	120	19.	1
1,1-Dichloroethene	ND		ug/kg	60	22.	1
trans-1,2-Dichloroethene	ND		ug/kg	89	14.	1
Trichloroethene	ND		ug/kg	60	18.	1
1,2-Dichlorobenzene	ND		ug/kg	300	11.	1
1,3-Dichlorobenzene	ND		ug/kg	300	13.	1
1,4-Dichlorobenzene	ND		ug/kg	300	11.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-09**Date Collected:** 01/11/18 13:00**Client ID:** SB-22 15-16 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	120	9.1	1
p/m-Xylene	ND		ug/kg	120	21.	1
o-Xylene	ND		ug/kg	120	20.	1
cis-1,2-Dichloroethene	ND		ug/kg	60	20.	1
Styrene	ND		ug/kg	120	24.	1
Dichlorodifluoromethane	ND		ug/kg	600	30.	1
Acetone	ND		ug/kg	600	140	1
Carbon disulfide	ND		ug/kg	600	66.	1
2-Butanone	ND		ug/kg	600	41.	1
4-Methyl-2-pentanone	ND		ug/kg	600	14.	1
2-Hexanone	ND		ug/kg	600	40.	1
Bromochloromethane	ND		ug/kg	300	21.	1
1,2-Dibromoethane	ND		ug/kg	240	12.	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	300	24.	1
Isopropylbenzene	26	J	ug/kg	60	12.	1
1,2,3-Trichlorobenzene	ND		ug/kg	300	15.	1
1,2,4-Trichlorobenzene	ND		ug/kg	300	13.	1
Methyl Acetate	ND		ug/kg	1200	28.	1
Cyclohexane	420	J	ug/kg	1200	26.	1
1,4-Dioxane	ND		ug/kg	2400	860	1
Freon-113	ND		ug/kg	1200	31.	1
Methyl cyclohexane	1900		ug/kg	240	14.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	87		70-130

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-10 D  
 Client ID: SB-23 15-16 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 13:40  
 Date Received: 01/12/18  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 01/19/18 09:09  
 Analyst: MV  
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	2900	J	ug/kg	7500	1200	20
1,1-Dichloroethane	ND		ug/kg	1100	200	20
Chloroform	ND		ug/kg	1100	280	20
Carbon tetrachloride	ND		ug/kg	750	260	20
1,2-Dichloropropane	ND		ug/kg	2600	170	20
Dibromochloromethane	ND		ug/kg	750	130	20
1,1,2-Trichloroethane	ND		ug/kg	1100	240	20
Tetrachloroethene	120000		ug/kg	750	230	20
Chlorobenzene	ND		ug/kg	750	260	20
Trichlorofluoromethane	ND		ug/kg	3800	310	20
1,2-Dichloroethane	ND		ug/kg	750	180	20
1,1,1-Trichloroethane	ND		ug/kg	750	260	20
Bromodichloromethane	ND		ug/kg	750	230	20
trans-1,3-Dichloropropene	ND		ug/kg	750	160	20
cis-1,3-Dichloropropene	ND		ug/kg	750	170	20
Bromoform	ND		ug/kg	3000	180	20
1,1,2,2-Tetrachloroethane	ND		ug/kg	750	220	20
Benzene	ND		ug/kg	750	140	20
Toluene	ND		ug/kg	1100	150	20
Ethylbenzene	ND		ug/kg	750	130	20
Chloromethane	ND		ug/kg	3800	330	20
Bromomethane	ND		ug/kg	1500	250	20
Vinyl chloride	ND		ug/kg	1500	240	20
Chloroethane	ND		ug/kg	1500	240	20
1,1-Dichloroethene	ND		ug/kg	750	280	20
trans-1,2-Dichloroethene	ND		ug/kg	1100	180	20
Trichloroethene	ND		ug/kg	750	230	20
1,2-Dichlorobenzene	ND		ug/kg	3800	140	20
1,3-Dichlorobenzene	ND		ug/kg	3800	160	20
1,4-Dichlorobenzene	ND		ug/kg	3800	140	20

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-10 D**Date Collected:** 01/11/18 13:40**Client ID:** SB-23 15-16 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	1500	120	20
p/m-Xylene	270	J	ug/kg	1500	260	20
o-Xylene	ND		ug/kg	1500	250	20
cis-1,2-Dichloroethene	ND		ug/kg	750	260	20
Styrene	ND		ug/kg	1500	300	20
Dichlorodifluoromethane	ND		ug/kg	7500	380	20
Acetone	ND		ug/kg	7500	1700	20
Carbon disulfide	ND		ug/kg	7500	830	20
2-Butanone	ND		ug/kg	7500	520	20
4-Methyl-2-pentanone	ND		ug/kg	7500	180	20
2-Hexanone	ND		ug/kg	7500	500	20
Bromochloromethane	ND		ug/kg	3800	270	20
1,2-Dibromoethane	ND		ug/kg	3000	150	20
1,2-Dibromo-3-chloropropane	ND		ug/kg	3800	300	20
Isopropylbenzene	1100		ug/kg	750	150	20
1,2,3-Trichlorobenzene	ND		ug/kg	3800	190	20
1,2,4-Trichlorobenzene	ND		ug/kg	3800	160	20
Methyl Acetate	ND		ug/kg	15000	350	20
Cyclohexane	17000		ug/kg	15000	330	20
1,4-Dioxane	ND		ug/kg	30000	11000	20
Freon-113	ND		ug/kg	15000	390	20
Methyl cyclohexane	58000		ug/kg	3000	180	20

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	87		70-130



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-11 D  
 Client ID: SB-30 14-15 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/12/18 10:50  
 Date Received: 01/12/18  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8260C  
 Analytical Date: 01/19/18 09:35  
 Analyst: MV  
 Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	6700	J	ug/kg	16000	2700	40
1,1-Dichloroethane	ND		ug/kg	2400	440	40
Chloroform	ND		ug/kg	2400	600	40
Carbon tetrachloride	ND		ug/kg	1600	560	40
1,2-Dichloropropane	ND		ug/kg	5600	370	40
Dibromochloromethane	ND		ug/kg	1600	280	40
1,1,2-Trichloroethane	ND		ug/kg	2400	500	40
Tetrachloroethene	240000		ug/kg	1600	490	40
Chlorobenzene	ND		ug/kg	1600	560	40
Trichlorofluoromethane	ND		ug/kg	8100	670	40
1,2-Dichloroethane	ND		ug/kg	1600	400	40
1,1,1-Trichloroethane	ND		ug/kg	1600	560	40
Bromodichloromethane	ND		ug/kg	1600	500	40
trans-1,3-Dichloropropene	ND		ug/kg	1600	340	40
cis-1,3-Dichloropropene	ND		ug/kg	1600	370	40
Bromoform	ND		ug/kg	6400	380	40
1,1,2,2-Tetrachloroethane	ND		ug/kg	1600	480	40
Benzene	ND		ug/kg	1600	310	40
Toluene	ND		ug/kg	2400	310	40
Ethylbenzene	ND		ug/kg	1600	270	40
Chloromethane	ND		ug/kg	8100	700	40
Bromomethane	ND		ug/kg	3200	540	40
Vinyl chloride	ND		ug/kg	3200	510	40
Chloroethane	ND		ug/kg	3200	510	40
1,1-Dichloroethene	ND		ug/kg	1600	600	40
trans-1,2-Dichloroethene	ND		ug/kg	2400	390	40
Trichloroethene	ND		ug/kg	1600	490	40
1,2-Dichlorobenzene	ND		ug/kg	8100	290	40
1,3-Dichlorobenzene	ND		ug/kg	8100	350	40
1,4-Dichlorobenzene	ND		ug/kg	8100	290	40

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-11 D**Date Collected:** 01/12/18 10:50**Client ID:** SB-30 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methyl tert butyl ether	ND		ug/kg	3200	250	40
p/m-Xylene	ND		ug/kg	3200	570	40
o-Xylene	ND		ug/kg	3200	540	40
cis-1,2-Dichloroethene	ND		ug/kg	1600	550	40
Styrene	ND		ug/kg	3200	650	40
Dichlorodifluoromethane	ND		ug/kg	16000	810	40
Acetone	ND		ug/kg	16000	3700	40
Carbon disulfide	ND		ug/kg	16000	1800	40
2-Butanone	ND		ug/kg	16000	1100	40
4-Methyl-2-pentanone	ND		ug/kg	16000	390	40
2-Hexanone	ND		ug/kg	16000	1100	40
Bromochloromethane	ND		ug/kg	8100	580	40
1,2-Dibromoethane	ND		ug/kg	6400	320	40
1,2-Dibromo-3-chloropropane	ND		ug/kg	8100	640	40
Isopropylbenzene	ND		ug/kg	1600	310	40
1,2,3-Trichlorobenzene	ND		ug/kg	8100	400	40
1,2,4-Trichlorobenzene	ND		ug/kg	8100	350	40
Methyl Acetate	ND		ug/kg	32000	750	40
Cyclohexane	810	J	ug/kg	32000	700	40
1,4-Dioxane	ND		ug/kg	64000	23000	40
Freon-113	ND		ug/kg	32000	830	40
Methyl cyclohexane	5100	J	ug/kg	6400	390	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	89		70-130

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 01/18/18 08:22  
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 08 Batch: WG1081910-5					
Methylene chloride	ND		ug/kg	10	1.6
1,1-Dichloroethane	ND		ug/kg	1.5	0.27
Chloroform	ND		ug/kg	1.5	0.37
Carbon tetrachloride	ND		ug/kg	1.0	0.34
1,2-Dichloropropane	ND		ug/kg	3.5	0.23
Dibromochloromethane	ND		ug/kg	1.0	0.18
1,1,2-Trichloroethane	ND		ug/kg	1.5	0.31
Tetrachloroethene	ND		ug/kg	1.0	0.30
Chlorobenzene	ND		ug/kg	1.0	0.35
Trichlorofluoromethane	ND		ug/kg	5.0	0.42
1,2-Dichloroethane	ND		ug/kg	1.0	0.25
1,1,1-Trichloroethane	ND		ug/kg	1.0	0.35
Bromodichloromethane	ND		ug/kg	1.0	0.31
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.21
cis-1,3-Dichloropropene	ND		ug/kg	1.0	0.23
Bromoform	ND		ug/kg	4.0	0.24
1,1,2,2-Tetrachloroethane	ND		ug/kg	1.0	0.30
Benzene	ND		ug/kg	1.0	0.19
Toluene	ND		ug/kg	1.5	0.20
Ethylbenzene	ND		ug/kg	1.0	0.17
Chloromethane	ND		ug/kg	5.0	0.44
Bromomethane	ND		ug/kg	2.0	0.34
Vinyl chloride	ND		ug/kg	2.0	0.32
Chloroethane	ND		ug/kg	2.0	0.32
1,1-Dichloroethene	ND		ug/kg	1.0	0.37
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.24
Trichloroethene	ND		ug/kg	1.0	0.30
1,2-Dichlorobenzene	ND		ug/kg	5.0	0.18
1,3-Dichlorobenzene	ND		ug/kg	5.0	0.22

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 01/18/18 08:22  
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 08 Batch: WG1081910-5					
1,4-Dichlorobenzene	ND		ug/kg	5.0	0.18
Methyl tert butyl ether	ND		ug/kg	2.0	0.15
p/m-Xylene	ND		ug/kg	2.0	0.35
o-Xylene	ND		ug/kg	2.0	0.34
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.34
Styrene	ND		ug/kg	2.0	0.40
Dichlorodifluoromethane	ND		ug/kg	10	0.50
Acetone	ND		ug/kg	10	2.3
Carbon disulfide	ND		ug/kg	10	1.1
2-Butanone	ND		ug/kg	10	0.69
4-Methyl-2-pentanone	ND		ug/kg	10	0.24
2-Hexanone	ND		ug/kg	10	0.67
Bromochloromethane	ND		ug/kg	5.0	0.36
1,2-Dibromoethane	ND		ug/kg	4.0	0.20
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.0	0.40
Isopropylbenzene	ND		ug/kg	1.0	0.19
1,2,3-Trichlorobenzene	ND		ug/kg	5.0	0.25
1,2,4-Trichlorobenzene	ND		ug/kg	5.0	0.22
Methyl Acetate	ND		ug/kg	20	0.46
Cyclohexane	ND		ug/kg	20	0.43
1,4-Dioxane	ND		ug/kg	40	14.
Freon-113	ND		ug/kg	20	0.51
Methyl cyclohexane	ND		ug/kg	4.0	0.24

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C

Analytical Date: 01/18/18 08:22

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 08 Batch: WG1081910-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	97		70-130
Toluene-d8	105		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	91		70-130

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 01/19/18 07:52  
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 08-11 Batch: WG1082225-5					
Methylene chloride	120	J	ug/kg	500	82.
1,1-Dichloroethane	ND		ug/kg	75	14.
Chloroform	ND		ug/kg	75	18.
Carbon tetrachloride	ND		ug/kg	50	17.
1,2-Dichloropropane	ND		ug/kg	180	11.
Dibromochloromethane	ND		ug/kg	50	8.8
1,1,2-Trichloroethane	ND		ug/kg	75	16.
Tetrachloroethene	ND		ug/kg	50	15.
Chlorobenzene	ND		ug/kg	50	17.
Trichlorofluoromethane	ND		ug/kg	250	21.
1,2-Dichloroethane	ND		ug/kg	50	12.
1,1,1-Trichloroethane	ND		ug/kg	50	18.
Bromodichloromethane	ND		ug/kg	50	15.
trans-1,3-Dichloropropene	ND		ug/kg	50	10.
cis-1,3-Dichloropropene	ND		ug/kg	50	12.
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	50	15.
Benzene	ND		ug/kg	50	9.6
Toluene	ND		ug/kg	75	9.8
Ethylbenzene	ND		ug/kg	50	8.5
Chloromethane	ND		ug/kg	250	22.
Bromomethane	21	J	ug/kg	100	17.
Vinyl chloride	ND		ug/kg	100	16.
Chloroethane	ND		ug/kg	100	16.
1,1-Dichloroethene	ND		ug/kg	50	19.
trans-1,2-Dichloroethene	ND		ug/kg	75	12.
Trichloroethene	ND		ug/kg	50	15.
1,2-Dichlorobenzene	ND		ug/kg	250	9.1
1,3-Dichlorobenzene	ND		ug/kg	250	11.

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C  
 Analytical Date: 01/19/18 07:52  
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 08-11 Batch: WG1082225-5					
1,4-Dichlorobenzene	ND		ug/kg	250	9.1
Methyl tert butyl ether	ND		ug/kg	100	7.6
p/m-Xylene	ND		ug/kg	100	18.
o-Xylene	ND		ug/kg	100	17.
cis-1,2-Dichloroethene	ND		ug/kg	50	17.
Styrene	ND		ug/kg	100	20.
Dichlorodifluoromethane	ND		ug/kg	500	25.
Acetone	ND		ug/kg	500	110
Carbon disulfide	ND		ug/kg	500	55.
2-Butanone	ND		ug/kg	500	34.
4-Methyl-2-pentanone	ND		ug/kg	500	12.
2-Hexanone	ND		ug/kg	500	33.
Bromochloromethane	ND		ug/kg	250	18.
1,2-Dibromoethane	ND		ug/kg	200	10.
1,2-Dibromo-3-chloropropane	ND		ug/kg	250	20.
Isopropylbenzene	ND		ug/kg	50	9.7
1,2,3-Trichlorobenzene	ND		ug/kg	250	12.
1,2,4-Trichlorobenzene	ND		ug/kg	250	11.
Methyl Acetate	ND		ug/kg	1000	23.
Cyclohexane	ND		ug/kg	1000	22.
1,4-Dioxane	ND		ug/kg	2000	720
Freon-113	ND		ug/kg	1000	26.
Methyl cyclohexane	ND		ug/kg	200	12.

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Lab Number:** L1801264

**Project Number:** 2180345

**Report Date:** 01/19/18

**Method Blank Analysis**  
**Batch Quality Control**

Analytical Method: 1,8260C  
Analytical Date: 01/19/18 07:52  
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 08-11 Batch: WG1082225-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	87		70-130



# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Lab Number:** L1801264

**Project Number:** 2180345

**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 08 Batch: WG1081910-3 WG1081910-4								
Methylene chloride	78		80		70-130	3		30
1,1-Dichloroethane	88		88		70-130	0		30
Chloroform	82		83		70-130	1		30
Carbon tetrachloride	81		81		70-130	0		30
1,2-Dichloropropane	91		92		70-130	1		30
Dibromochloromethane	90		93		70-130	3		30
1,1,2-Trichloroethane	94		97		70-130	3		30
Tetrachloroethene	86		86		70-130	0		30
Chlorobenzene	88		89		70-130	1		30
Trichlorofluoromethane	81		80		70-139	1		30
1,2-Dichloroethane	78		80		70-130	3		30
1,1,1-Trichloroethane	81		82		70-130	1		30
Bromodichloromethane	82		84		70-130	2		30
trans-1,3-Dichloropropene	93		96		70-130	3		30
cis-1,3-Dichloropropene	84		86		70-130	2		30
Bromoform	99		100		70-130	1		30
1,1,2,2-Tetrachloroethane	102		105		70-130	3		30
Benzene	85		85		70-130	0		30
Toluene	91		92		70-130	1		30
Ethylbenzene	92		93		70-130	1		30
Chloromethane	93		92		52-130	1		30
Bromomethane	79		77		57-147	3		30
Vinyl chloride	86		86		67-130	0		30

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Project Number:** 2180345

**Lab Number:** L1801264

**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 08 Batch: WG1081910-3 WG1081910-4								
Chloroethane	80		80		50-151	0		30
1,1-Dichloroethene	81		80		65-135	1		30
trans-1,2-Dichloroethene	81		81		70-130	0		30
Trichloroethene	80		81		70-130	1		30
1,2-Dichlorobenzene	90		90		70-130	0		30
1,3-Dichlorobenzene	90		90		70-130	0		30
1,4-Dichlorobenzene	90		90		70-130	0		30
Methyl tert butyl ether	74		77		66-130	4		30
p/m-Xylene	90		91		70-130	1		30
o-Xylene	91		92		70-130	1		30
cis-1,2-Dichloroethene	80		81		70-130	1		30
Styrene	89		90		70-130	1		30
Dichlorodifluoromethane	80		79		30-146	1		30
Acetone	110		99		54-140	11		30
Carbon disulfide	82		82		59-130	0		30
2-Butanone	108		108		70-130	0		30
4-Methyl-2-pentanone	97		103		70-130	6		30
2-Hexanone	98		101		70-130	3		30
Bromochloromethane	79		81		70-130	3		30
1,2-Dibromoethane	86		90		70-130	5		30
1,2-Dibromo-3-chloropropane	87		93		68-130	7		30
Isopropylbenzene	94		94		70-130	0		30
1,2,3-Trichlorobenzene	85		87		70-130	2		30

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 08 Batch: WG1081910-3 WG1081910-4								
1,2,4-Trichlorobenzene	86		87		70-130	1		30
Methyl Acetate	100		104		51-146	4		30
Cyclohexane	101		101		59-142	0		30
1,4-Dioxane	99		104		65-136	5		30
Freon-113	91		90		50-139	1		30
Methyl cyclohexane	93		93		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		96		70-130
Toluene-d8	104		105		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	90		90		70-130

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Project Number:** 2180345

**Lab Number:** L1801264

**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 08-11 Batch: WG1082225-3 WG1082225-4								
Methylene chloride	97		104		70-130	7		30
1,1-Dichloroethane	85		85		70-130	0		30
Chloroform	82		81		70-130	1		30
Carbon tetrachloride	80		78		70-130	3		30
1,2-Dichloropropane	90		89		70-130	1		30
Dibromochloromethane	92		92		70-130	0		30
1,1,2-Trichloroethane	94		94		70-130	0		30
Tetrachloroethene	88		88		70-130	0		30
Chlorobenzene	89		89		70-130	0		30
Trichlorofluoromethane	76		75		70-139	1		30
1,2-Dichloroethane	75		76		70-130	1		30
1,1,1-Trichloroethane	80		78		70-130	3		30
Bromodichloromethane	82		82		70-130	0		30
trans-1,3-Dichloropropene	92		94		70-130	2		30
cis-1,3-Dichloropropene	86		86		70-130	0		30
Bromoform	100		103		70-130	3		30
1,1,2,2-Tetrachloroethane	100		101		70-130	1		30
Benzene	84		84		70-130	0		30
Toluene	91		92		70-130	1		30
Ethylbenzene	91		92		70-130	1		30
Chloromethane	87		84		52-130	4		30
Bromomethane	83		77		57-147	8		30
Vinyl chloride	81		79		67-130	3		30

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Project Number:** 2180345

**Lab Number:** L1801264

**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 08-11 Batch: WG1082225-3 WG1082225-4								
Chloroethane	78		67		50-151	15		30
1,1-Dichloroethene	82		80		65-135	2		30
trans-1,2-Dichloroethene	81		79		70-130	3		30
Trichloroethene	80		80		70-130	0		30
1,2-Dichlorobenzene	90		92		70-130	2		30
1,3-Dichlorobenzene	90		92		70-130	2		30
1,4-Dichlorobenzene	90		91		70-130	1		30
Methyl tert butyl ether	77		75		66-130	3		30
p/m-Xylene	91		91		70-130	0		30
o-Xylene	92		92		70-130	0		30
cis-1,2-Dichloroethene	82		80		70-130	2		30
Styrene	90		90		70-130	0		30
Dichlorodifluoromethane	73		70		30-146	4		30
Acetone	97		94		54-140	3		30
Carbon disulfide	80		79		59-130	1		30
2-Butanone	103		98		70-130	5		30
4-Methyl-2-pentanone	99		98		70-130	1		30
2-Hexanone	96		96		70-130	0		30
Bromochloromethane	83		80		70-130	4		30
1,2-Dibromoethane	88		88		70-130	0		30
1,2-Dibromo-3-chloropropane	89		88		68-130	1		30
Isopropylbenzene	94		96		70-130	2		30
1,2,3-Trichlorobenzene	88		89		70-130	1		30

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 08-11 Batch: WG1082225-3 WG1082225-4								
1,2,4-Trichlorobenzene	87		89		70-130	2		30
Methyl Acetate	100		95		51-146	5		30
Cyclohexane	97		94		59-142	3		30
1,4-Dioxane	104		99		65-136	5		30
Freon-113	88		86		50-139	2		30
Methyl cyclohexane	90		90		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		88		70-130
Toluene-d8	103		104		70-130
4-Bromofluorobenzene	101		102		70-130
Dibromofluoromethane	91		89		70-130

# SEMIVOLATILES

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-03  
 Client ID: SB-16 2-5 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 10:00  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 07:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 00:25  
 Analyst: TT  
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	300	39.	1
Hexachlorobenzene	ND		ug/kg	230	43.	1
Bis(2-chloroethyl)ether	ND		ug/kg	340	52.	1
2-Chloronaphthalene	ND		ug/kg	380	38.	1
3,3'-Dichlorobenzidine	ND		ug/kg	380	100	1
2,4-Dinitrotoluene	ND		ug/kg	380	76.	1
2,6-Dinitrotoluene	ND		ug/kg	380	65.	1
Fluoranthene	ND		ug/kg	230	44.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	380	41.	1
4-Bromophenyl phenyl ether	ND		ug/kg	380	58.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	460	65.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	410	38.	1
Hexachlorobutadiene	ND		ug/kg	380	56.	1
Hexachlorocyclopentadiene	ND		ug/kg	1100	340	1
Hexachloroethane	ND		ug/kg	300	62.	1
Isophorone	ND		ug/kg	340	49.	1
Naphthalene	ND		ug/kg	380	46.	1
Nitrobenzene	ND		ug/kg	340	56.	1
NDPA/DPA	ND		ug/kg	300	43.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	380	59.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	380	130	1
Butyl benzyl phthalate	ND		ug/kg	380	96.	1
Di-n-butylphthalate	ND		ug/kg	380	72.	1
Di-n-octylphthalate	ND		ug/kg	380	130	1
Diethyl phthalate	ND		ug/kg	380	35.	1
Dimethyl phthalate	ND		ug/kg	380	80.	1
Benzo(a)anthracene	ND		ug/kg	230	43.	1
Benzo(a)pyrene	ND		ug/kg	300	93.	1
Benzo(b)fluoranthene	ND		ug/kg	230	64.	1
Benzo(k)fluoranthene	ND		ug/kg	230	61.	1



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-03**Date Collected:** 01/11/18 10:00**Client ID:** SB-16 2-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	230	40.	1
Acenaphthylene	ND		ug/kg	300	59.	1
Anthracene	ND		ug/kg	230	74.	1
Benzo(ghi)perylene	ND		ug/kg	300	45.	1
Fluorene	ND		ug/kg	380	37.	1
Phenanthrene	ND		ug/kg	230	46.	1
Dibenzo(a,h)anthracene	ND		ug/kg	230	44.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	300	53.	1
Pyrene	ND		ug/kg	230	38.	1
Biphenyl	ND		ug/kg	870	88.	1
4-Chloroaniline	ND		ug/kg	380	69.	1
2-Nitroaniline	ND		ug/kg	380	73.	1
3-Nitroaniline	ND		ug/kg	380	72.	1
4-Nitroaniline	ND		ug/kg	380	160	1
Dibenzofuran	ND		ug/kg	380	36.	1
2-Methylnaphthalene	ND		ug/kg	460	46.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	380	40.	1
Acetophenone	ND		ug/kg	380	47.	1
2,4,6-Trichlorophenol	ND		ug/kg	230	72.	1
p-Chloro-m-cresol	ND		ug/kg	380	57.	1
2-Chlorophenol	ND		ug/kg	380	45.	1
2,4-Dichlorophenol	ND		ug/kg	340	61.	1
2,4-Dimethylphenol	ND		ug/kg	380	120	1
2-Nitrophenol	ND		ug/kg	820	140	1
4-Nitrophenol	ND		ug/kg	530	160	1
2,4-Dinitrophenol	ND		ug/kg	1800	180	1
4,6-Dinitro-o-cresol	ND		ug/kg	990	180	1
Pentachlorophenol	ND		ug/kg	300	84.	1
Phenol	ND		ug/kg	380	57.	1
2-Methylphenol	ND		ug/kg	380	59.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	550	60.	1
2,4,5-Trichlorophenol	ND		ug/kg	380	73.	1
Carbazole	ND		ug/kg	380	37.	1
Atrazine	ND		ug/kg	300	130	1
Benzaldehyde	ND		ug/kg	500	100	1
Caprolactam	ND		ug/kg	380	120	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	380	77.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-03**Date Collected:** 01/11/18 10:00**Client ID:** SB-16 2-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	98		25-120
Phenol-d6	103		10-120
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	98		30-120
2,4,6-Tribromophenol	102		10-136
4-Terphenyl-d14	84		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-04  
 Client ID: SB-17 2-5 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 10:30  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 07:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 00:51  
 Analyst: TT  
 Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	320	41.	1
Hexachlorobenzene	ND		ug/kg	240	45.	1
Bis(2-chloroethyl)ether	ND		ug/kg	360	54.	1
2-Chloronaphthalene	ND		ug/kg	400	40.	1
3,3'-Dichlorobenzidine	ND		ug/kg	400	110	1
2,4-Dinitrotoluene	ND		ug/kg	400	80.	1
2,6-Dinitrotoluene	ND		ug/kg	400	68.	1
Fluoranthene	ND		ug/kg	240	46.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	400	43.	1
4-Bromophenyl phenyl ether	ND		ug/kg	400	61.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	480	68.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	430	40.	1
Hexachlorobutadiene	ND		ug/kg	400	58.	1
Hexachlorocyclopentadiene	ND		ug/kg	1100	360	1
Hexachloroethane	ND		ug/kg	320	64.	1
Isophorone	ND		ug/kg	360	52.	1
Naphthalene	ND		ug/kg	400	48.	1
Nitrobenzene	ND		ug/kg	360	59.	1
NDPA/DPA	ND		ug/kg	320	45.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	400	62.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	400	140	1
Butyl benzyl phthalate	ND		ug/kg	400	100	1
Di-n-butylphthalate	ND		ug/kg	400	76.	1
Di-n-octylphthalate	ND		ug/kg	400	140	1
Diethyl phthalate	ND		ug/kg	400	37.	1
Dimethyl phthalate	ND		ug/kg	400	84.	1
Benzo(a)anthracene	ND		ug/kg	240	45.	1
Benzo(a)pyrene	ND		ug/kg	320	97.	1
Benzo(b)fluoranthene	ND		ug/kg	240	67.	1
Benzo(k)fluoranthene	ND		ug/kg	240	64.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-04**Date Collected:** 01/11/18 10:30**Client ID:** SB-17 2-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	240	41.	1
Acenaphthylene	ND		ug/kg	320	62.	1
Anthracene	ND		ug/kg	240	78.	1
Benzo(ghi)perylene	ND		ug/kg	320	47.	1
Fluorene	ND		ug/kg	400	39.	1
Phenanthrene	ND		ug/kg	240	48.	1
Dibenzo(a,h)anthracene	ND		ug/kg	240	46.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	320	56.	1
Pyrene	ND		ug/kg	240	40.	1
Biphenyl	ND		ug/kg	910	92.	1
4-Chloroaniline	ND		ug/kg	400	72.	1
2-Nitroaniline	ND		ug/kg	400	77.	1
3-Nitroaniline	ND		ug/kg	400	75.	1
4-Nitroaniline	ND		ug/kg	400	160	1
Dibenzofuran	ND		ug/kg	400	38.	1
2-Methylnaphthalene	ND		ug/kg	480	48.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	400	42.	1
Acetophenone	ND		ug/kg	400	49.	1
2,4,6-Trichlorophenol	ND		ug/kg	240	76.	1
p-Chloro-m-cresol	ND		ug/kg	400	59.	1
2-Chlorophenol	ND		ug/kg	400	47.	1
2,4-Dichlorophenol	ND		ug/kg	360	64.	1
2,4-Dimethylphenol	ND		ug/kg	400	130	1
2-Nitrophenol	ND		ug/kg	860	150	1
4-Nitrophenol	ND		ug/kg	560	160	1
2,4-Dinitrophenol	ND		ug/kg	1900	180	1
4,6-Dinitro-o-cresol	ND		ug/kg	1000	190	1
Pentachlorophenol	ND		ug/kg	320	88.	1
Phenol	ND		ug/kg	400	60.	1
2-Methylphenol	ND		ug/kg	400	62.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	570	62.	1
2,4,5-Trichlorophenol	ND		ug/kg	400	76.	1
Carbazole	ND		ug/kg	400	39.	1
Atrazine	ND		ug/kg	320	140	1
Benzaldehyde	ND		ug/kg	530	110	1
Caprolactam	ND		ug/kg	400	120	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	400	80.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-04**Date Collected:** 01/11/18 10:30**Client ID:** SB-17 2-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	94		25-120
Phenol-d6	98		10-120
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	91		30-120
2,4,6-Tribromophenol	99		10-136
4-Terphenyl-d14	78		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-05  
 Client ID: SB-18 1-4 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 11:00  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 07:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 03:23  
 Analyst: TT  
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	310	40.	1
Hexachlorobenzene	ND		ug/kg	230	43.	1
Bis(2-chloroethyl)ether	ND		ug/kg	340	52.	1
2-Chloronaphthalene	ND		ug/kg	380	38.	1
3,3'-Dichlorobenzidine	ND		ug/kg	380	100	1
2,4-Dinitrotoluene	ND		ug/kg	380	77.	1
2,6-Dinitrotoluene	ND		ug/kg	380	66.	1
Fluoranthene	58	J	ug/kg	230	44.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	380	41.	1
4-Bromophenyl phenyl ether	ND		ug/kg	380	58.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	460	66.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	410	38.	1
Hexachlorobutadiene	ND		ug/kg	380	56.	1
Hexachlorocyclopentadiene	ND		ug/kg	1100	350	1
Hexachloroethane	ND		ug/kg	310	62.	1
Isophorone	ND		ug/kg	340	50.	1
Naphthalene	ND		ug/kg	380	47.	1
Nitrobenzene	ND		ug/kg	340	57.	1
NDPA/DPA	ND		ug/kg	310	44.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	380	59.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	380	130	1
Butyl benzyl phthalate	ND		ug/kg	380	97.	1
Di-n-butylphthalate	ND		ug/kg	380	73.	1
Di-n-octylphthalate	ND		ug/kg	380	130	1
Diethyl phthalate	ND		ug/kg	380	36.	1
Dimethyl phthalate	ND		ug/kg	380	81.	1
Benzo(a)anthracene	ND		ug/kg	230	43.	1
Benzo(a)pyrene	ND		ug/kg	310	94.	1
Benzo(b)fluoranthene	ND		ug/kg	230	65.	1
Benzo(k)fluoranthene	ND		ug/kg	230	61.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-05**Date Collected:** 01/11/18 11:00**Client ID:** SB-18 1-4 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	40	J	ug/kg	230	40.	1
Acenaphthylene	ND		ug/kg	310	59.	1
Anthracene	ND		ug/kg	230	75.	1
Benzo(ghi)perylene	ND		ug/kg	310	45.	1
Fluorene	ND		ug/kg	380	37.	1
Phenanthrene	ND		ug/kg	230	47.	1
Dibenzo(a,h)anthracene	ND		ug/kg	230	44.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	310	54.	1
Pyrene	46	J	ug/kg	230	38.	1
Biphenyl	ND		ug/kg	880	89.	1
4-Chloroaniline	ND		ug/kg	380	70.	1
2-Nitroaniline	ND		ug/kg	380	74.	1
3-Nitroaniline	ND		ug/kg	380	72.	1
4-Nitroaniline	ND		ug/kg	380	160	1
Dibenzofuran	ND		ug/kg	380	36.	1
2-Methylnaphthalene	ND		ug/kg	460	46.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	380	40.	1
Acetophenone	ND		ug/kg	380	48.	1
2,4,6-Trichlorophenol	ND		ug/kg	230	73.	1
p-Chloro-m-cresol	ND		ug/kg	380	57.	1
2-Chlorophenol	ND		ug/kg	380	45.	1
2,4-Dichlorophenol	ND		ug/kg	340	62.	1
2,4-Dimethylphenol	ND		ug/kg	380	130	1
2-Nitrophenol	ND		ug/kg	830	140	1
4-Nitrophenol	ND		ug/kg	540	160	1
2,4-Dinitrophenol	ND		ug/kg	1800	180	1
4,6-Dinitro-o-cresol	ND		ug/kg	1000	180	1
Pentachlorophenol	ND		ug/kg	310	84.	1
Phenol	ND		ug/kg	380	58.	1
2-Methylphenol	ND		ug/kg	380	60.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	550	60.	1
2,4,5-Trichlorophenol	ND		ug/kg	380	74.	1
Carbazole	ND		ug/kg	380	37.	1
Atrazine	ND		ug/kg	310	130	1
Benzaldehyde	ND		ug/kg	510	100	1
Caprolactam	ND		ug/kg	380	120	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	380	78.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-05**Date Collected:** 01/11/18 11:00**Client ID:** SB-18 1-4 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		25-120
Phenol-d6	69		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	66		30-120
2,4,6-Tribromophenol	67		10-136
4-Terphenyl-d14	56		18-120



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-06  
 Client ID: SB-19 2-5 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 11:15  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 07:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 01:16  
 Analyst: TT  
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	310	40.	1
Hexachlorobenzene	ND		ug/kg	230	43.	1
Bis(2-chloroethyl)ether	ND		ug/kg	350	52.	1
2-Chloronaphthalene	ND		ug/kg	390	38.	1
3,3'-Dichlorobenzidine	ND		ug/kg	390	100	1
2,4-Dinitrotoluene	ND		ug/kg	390	77.	1
2,6-Dinitrotoluene	ND		ug/kg	390	66.	1
Fluoranthene	ND		ug/kg	230	44.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	390	41.	1
4-Bromophenyl phenyl ether	ND		ug/kg	390	59.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	460	66.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	420	39.	1
Hexachlorobutadiene	ND		ug/kg	390	56.	1
Hexachlorocyclopentadiene	ND		ug/kg	1100	350	1
Hexachloroethane	ND		ug/kg	310	62.	1
Isophorone	ND		ug/kg	350	50.	1
Naphthalene	ND		ug/kg	390	47.	1
Nitrobenzene	ND		ug/kg	350	57.	1
NDPA/DPA	ND		ug/kg	310	44.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	390	60.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	390	130	1
Butyl benzyl phthalate	ND		ug/kg	390	97.	1
Di-n-butylphthalate	ND		ug/kg	390	73.	1
Di-n-octylphthalate	ND		ug/kg	390	130	1
Diethyl phthalate	ND		ug/kg	390	36.	1
Dimethyl phthalate	ND		ug/kg	390	81.	1
Benzo(a)anthracene	ND		ug/kg	230	44.	1
Benzo(a)pyrene	ND		ug/kg	310	94.	1
Benzo(b)fluoranthene	ND		ug/kg	230	65.	1
Benzo(k)fluoranthene	ND		ug/kg	230	62.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-06**Date Collected:** 01/11/18 11:15**Client ID:** SB-19 2-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	230	40.	1
Acenaphthylene	ND		ug/kg	310	60.	1
Anthracene	ND		ug/kg	230	75.	1
Benzo(ghi)perylene	ND		ug/kg	310	45.	1
Fluorene	ND		ug/kg	390	38.	1
Phenanthrene	ND		ug/kg	230	47.	1
Dibenzo(a,h)anthracene	ND		ug/kg	230	45.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	310	54.	1
Pyrene	ND		ug/kg	230	38.	1
Biphenyl	ND		ug/kg	880	90.	1
4-Chloroaniline	ND		ug/kg	390	70.	1
2-Nitroaniline	ND		ug/kg	390	74.	1
3-Nitroaniline	ND		ug/kg	390	73.	1
4-Nitroaniline	ND		ug/kg	390	160	1
Dibenzofuran	ND		ug/kg	390	36.	1
2-Methylnaphthalene	ND		ug/kg	460	47.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	390	40.	1
Acetophenone	ND		ug/kg	390	48.	1
2,4,6-Trichlorophenol	ND		ug/kg	230	73.	1
p-Chloro-m-cresol	ND		ug/kg	390	58.	1
2-Chlorophenol	ND		ug/kg	390	46.	1
2,4-Dichlorophenol	ND		ug/kg	350	62.	1
2,4-Dimethylphenol	ND		ug/kg	390	130	1
2-Nitrophenol	ND		ug/kg	830	140	1
4-Nitrophenol	ND		ug/kg	540	160	1
2,4-Dinitrophenol	ND		ug/kg	1800	180	1
4,6-Dinitro-o-cresol	ND		ug/kg	1000	180	1
Pentachlorophenol	ND		ug/kg	310	85.	1
Phenol	ND		ug/kg	390	58.	1
2-Methylphenol	ND		ug/kg	390	60.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	560	60.	1
2,4,5-Trichlorophenol	ND		ug/kg	390	74.	1
Carbazole	ND		ug/kg	390	38.	1
Atrazine	ND		ug/kg	310	140	1
Benzaldehyde	ND		ug/kg	510	100	1
Caprolactam	ND		ug/kg	390	120	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	390	78.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-06**Date Collected:** 01/11/18 11:15**Client ID:** SB-19 2-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	97		25-120
Phenol-d6	102		10-120
Nitrobenzene-d5	102		23-120
2-Fluorobiphenyl	101		30-120
2,4,6-Tribromophenol	100		10-136
4-Terphenyl-d14	87		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-07  
 Client ID: SB-20 1-4 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 11:40  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 07:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 06:22  
 Analyst: TT  
 Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	300	39.	1
Hexachlorobenzene	ND		ug/kg	220	42.	1
Bis(2-chloroethyl)ether	ND		ug/kg	340	51.	1
2-Chloronaphthalene	ND		ug/kg	380	37.	1
3,3'-Dichlorobenzidine	ND		ug/kg	380	100	1
2,4-Dinitrotoluene	ND		ug/kg	380	75.	1
2,6-Dinitrotoluene	ND		ug/kg	380	64.	1
Fluoranthene	180	J	ug/kg	220	43.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	380	40.	1
4-Bromophenyl phenyl ether	ND		ug/kg	380	57.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	450	64.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	410	38.	1
Hexachlorobutadiene	ND		ug/kg	380	55.	1
Hexachlorocyclopentadiene	ND		ug/kg	1100	340	1
Hexachloroethane	ND		ug/kg	300	61.	1
Isophorone	ND		ug/kg	340	49.	1
Naphthalene	ND		ug/kg	380	46.	1
Nitrobenzene	ND		ug/kg	340	56.	1
NDPA/DPA	ND		ug/kg	300	43.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	380	58.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	380	130	1
Butyl benzyl phthalate	ND		ug/kg	380	95.	1
Di-n-butylphthalate	ND		ug/kg	380	71.	1
Di-n-octylphthalate	ND		ug/kg	380	130	1
Diethyl phthalate	ND		ug/kg	380	35.	1
Dimethyl phthalate	ND		ug/kg	380	79.	1
Benzo(a)anthracene	79	J	ug/kg	220	42.	1
Benzo(a)pyrene	ND		ug/kg	300	92.	1
Benzo(b)fluoranthene	110	J	ug/kg	220	63.	1
Benzo(k)fluoranthene	ND		ug/kg	220	60.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-07**Date Collected:** 01/11/18 11:40**Client ID:** SB-20 1-4 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	92	J	ug/kg	220	39.	1
Acenaphthylene	ND		ug/kg	300	58.	1
Anthracene	ND		ug/kg	220	73.	1
Benzo(ghi)perylene	100	J	ug/kg	300	44.	1
Fluorene	ND		ug/kg	380	36.	1
Phenanthrene	130	J	ug/kg	220	46.	1
Dibenzo(a,h)anthracene	ND		ug/kg	220	43.	1
Indeno(1,2,3-cd)pyrene	60	J	ug/kg	300	52.	1
Pyrene	150	J	ug/kg	220	37.	1
Biphenyl	ND		ug/kg	860	87.	1
4-Chloroaniline	ND		ug/kg	380	68.	1
2-Nitroaniline	ND		ug/kg	380	72.	1
3-Nitroaniline	ND		ug/kg	380	71.	1
4-Nitroaniline	ND		ug/kg	380	160	1
Dibenzofuran	ND		ug/kg	380	36.	1
2-Methylnaphthalene	ND		ug/kg	450	45.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	380	39.	1
Acetophenone	ND		ug/kg	380	46.	1
2,4,6-Trichlorophenol	ND		ug/kg	220	71.	1
p-Chloro-m-cresol	ND		ug/kg	380	56.	1
2-Chlorophenol	ND		ug/kg	380	44.	1
2,4-Dichlorophenol	ND		ug/kg	340	60.	1
2,4-Dimethylphenol	ND		ug/kg	380	120	1
2-Nitrophenol	ND		ug/kg	810	140	1
4-Nitrophenol	ND		ug/kg	530	150	1
2,4-Dinitrophenol	ND		ug/kg	1800	180	1
4,6-Dinitro-o-cresol	ND		ug/kg	980	180	1
Pentachlorophenol	ND		ug/kg	300	83.	1
Phenol	ND		ug/kg	380	57.	1
2-Methylphenol	ND		ug/kg	380	58.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	540	59.	1
2,4,5-Trichlorophenol	ND		ug/kg	380	72.	1
Carbazole	ND		ug/kg	380	36.	1
Atrazine	ND		ug/kg	300	130	1
Benzaldehyde	ND		ug/kg	500	100	1
Caprolactam	ND		ug/kg	380	110	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	380	76.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-07**Date Collected:** 01/11/18 11:40**Client ID:** SB-20 1-4 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		25-120
Phenol-d6	80		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	74		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	66		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-08  
 Client ID: SB-21 14-15 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 12:15  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 00:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 01:42  
 Analyst: TT  
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	20.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	ND		ug/kg	110	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	540	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	1600		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	65.	1
Butyl benzyl phthalate	ND		ug/kg	190	48.	1
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	64.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	46.	1
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-08**Date Collected:** 01/11/18 12:15**Client ID:** SB-21 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	ND		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	19.	1
Biphenyl	54	J	ug/kg	430	44.	1
4-Chloroaniline	ND		ug/kg	190	34.	1
2-Nitroaniline	ND		ug/kg	190	36.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	78.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	1700		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	190	62.	1
2-Nitrophenol	ND		ug/kg	410	71.	1
4-Nitrophenol	ND		ug/kg	260	77.	1
2,4-Dinitrophenol	ND		ug/kg	910	88.	1
4,6-Dinitro-o-cresol	ND		ug/kg	490	91.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	28.	1
2-Methylphenol	ND		ug/kg	190	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	36.	1
Carbazole	ND		ug/kg	190	18.	1
Atrazine	ND		ug/kg	150	66.	1
Benzaldehyde	ND		ug/kg	250	51.	1
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-08**Date Collected:** 01/11/18 12:15**Client ID:** SB-21 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	66		25-120
Phenol-d6	69		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	66		30-120
2,4,6-Tribromophenol	62		10-136
4-Terphenyl-d14	65		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-09  
 Client ID: SB-22 15-16 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 13:00  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 00:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 02:07  
 Analyst: TT  
 Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	21.	1
Hexachlorobenzene	ND		ug/kg	120	23.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	28.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	54.	1
2,4-Dinitrotoluene	ND		ug/kg	200	41.	1
2,6-Dinitrotoluene	ND		ug/kg	200	35.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	31.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	580	180	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	120	J	ug/kg	200	25.	1
Nitrobenzene	ND		ug/kg	180	30.	1
NDPA/DPA	ND		ug/kg	160	23.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	31.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	70.	1
Butyl benzyl phthalate	ND		ug/kg	200	51.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	69.	1
Diethyl phthalate	ND		ug/kg	200	19.	1
Dimethyl phthalate	ND		ug/kg	200	43.	1
Benzo(a)anthracene	ND		ug/kg	120	23.	1
Benzo(a)pyrene	ND		ug/kg	160	50.	1
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-09**Date Collected:** 01/11/18 13:00**Client ID:** SB-22 15-16 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	40.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	200	20.	1
Phenanthrene	ND		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	23.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	28.	1
Pyrene	ND		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	460	47.	1
4-Chloroaniline	ND		ug/kg	200	37.	1
2-Nitroaniline	ND		ug/kg	200	39.	1
3-Nitroaniline	ND		ug/kg	200	38.	1
4-Nitroaniline	ND		ug/kg	200	84.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	160	J	ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	25.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	38.	1
p-Chloro-m-cresol	ND		ug/kg	200	30.	1
2-Chlorophenol	ND		ug/kg	200	24.	1
2,4-Dichlorophenol	ND		ug/kg	180	33.	1
2,4-Dimethylphenol	ND		ug/kg	200	67.	1
2-Nitrophenol	ND		ug/kg	440	76.	1
4-Nitrophenol	ND		ug/kg	280	83.	1
2,4-Dinitrophenol	ND		ug/kg	980	95.	1
4,6-Dinitro-o-cresol	ND		ug/kg	530	98.	1
Pentachlorophenol	ND		ug/kg	160	45.	1
Phenol	ND		ug/kg	200	31.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	39.	1
Carbazole	ND		ug/kg	200	20.	1
Atrazine	ND		ug/kg	160	71.	1
Benzaldehyde	ND		ug/kg	270	55.	1
Caprolactam	ND		ug/kg	200	62.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	41.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-09**Date Collected:** 01/11/18 13:00**Client ID:** SB-22 15-16 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	74		25-120
Phenol-d6	76		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	74		10-136
4-Terphenyl-d14	68		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-10  
 Client ID: SB-23 15-16 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 13:40  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 00:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 05:56  
 Analyst: TT  
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Hexachlorobenzene	ND		ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	25.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	ND		ug/kg	110	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	29.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	540	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	ND		ug/kg	190	23.	1
Nitrobenzene	ND		ug/kg	170	28.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	65.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1
Di-n-butylphthalate	ND		ug/kg	190	36.	1
Di-n-octylphthalate	ND		ug/kg	190	64.	1
Diethyl phthalate	ND		ug/kg	190	17.	1
Dimethyl phthalate	ND		ug/kg	190	39.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	46.	1
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-10**Date Collected:** 01/11/18 13:40**Client ID:** SB-23 15-16 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	ND		ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	19.	1
Biphenyl	ND		ug/kg	430	44.	1
4-Chloroaniline	ND		ug/kg	190	34.	1
2-Nitroaniline	ND		ug/kg	190	36.	1
3-Nitroaniline	ND		ug/kg	190	35.	1
4-Nitroaniline	ND		ug/kg	190	78.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	900		ug/kg	220	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	28.	1
2-Chlorophenol	ND		ug/kg	190	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	190	62.	1
2-Nitrophenol	ND		ug/kg	400	71.	1
4-Nitrophenol	ND		ug/kg	260	77.	1
2,4-Dinitrophenol	ND		ug/kg	900	88.	1
4,6-Dinitro-o-cresol	ND		ug/kg	490	90.	1
Pentachlorophenol	ND		ug/kg	150	41.	1
Phenol	ND		ug/kg	190	28.	1
2-Methylphenol	ND		ug/kg	190	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	36.	1
Carbazole	ND		ug/kg	190	18.	1
Atrazine	ND		ug/kg	150	66.	1
Benzaldehyde	ND		ug/kg	250	51.	1
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-10**Date Collected:** 01/11/18 13:40**Client ID:** SB-23 15-16 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		25-120
Phenol-d6	80		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	80		30-120
2,4,6-Tribromophenol	78		10-136
4-Terphenyl-d14	79		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-11 D  
 Client ID: SB-30 14-15 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/12/18 10:50  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 00:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/18/18 03:16  
 Analyst: CB  
 Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	830	110	5
Hexachlorobenzene	ND		ug/kg	620	120	5
Bis(2-chloroethyl)ether	ND		ug/kg	940	140	5
2-Chloronaphthalene	ND		ug/kg	1000	100	5
3,3'-Dichlorobenzidine	ND		ug/kg	1000	280	5
2,4-Dinitrotoluene	ND		ug/kg	1000	210	5
2,6-Dinitrotoluene	ND		ug/kg	1000	180	5
Fluoranthene	ND		ug/kg	620	120	5
4-Chlorophenyl phenyl ether	ND		ug/kg	1000	110	5
4-Bromophenyl phenyl ether	ND		ug/kg	1000	160	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	1200	180	5
Bis(2-chloroethoxy)methane	ND		ug/kg	1100	100	5
Hexachlorobutadiene	ND		ug/kg	1000	150	5
Hexachlorocyclopentadiene	ND		ug/kg	3000	940	5
Hexachloroethane	ND		ug/kg	830	170	5
Isophorone	ND		ug/kg	940	140	5
Naphthalene	1100		ug/kg	1000	130	5
Nitrobenzene	ND		ug/kg	940	150	5
NDPA/DPA	ND		ug/kg	830	120	5
n-Nitrosodi-n-propylamine	ND		ug/kg	1000	160	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	1000	360	5
Butyl benzyl phthalate	ND		ug/kg	1000	260	5
Di-n-butylphthalate	ND		ug/kg	1000	200	5
Di-n-octylphthalate	ND		ug/kg	1000	350	5
Diethyl phthalate	ND		ug/kg	1000	96.	5
Dimethyl phthalate	ND		ug/kg	1000	220	5
Benzo(a)anthracene	ND		ug/kg	620	120	5
Benzo(a)pyrene	ND		ug/kg	830	250	5
Benzo(b)fluoranthene	ND		ug/kg	620	180	5
Benzo(k)fluoranthene	ND		ug/kg	620	170	5



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-11 D**Date Collected:** 01/12/18 10:50**Client ID:** SB-30 14-15 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	620	110	5
Acenaphthylene	ND		ug/kg	830	160	5
Anthracene	ND		ug/kg	620	200	5
Benzo(ghi)perylene	ND		ug/kg	830	120	5
Fluorene	ND		ug/kg	1000	100	5
Phenanthrene	ND		ug/kg	620	130	5
Dibenzo(a,h)anthracene	ND		ug/kg	620	120	5
Indeno(1,2,3-cd)pyrene	ND		ug/kg	830	140	5
Pyrene	ND		ug/kg	620	100	5
Biphenyl	250	J	ug/kg	2400	240	5
4-Chloroaniline	ND		ug/kg	1000	190	5
2-Nitroaniline	ND		ug/kg	1000	200	5
3-Nitroaniline	ND		ug/kg	1000	200	5
4-Nitroaniline	ND		ug/kg	1000	430	5
Dibenzofuran	ND		ug/kg	1000	99.	5
2-Methylnaphthalene	3500		ug/kg	1200	120	5
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	1000	110	5
Acetophenone	ND		ug/kg	1000	130	5
2,4,6-Trichlorophenol	ND		ug/kg	620	200	5
p-Chloro-m-cresol	ND		ug/kg	1000	160	5
2-Chlorophenol	ND		ug/kg	1000	120	5
2,4-Dichlorophenol	ND		ug/kg	940	170	5
2,4-Dimethylphenol	ND		ug/kg	1000	340	5
2-Nitrophenol	ND		ug/kg	2200	390	5
4-Nitrophenol	ND		ug/kg	1400	420	5
2,4-Dinitrophenol	ND		ug/kg	5000	480	5
4,6-Dinitro-o-cresol	ND		ug/kg	2700	500	5
Pentachlorophenol	ND		ug/kg	830	230	5
Phenol	ND		ug/kg	1000	160	5
2-Methylphenol	ND		ug/kg	1000	160	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1500	160	5
2,4,5-Trichlorophenol	ND		ug/kg	1000	200	5
Carbazole	ND		ug/kg	1000	100	5
Atrazine	ND		ug/kg	830	360	5
Benzaldehyde	ND		ug/kg	1400	280	5
Caprolactam	ND		ug/kg	1000	320	5
2,3,4,6-Tetrachlorophenol	ND		ug/kg	1000	210	5

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-11 D

Date Collected: 01/12/18 10:50

Client ID: SB-30 14-15 FT

Date Received: 01/12/18

Sample Location: 115-121 W. THIRD ST., &amp; 200-210 WASHINGTON ST.

Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	57		25-120
Phenol-d6	53		10-120
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	55		30-120
2,4,6-Tribromophenol	50		10-136
4-Terphenyl-d14	45		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-13  
 Client ID: SB-26 0.5-2 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/12/18 09:00  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 00:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 06:47  
 Analyst: TT  
 Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	140	19.	1
Hexachlorobenzene	ND		ug/kg	110	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	48.	1
2,4-Dinitrotoluene	ND		ug/kg	180	36.	1
2,6-Dinitrotoluene	ND		ug/kg	180	31.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	62.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	61.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	44.	1
Benzo(b)fluoranthene	42	J	ug/kg	110	30.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-13**Date Collected:** 01/12/18 09:00**Client ID:** SB-26 0.5-2 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	39	J	ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	ND		ug/kg	110	35.	1
Benzo(ghi)perylene	150		ug/kg	140	21.	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	34	J	ug/kg	140	25.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	410	42.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	75.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	22.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	34.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	390	68.	1
4-Nitrophenol	ND		ug/kg	250	74.	1
2,4-Dinitrophenol	ND		ug/kg	870	84.	1
4,6-Dinitro-o-cresol	ND		ug/kg	470	87.	1
Pentachlorophenol	ND		ug/kg	140	40.	1
Phenol	ND		ug/kg	180	27.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	140	63.	1
Benzaldehyde	ND		ug/kg	240	49.	1
Caprolactam	ND		ug/kg	180	55.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	36.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-13**Date Collected:** 01/12/18 09:00**Client ID:** SB-26 0.5-2 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	73		30-120
2,4,6-Tribromophenol	68		10-136
4-Terphenyl-d14	71		18-120

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-14  
 Client ID: SB-28 0.5-2 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/12/18 09:50  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 07:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 04:14  
 Analyst: TT  
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	330	43.	1
Hexachlorobenzene	ND		ug/kg	250	46.	1
Bis(2-chloroethyl)ether	ND		ug/kg	370	56.	1
2-Chloronaphthalene	ND		ug/kg	410	41.	1
3,3'-Dichlorobenzidine	ND		ug/kg	410	110	1
2,4-Dinitrotoluene	ND		ug/kg	410	82.	1
2,6-Dinitrotoluene	ND		ug/kg	410	71.	1
Fluoranthene	ND		ug/kg	250	47.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	410	44.	1
4-Bromophenyl phenyl ether	ND		ug/kg	410	63.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	500	70.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	440	41.	1
Hexachlorobutadiene	ND		ug/kg	410	60.	1
Hexachlorocyclopentadiene	ND		ug/kg	1200	370	1
Hexachloroethane	ND		ug/kg	330	67.	1
Isophorone	ND		ug/kg	370	54.	1
Naphthalene	ND		ug/kg	410	50.	1
Nitrobenzene	ND		ug/kg	370	61.	1
NDPA/DPA	ND		ug/kg	330	47.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	410	64.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	410	140	1
Butyl benzyl phthalate	ND		ug/kg	410	100	1
Di-n-butylphthalate	ND		ug/kg	410	78.	1
Di-n-octylphthalate	ND		ug/kg	410	140	1
Diethyl phthalate	ND		ug/kg	410	38.	1
Dimethyl phthalate	ND		ug/kg	410	87.	1
Benzo(a)anthracene	ND		ug/kg	250	46.	1
Benzo(a)pyrene	ND		ug/kg	330	100	1
Benzo(b)fluoranthene	ND		ug/kg	250	69.	1
Benzo(k)fluoranthene	ND		ug/kg	250	66.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-14**Date Collected:** 01/12/18 09:50**Client ID:** SB-28 0.5-2 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	250	43.	1
Acenaphthylene	ND		ug/kg	330	64.	1
Anthracene	ND		ug/kg	250	80.	1
Benzo(ghi)perylene	ND		ug/kg	330	48.	1
Fluorene	ND		ug/kg	410	40.	1
Phenanthrene	ND		ug/kg	250	50.	1
Dibenzo(a,h)anthracene	ND		ug/kg	250	48.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	330	58.	1
Pyrene	ND		ug/kg	250	41.	1
Biphenyl	ND		ug/kg	940	96.	1
4-Chloroaniline	ND		ug/kg	410	75.	1
2-Nitroaniline	ND		ug/kg	410	80.	1
3-Nitroaniline	ND		ug/kg	410	78.	1
4-Nitroaniline	ND		ug/kg	410	170	1
Dibenzofuran	ND		ug/kg	410	39.	1
2-Methylnaphthalene	ND		ug/kg	500	50.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	410	43.	1
Acetophenone	ND		ug/kg	410	51.	1
2,4,6-Trichlorophenol	ND		ug/kg	250	78.	1
p-Chloro-m-cresol	ND		ug/kg	410	61.	1
2-Chlorophenol	ND		ug/kg	410	49.	1
2,4-Dichlorophenol	ND		ug/kg	370	66.	1
2,4-Dimethylphenol	ND		ug/kg	410	140	1
2-Nitrophenol	ND		ug/kg	890	160	1
4-Nitrophenol	ND		ug/kg	580	170	1
2,4-Dinitrophenol	ND		ug/kg	2000	190	1
4,6-Dinitro-o-cresol	ND		ug/kg	1100	200	1
Pentachlorophenol	ND		ug/kg	330	91.	1
Phenol	ND		ug/kg	410	62.	1
2-Methylphenol	ND		ug/kg	410	64.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	590	65.	1
2,4,5-Trichlorophenol	ND		ug/kg	410	79.	1
Carbazole	ND		ug/kg	410	40.	1
Atrazine	ND		ug/kg	330	140	1
Benzaldehyde	ND		ug/kg	540	110	1
Caprolactam	ND		ug/kg	410	120	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	410	83.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-14**Date Collected:** 01/12/18 09:50**Client ID:** SB-28 0.5-2 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		25-120
Phenol-d6	81		10-120
Nitrobenzene-d5	82		23-120
2-Fluorobiphenyl	86		30-120
2,4,6-Tribromophenol	84		10-136
4-Terphenyl-d14	76		18-120



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-15  
 Client ID: SB-29 3-5 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/12/18 10:20  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 07:29

Matrix: Soil  
 Analytical Method: 1,8270D  
 Analytical Date: 01/17/18 02:33  
 Analyst: TT  
 Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	310	40.	1
Hexachlorobenzene	ND		ug/kg	230	43.	1
Bis(2-chloroethyl)ether	ND		ug/kg	340	52.	1
2-Chloronaphthalene	ND		ug/kg	380	38.	1
3,3'-Dichlorobenzidine	ND		ug/kg	380	100	1
2,4-Dinitrotoluene	ND		ug/kg	380	77.	1
2,6-Dinitrotoluene	ND		ug/kg	380	66.	1
Fluoranthene	ND		ug/kg	230	44.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	380	41.	1
4-Bromophenyl phenyl ether	ND		ug/kg	380	58.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	460	65.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	410	38.	1
Hexachlorobutadiene	ND		ug/kg	380	56.	1
Hexachlorocyclopentadiene	ND		ug/kg	1100	350	1
Hexachloroethane	ND		ug/kg	310	62.	1
Isophorone	ND		ug/kg	340	50.	1
Naphthalene	ND		ug/kg	380	47.	1
Nitrobenzene	ND		ug/kg	340	57.	1
NDPA/DPA	ND		ug/kg	310	44.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	380	59.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	380	130	1
Butyl benzyl phthalate	ND		ug/kg	380	96.	1
Di-n-butylphthalate	ND		ug/kg	380	73.	1
Di-n-octylphthalate	ND		ug/kg	380	130	1
Diethyl phthalate	ND		ug/kg	380	35.	1
Dimethyl phthalate	ND		ug/kg	380	80.	1
Benzo(a)anthracene	ND		ug/kg	230	43.	1
Benzo(a)pyrene	ND		ug/kg	310	93.	1
Benzo(b)fluoranthene	ND		ug/kg	230	64.	1
Benzo(k)fluoranthene	ND		ug/kg	230	61.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-15**Date Collected:** 01/12/18 10:20**Client ID:** SB-29 3-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Chrysene	ND		ug/kg	230	40.	1
Acenaphthylene	ND		ug/kg	310	59.	1
Anthracene	ND		ug/kg	230	75.	1
Benzo(ghi)perylene	ND		ug/kg	310	45.	1
Fluorene	ND		ug/kg	380	37.	1
Phenanthrene	ND		ug/kg	230	46.	1
Dibenzo(a,h)anthracene	ND		ug/kg	230	44.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	310	53.	1
Pyrene	ND		ug/kg	230	38.	1
Biphenyl	ND		ug/kg	870	89.	1
4-Chloroaniline	ND		ug/kg	380	70.	1
2-Nitroaniline	ND		ug/kg	380	74.	1
3-Nitroaniline	ND		ug/kg	380	72.	1
4-Nitroaniline	ND		ug/kg	380	160	1
Dibenzofuran	ND		ug/kg	380	36.	1
2-Methylnaphthalene	ND		ug/kg	460	46.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	380	40.	1
Acetophenone	ND		ug/kg	380	47.	1
2,4,6-Trichlorophenol	ND		ug/kg	230	73.	1
p-Chloro-m-cresol	ND		ug/kg	380	57.	1
2-Chlorophenol	ND		ug/kg	380	45.	1
2,4-Dichlorophenol	ND		ug/kg	340	62.	1
2,4-Dimethylphenol	ND		ug/kg	380	130	1
2-Nitrophenol	ND		ug/kg	830	140	1
4-Nitrophenol	ND		ug/kg	540	160	1
2,4-Dinitrophenol	ND		ug/kg	1800	180	1
4,6-Dinitro-o-cresol	ND		ug/kg	1000	180	1
Pentachlorophenol	ND		ug/kg	310	84.	1
Phenol	ND		ug/kg	380	58.	1
2-Methylphenol	ND		ug/kg	380	59.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	550	60.	1
2,4,5-Trichlorophenol	ND		ug/kg	380	73.	1
Carbazole	ND		ug/kg	380	37.	1
Atrazine	ND		ug/kg	310	130	1
Benzaldehyde	ND		ug/kg	500	100	1
Caprolactam	ND		ug/kg	380	120	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	380	77.	1

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-15**Date Collected:** 01/12/18 10:20**Client ID:** SB-29 3-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Semivolatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	88		25-120
Phenol-d6	95		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	92		30-120
2,4,6-Tribromophenol	105		10-136
4-Terphenyl-d14	88		18-120

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D  
 Analytical Date: 01/16/18 15:00  
 Analyst: EK

Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 00:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03-11,13-15 Batch: WG1081113-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	99	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	44.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	99	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D  
 Analytical Date: 01/16/18 15:00  
 Analyst: EK

Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 00:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03-11,13-15 Batch: WG1081113-1					
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	25.
2-Chlorophenol	ND		ug/kg	160	20.
2,4-Dichlorophenol	ND		ug/kg	150	27.
2,4-Dimethylphenol	ND		ug/kg	160	55.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	68.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**Method Blank Analysis**  
**Batch Quality Control**

**Analytical Method:** 1,8270D  
**Analytical Date:** 01/16/18 15:00  
**Analyst:** EK

**Extraction Method:** EPA 3546  
**Extraction Date:** 01/16/18 00:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 03-11,13-15 Batch: WG1081113-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	32.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	58.
Benzaldehyde	ND		ug/kg	220	45.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

**Tentatively Identified Compounds**

No Tentatively Identified Compounds ND ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		25-120
Phenol-d6	95		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	93		30-120
2,4,6-Tribromophenol	92		10-136
4-Terphenyl-d14	103		18-120

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Lab Number:** L1801264

**Project Number:** 2180345

**Report Date:** 01/19/18

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03-11,13-15 Batch: WG1081113-2 WG1081113-3								
Acenaphthene	90		93		31-137	3		50
Hexachlorobenzene	90		92		40-140	2		50
Bis(2-chloroethyl)ether	87		84		40-140	4		50
2-Chloronaphthalene	89		88		40-140	1		50
3,3'-Dichlorobenzidine	59		56		40-140	5		50
2,4-Dinitrotoluene	95		98		40-132	3		50
2,6-Dinitrotoluene	92		93		40-140	1		50
Fluoranthene	95		94		40-140	1		50
4-Chlorophenyl phenyl ether	90		93		40-140	3		50
4-Bromophenyl phenyl ether	96		95		40-140	1		50
Bis(2-chloroisopropyl)ether	121		121		40-140	0		50
Bis(2-chloroethoxy)methane	88		88		40-117	0		50
Hexachlorobutadiene	89		88		40-140	1		50
Hexachlorocyclopentadiene	81		82		40-140	1		50
Hexachloroethane	84		86		40-140	2		50
Isophorone	90		90		40-140	0		50
Naphthalene	87		88		40-140	1		50
Nitrobenzene	92		91		40-140	1		50
NDPA/DPA	94		95		36-157	1		50
n-Nitrosodi-n-propylamine	96		95		32-121	1		50
Bis(2-ethylhexyl)phthalate	97		97		40-140	0		50
Butyl benzyl phthalate	101		101		40-140	0		50
Di-n-butylphthalate	95		96		40-140	1		50

# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST

**Lab Number:** L1801264

**Project Number:** 2180345

**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03-11,13-15 Batch: WG1081113-2 WG1081113-3								
Di-n-octylphthalate	103		102		40-140	1		50
Diethyl phthalate	94		96		40-140	2		50
Dimethyl phthalate	95		93		40-140	2		50
Benzo(a)anthracene	90		92		40-140	2		50
Benzo(a)pyrene	100		100		40-140	0		50
Benzo(b)fluoranthene	94		95		40-140	1		50
Benzo(k)fluoranthene	97		95		40-140	2		50
Chrysene	91		90		40-140	1		50
Acenaphthylene	94		93		40-140	1		50
Anthracene	92		93		40-140	1		50
Benzo(ghi)perylene	104		102		40-140	2		50
Fluorene	94		94		40-140	0		50
Phenanthrene	91		91		40-140	0		50
Dibenzo(a,h)anthracene	100		100		40-140	0		50
Indeno(1,2,3-cd)pyrene	106		104		40-140	2		50
Pyrene	98		95		35-142	3		50
Biphenyl	89		90		54-104	1		50
4-Chloroaniline	46		44		40-140	4		50
2-Nitroaniline	94		94		47-134	0		50
3-Nitroaniline	66		64		26-129	3		50
4-Nitroaniline	86		88		41-125	2		50
Dibenzofuran	92		93		40-140	1		50
2-Methylnaphthalene	91		91		40-140	0		50



# **Lab Control Sample Analysis** **Batch Quality Control**

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03-11,13-15 Batch: WG1081113-2 WG1081113-3								
1,2,4,5-Tetrachlorobenzene	87		85		40-117	2		50
Acetophenone	88		88		14-144	0		50
2,4,6-Trichlorophenol	94		95		30-130	1		50
p-Chloro-m-cresol	100		100		26-103	0		50
2-Chlorophenol	92		92		25-102	0		50
2,4-Dichlorophenol	95		95		30-130	0		50
2,4-Dimethylphenol	97		97		30-130	0		50
2-Nitrophenol	88		87		30-130	1		50
4-Nitrophenol	117	Q	117	Q	11-114	0		50
2,4-Dinitrophenol	60		67		4-130	11		50
4,6-Dinitro-o-cresol	86		89		10-130	3		50
Pentachlorophenol	86		87		17-109	1		50
Phenol	92	Q	91	Q	26-90	1		50
2-Methylphenol	94		93		30-130.	1		50
3-Methylphenol/4-Methylphenol	94		94		30-130	0		50
2,4,5-Trichlorophenol	97		98		30-130	1		50
Carbazole	93		94		54-128	1		50
Atrazine	108		108		40-140	0		50
Benzaldehyde	72		70		40-140	3		50
Caprolactam	125		122		15-130	2		50
2,3,4,6-Tetrachlorophenol	93		94		40-140	1		50

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 03-11,13-15 Batch: WG1081113-2 WG1081113-3								

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>
2-Fluorophenol	90		89		25-120
Phenol-d6	95		94		10-120
Nitrobenzene-d5	93		91		23-120
2-Fluorobiphenyl	94		92		30-120
2,4,6-Tribromophenol	96		92		10-136
4-Terphenyl-d14	100		99		18-120

# PCBS

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-04  
 Client ID: SB-17 2-5 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/11/18 10:30  
 Date Received: 01/12/18  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/18/18 05:07  
 Analyst: WR  
 Percent Solids: 81%

Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 22:38  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/17/18  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.1	4.54	1	A
Aroclor 1221	ND		ug/kg	40.1	6.10	1	A
Aroclor 1232	ND		ug/kg	40.1	3.94	1	A
Aroclor 1242	ND		ug/kg	40.1	4.90	1	A
Aroclor 1248	ND		ug/kg	40.1	4.50	1	A
Aroclor 1254	ND		ug/kg	40.1	3.27	1	A
Aroclor 1260	ND		ug/kg	40.1	4.18	1	A
Aroclor 1262	ND		ug/kg	40.1	3.29	1	A
Aroclor 1268	ND		ug/kg	40.1	2.84	1	A
PCBs, Total	ND		ug/kg	40.1	2.84	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	63		30-150	A
Decachlorobiphenyl	45		30-150	A
2,4,5,6-Tetrachloro-m-xylene	58		30-150	B
Decachlorobiphenyl	49		30-150	B

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Project Number:** 2180345**Lab Number:** L1801264**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-05  
 Client ID: SB-18 1-4 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/18/18 05:20  
 Analyst: WR  
 Percent Solids: 86%

Date Collected: 01/11/18 11:00  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 22:38  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/17/18  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.0	4.20	1	A
Aroclor 1221	ND		ug/kg	37.0	5.63	1	A
Aroclor 1232	ND		ug/kg	37.0	3.64	1	A
Aroclor 1242	ND		ug/kg	37.0	4.53	1	A
Aroclor 1248	ND		ug/kg	37.0	4.15	1	A
Aroclor 1254	ND		ug/kg	37.0	3.02	1	A
Aroclor 1260	ND		ug/kg	37.0	3.86	1	A
Aroclor 1262	ND		ug/kg	37.0	3.04	1	A
Aroclor 1268	ND		ug/kg	37.0	2.62	1	A
PCBs, Total	ND		ug/kg	37.0	2.62	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	72		30-150	B
Decachlorobiphenyl	65		30-150	B

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Project Number:** 2180345**Lab Number:** L1801264**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-13  
 Client ID: SB-26 0.5-2 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/18/18 05:34  
 Analyst: WR  
 Percent Solids: 90%

Date Collected: 01/12/18 09:00  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 22:38  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/17/18  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.8	3.95	1	A
Aroclor 1221	ND		ug/kg	34.8	5.30	1	A
Aroclor 1232	ND		ug/kg	34.8	3.42	1	A
Aroclor 1242	ND		ug/kg	34.8	4.26	1	A
Aroclor 1248	ND		ug/kg	34.8	3.90	1	A
Aroclor 1254	ND		ug/kg	34.8	2.84	1	A
Aroclor 1260	ND		ug/kg	34.8	3.63	1	A
Aroclor 1262	ND		ug/kg	34.8	2.86	1	A
Aroclor 1268	ND		ug/kg	34.8	2.46	1	A
PCBs, Total	ND		ug/kg	34.8	2.46	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	77		30-150	A
Decachlorobiphenyl	47		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		30-150	B
Decachlorobiphenyl	61		30-150	B

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-14  
 Client ID: SB-28 0.5-2 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Date Collected: 01/12/18 09:50  
 Date Received: 01/12/18  
 Field Prep: Not Specified

Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/18/18 05:47  
 Analyst: WR  
 Percent Solids: 80%

Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 22:38  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/17/18  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	40.5	4.59	1	A
Aroclor 1221	ND		ug/kg	40.5	6.16	1	A
Aroclor 1232	ND		ug/kg	40.5	3.98	1	A
Aroclor 1242	ND		ug/kg	40.5	4.95	1	A
Aroclor 1248	ND		ug/kg	40.5	4.54	1	A
Aroclor 1254	ND		ug/kg	40.5	3.30	1	A
Aroclor 1260	ND		ug/kg	40.5	4.22	1	A
Aroclor 1262	ND		ug/kg	40.5	3.33	1	A
Aroclor 1268	ND		ug/kg	40.5	2.86	1	A
PCBs, Total	ND		ug/kg	40.5	2.86	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	47		30-150	A
Decachlorobiphenyl	33		30-150	A
2,4,5,6-Tetrachloro-m-xylene	45		30-150	B
Decachlorobiphenyl	44		30-150	B

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Project Number:** 2180345**Lab Number:** L1801264**Report Date:** 01/19/18**SAMPLE RESULTS**

Lab ID: L1801264-15  
 Client ID: SB-29 3-5 FT  
 Sample Location: 115-121 W. THIRD ST., & 200-210 WASHINGTON ST.

Matrix: Soil  
 Analytical Method: 1,8082A  
 Analytical Date: 01/18/18 06:01  
 Analyst: WR  
 Percent Solids: 84%

Date Collected: 01/12/18 10:20  
 Date Received: 01/12/18  
 Field Prep: Not Specified  
 Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 22:38  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/17/18  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.0	4.31	1	A
Aroclor 1221	ND		ug/kg	38.0	5.79	1	A
Aroclor 1232	ND		ug/kg	38.0	3.74	1	A
Aroclor 1242	ND		ug/kg	38.0	4.66	1	A
Aroclor 1248	ND		ug/kg	38.0	4.27	1	A
Aroclor 1254	ND		ug/kg	38.0	3.10	1	A
Aroclor 1260	ND		ug/kg	38.0	3.97	1	A
Aroclor 1262	ND		ug/kg	38.0	3.13	1	A
Aroclor 1268	ND		ug/kg	38.0	2.69	1	A
PCBs, Total	ND		ug/kg	38.0	2.69	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	55		30-150	A
Decachlorobiphenyl	37		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	58		30-150	B



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18

### Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A  
 Analytical Date: 01/17/18 12:03  
 Analyst: WR

Extraction Method: EPA 3546  
 Extraction Date: 01/16/18 20:21  
 Cleanup Method: EPA 3665A  
 Cleanup Date: 01/17/18  
 Cleanup Method: EPA 3660B  
 Cleanup Date: 01/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 04-05,13-15 Batch: WG1081401-1						
Aroclor 1016	ND		ug/kg	31.3	3.55	A
Aroclor 1221	ND		ug/kg	31.3	4.76	A
Aroclor 1232	ND		ug/kg	31.3	3.08	A
Aroclor 1242	ND		ug/kg	31.3	3.83	A
Aroclor 1248	ND		ug/kg	31.3	3.51	A
Aroclor 1254	ND		ug/kg	31.3	2.55	A
Aroclor 1260	ND		ug/kg	31.3	3.27	A
Aroclor 1262	ND		ug/kg	31.3	2.57	A
Aroclor 1268	ND		ug/kg	31.3	2.22	A
PCBs, Total	ND		ug/kg	31.3	2.22	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	97		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	105		30-150	B

**Lab Control Sample Analysis****Batch Quality Control****Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18

<b>Parameter</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>%Recovery Limits</b>	<b>RPD</b>	<b>Qual</b>	<b>RPD Limits</b>	<b>Column</b>
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 04-05,13-15 Batch: WG1081401-2 WG1081401-3									
Aroclor 1016	75		79		40-140	5		50	A
Aroclor 1260	101		97		40-140	4		50	A

<b>Surrogate</b>	<b>LCS %Recovery</b>	<b>Qual</b>	<b>LCSD %Recovery</b>	<b>Qual</b>	<b>Acceptance Criteria</b>	<b>Column</b>
2,4,5,6-Tetrachloro-m-xylene	81		81		30-150	A
Decachlorobiphenyl	99		100		30-150	A
2,4,5,6-Tetrachloro-m-xylene	74		79		30-150	B
Decachlorobiphenyl	106		115		30-150	B

## METALS

Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

## SAMPLE RESULTS

Lab ID: L1801264-03

Date Collected: 01/11/18 10:00

Client ID: SB-16 2-5 FT

Date Received: 01/12/18

Sample Location: 115-121 W. THIRD ST., &amp; 200-21

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	8.48		mg/kg	0.453	0.094	1	01/17/18 08:20	01/17/18 14:09	EPA 3050B	1,6010C	LC
Barium, Total	64.2		mg/kg	0.453	0.079	1	01/17/18 08:20	01/17/18 14:09	EPA 3050B	1,6010C	LC
Cadmium, Total	0.639		mg/kg	0.453	0.044	1	01/17/18 08:20	01/17/18 14:09	EPA 3050B	1,6010C	LC
Chromium, Total	7.91		mg/kg	0.453	0.044	1	01/17/18 08:20	01/17/18 14:09	EPA 3050B	1,6010C	LC
Lead, Total	36.0		mg/kg	2.26	0.121	1	01/17/18 08:20	01/17/18 14:09	EPA 3050B	1,6010C	LC
Mercury, Total	0.04	J	mg/kg	0.07	0.02	1	01/17/18 06:00	01/17/18 19:12	EPA 7471B	1,7471B	EA
Selenium, Total	0.172	J	mg/kg	0.906	0.117	1	01/17/18 08:20	01/17/18 14:09	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.453	0.128	1	01/17/18 08:20	01/17/18 14:09	EPA 3050B	1,6010C	LC



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-04**Date Collected:** 01/11/18 10:30**Client ID:** SB-17 2-5 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-21**Field Prep:** Not Specified**Matrix:** Soil**Percent Solids:** 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	11.8		mg/kg	0.471	0.098	1	01/17/18 08:20	01/17/18 14:13	EPA 3050B	1,6010C	LC
Barium, Total	79.5		mg/kg	0.471	0.082	1	01/17/18 08:20	01/17/18 14:13	EPA 3050B	1,6010C	LC
Cadmium, Total	1.05		mg/kg	0.471	0.046	1	01/17/18 08:20	01/17/18 14:13	EPA 3050B	1,6010C	LC
Chromium, Total	16.3		mg/kg	0.471	0.045	1	01/17/18 08:20	01/17/18 14:13	EPA 3050B	1,6010C	LC
Lead, Total	7.12		mg/kg	2.36	0.126	1	01/17/18 08:20	01/17/18 14:13	EPA 3050B	1,6010C	LC
Mercury, Total	ND		mg/kg	0.08	0.02	1	01/17/18 06:00	01/17/18 19:14	EPA 7471B	1,7471B	EA
Selenium, Total	ND		mg/kg	0.942	0.122	1	01/17/18 08:20	01/17/18 14:13	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.471	0.133	1	01/17/18 08:20	01/17/18 14:13	EPA 3050B	1,6010C	LC



Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

## SAMPLE RESULTS

Lab ID: L1801264-05

Date Collected: 01/11/18 11:00

Client ID: SB-18 1-4 FT

Date Received: 01/12/18

Sample Location: 115-121 W. THIRD ST., &amp; 200-21

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	9.12		mg/kg	0.443	0.092	1	01/17/18 08:20	01/17/18 14:18	EPA 3050B	1,6010C	LC
Barium, Total	99.5		mg/kg	0.443	0.077	1	01/17/18 08:20	01/17/18 14:18	EPA 3050B	1,6010C	LC
Cadmium, Total	0.757		mg/kg	0.443	0.043	1	01/17/18 08:20	01/17/18 14:18	EPA 3050B	1,6010C	LC
Chromium, Total	11.4		mg/kg	0.443	0.043	1	01/17/18 08:20	01/17/18 14:18	EPA 3050B	1,6010C	LC
Lead, Total	13.8		mg/kg	2.21	0.119	1	01/17/18 08:20	01/17/18 14:18	EPA 3050B	1,6010C	LC
Mercury, Total	ND		mg/kg	0.08	0.02	1	01/17/18 06:00	01/17/18 19:15	EPA 7471B	1,7471B	EA
Selenium, Total	0.168	J	mg/kg	0.886	0.114	1	01/17/18 08:20	01/17/18 14:18	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.443	0.125	1	01/17/18 08:20	01/17/18 14:18	EPA 3050B	1,6010C	LC



Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

## SAMPLE RESULTS

Lab ID: L1801264-06

Date Collected: 01/11/18 11:15

Client ID: SB-19 2-5 FT

Date Received: 01/12/18

Sample Location: 115-121 W. THIRD ST., &amp; 200-21

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	9.90		mg/kg	0.460	0.096	1	01/17/18 08:20	01/17/18 14:22	EPA 3050B	1,6010C	LC
Barium, Total	93.4		mg/kg	0.460	0.080	1	01/17/18 08:20	01/17/18 14:22	EPA 3050B	1,6010C	LC
Cadmium, Total	0.962		mg/kg	0.460	0.045	1	01/17/18 08:20	01/17/18 14:22	EPA 3050B	1,6010C	LC
Chromium, Total	14.6		mg/kg	0.460	0.044	1	01/17/18 08:20	01/17/18 14:22	EPA 3050B	1,6010C	LC
Lead, Total	7.52		mg/kg	2.30	0.123	1	01/17/18 08:20	01/17/18 14:22	EPA 3050B	1,6010C	LC
Mercury, Total	ND		mg/kg	0.07	0.02	1	01/17/18 06:00	01/17/18 19:17	EPA 7471B	1,7471B	EA
Selenium, Total	ND		mg/kg	0.920	0.119	1	01/17/18 08:20	01/17/18 14:22	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.460	0.130	1	01/17/18 08:20	01/17/18 14:22	EPA 3050B	1,6010C	LC



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-07**Date Collected:** 01/11/18 11:40**Client ID:** SB-20 1-4 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-21**Field Prep:** Not Specified**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	10.0		mg/kg	0.435	0.090	1	01/17/18 08:20	01/17/18 15:01	EPA 3050B	1,6010C	LC
Barium, Total	73.6		mg/kg	0.435	0.076	1	01/17/18 08:20	01/17/18 15:01	EPA 3050B	1,6010C	LC
Cadmium, Total	0.796		mg/kg	0.435	0.043	1	01/17/18 08:20	01/17/18 15:01	EPA 3050B	1,6010C	LC
Chromium, Total	8.15		mg/kg	0.435	0.042	1	01/17/18 08:20	01/17/18 15:01	EPA 3050B	1,6010C	LC
Lead, Total	134		mg/kg	2.17	0.116	1	01/17/18 08:20	01/17/18 15:01	EPA 3050B	1,6010C	LC
Mercury, Total	0.30		mg/kg	0.07	0.02	1	01/17/18 06:00	01/17/18 19:19	EPA 7471B	1,7471B	EA
Selenium, Total	0.156	J	mg/kg	0.869	0.112	1	01/17/18 08:20	01/17/18 15:01	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.435	0.123	1	01/17/18 08:20	01/17/18 15:01	EPA 3050B	1,6010C	LC





Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

## SAMPLE RESULTS

Lab ID: L1801264-13

Date Collected: 01/12/18 09:00

Client ID: SB-26 0.5-2 FT

Date Received: 01/12/18

Sample Location: 115-121 W. THIRD ST., &amp; 200-21

Field Prep: Not Specified

Matrix: Soil

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	7.75		mg/kg	0.432	0.090	1	01/17/18 08:20	01/17/18 15:05	EPA 3050B	1,6010C	LC
Barium, Total	38.8		mg/kg	0.432	0.075	1	01/17/18 08:20	01/17/18 15:05	EPA 3050B	1,6010C	LC
Cadmium, Total	0.622		mg/kg	0.432	0.042	1	01/17/18 08:20	01/17/18 15:05	EPA 3050B	1,6010C	LC
Chromium, Total	7.56		mg/kg	0.432	0.042	1	01/17/18 08:20	01/17/18 15:05	EPA 3050B	1,6010C	LC
Lead, Total	10.0		mg/kg	2.16	0.116	1	01/17/18 08:20	01/17/18 15:05	EPA 3050B	1,6010C	LC
Mercury, Total	ND		mg/kg	0.07	0.02	1	01/17/18 06:00	01/17/18 19:21	EPA 7471B	1,7471B	EA
Selenium, Total	ND		mg/kg	0.864	0.111	1	01/17/18 08:20	01/17/18 15:05	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.432	0.122	1	01/17/18 08:20	01/17/18 15:05	EPA 3050B	1,6010C	LC



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-14**Date Collected:** 01/12/18 09:50**Client ID:** SB-28 0.5-2 FT**Date Received:** 01/12/18**Sample Location:** 115-121 W. THIRD ST., & 200-21**Field Prep:** Not Specified**Matrix:** Soil**Percent Solids:** 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	8.31		mg/kg	0.483	0.100	1	01/17/18 08:20	01/17/18 15:10	EPA 3050B	1,6010C	LC
Barium, Total	118		mg/kg	0.483	0.084	1	01/17/18 08:20	01/17/18 15:10	EPA 3050B	1,6010C	LC
Cadmium, Total	0.584		mg/kg	0.483	0.047	1	01/17/18 08:20	01/17/18 15:10	EPA 3050B	1,6010C	LC
Chromium, Total	9.96		mg/kg	0.483	0.046	1	01/17/18 08:20	01/17/18 15:10	EPA 3050B	1,6010C	LC
Lead, Total	114		mg/kg	2.41	0.129	1	01/17/18 08:20	01/17/18 15:10	EPA 3050B	1,6010C	LC
Mercury, Total	0.45		mg/kg	0.08	0.02	1	01/17/18 06:00	01/17/18 19:23	EPA 7471B	1,7471B	EA
Selenium, Total	0.579	J	mg/kg	0.966	0.124	1	01/17/18 08:20	01/17/18 15:10	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.483	0.137	1	01/17/18 08:20	01/17/18 15:10	EPA 3050B	1,6010C	LC



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-15  
**Client ID:** SB-29 3-5 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil  
**Percent Solids:** 84%

**Date Collected:** 01/12/18 10:20  
**Date Received:** 01/12/18  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	12.6		mg/kg	0.464	0.097	1	01/17/18 08:20	01/17/18 15:14	EPA 3050B	1,6010C	LC
Barium, Total	25.5		mg/kg	0.464	0.081	1	01/17/18 08:20	01/17/18 15:14	EPA 3050B	1,6010C	LC
Cadmium, Total	0.687		mg/kg	0.464	0.046	1	01/17/18 08:20	01/17/18 15:14	EPA 3050B	1,6010C	LC
Chromium, Total	8.97		mg/kg	0.464	0.045	1	01/17/18 08:20	01/17/18 15:14	EPA 3050B	1,6010C	LC
Lead, Total	12.2		mg/kg	2.32	0.124	1	01/17/18 08:20	01/17/18 15:14	EPA 3050B	1,6010C	LC
Mercury, Total	0.04	J	mg/kg	0.08	0.02	1	01/17/18 06:00	01/17/18 19:25	EPA 7471B	1,7471B	EA
Selenium, Total	0.167	J	mg/kg	0.928	0.120	1	01/17/18 08:20	01/17/18 15:14	EPA 3050B	1,6010C	LC
Silver, Total	ND		mg/kg	0.464	0.131	1	01/17/18 08:20	01/17/18 15:14	EPA 3050B	1,6010C	LC



Project Name: 115-121 W 3RD ST+200-210 W. ST

Lab Number: L1801264

Project Number: 2180345

Report Date: 01/19/18

## Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 03-07,13-15 Batch: WG1081461-1										
Mercury, Total	ND		mg/kg	0.08	0.02	1	01/17/18 06:00	01/17/18 18:57	1,7471B	EA

### 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): 03-07,13-15 Batch: WG1081465-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	01/17/18 08:20	01/17/18 13:41	1,6010C	LC
Barium, Total	ND		mg/kg	0.400	0.070	1	01/17/18 08:20	01/17/18 13:41	1,6010C	LC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	01/17/18 08:20	01/17/18 13:41	1,6010C	LC
Chromium, Total	0.052	J	mg/kg	0.400	0.038	1	01/17/18 08:20	01/17/18 13:41	1,6010C	LC
Lead, Total	ND		mg/kg	2.00	0.107	1	01/17/18 08:20	01/17/18 13:41	1,6010C	LC
Selenium, Total	ND		mg/kg	0.800	0.103	1	01/17/18 08:20	01/17/18 13:41	1,6010C	LC
Silver, Total	ND		mg/kg	0.400	0.113	1	01/17/18 08:20	01/17/18 13:41	1,6010C	LC

### Prep Information

Digestion Method: EPA 3050B

## Lab Control Sample Analysis

### Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03-07,13-15 Batch: WG1081461-2 SRM Lot Number: D098-540								
Mercury, Total	102		-		50-149	-		
Total Metals - Mansfield Lab Associated sample(s): 03-07,13-15 Batch: WG1081465-2 SRM Lot Number: D098-540								
Arsenic, Total	94		-		83-117	-		
Barium, Total	100		-		82-118	-		
Cadmium, Total	99		-		82-117	-		
Chromium, Total	95		-		83-119	-		
Lead, Total	92		-		82-117	-		
Selenium, Total	92		-		78-121	-		
Silver, Total	99		-		80-120	-		

# Matrix Spike Analysis

## Batch Quality Control

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03-07,13-15 QC Batch ID: WG1081461-3 QC Sample: L1801460-01 Client ID: MS Sample												
Mercury, Total	ND	0.18	0.24	134	Q	-	-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 03-07,13-15 QC Batch ID: WG1081465-3 QC Sample: L1801460-01 Client ID: MS Sample												
Arsenic, Total	1.61	13.4	11.8	76		-	-		75-125	-		20
Barium, Total	32.7	224	238	92		-	-		75-125	-		20
Cadmium, Total	0.326J	5.7	5.31	93		-	-		75-125	-		20
Chromium, Total	7.70	22.4	27.0	86		-	-		75-125	-		20
Lead, Total	5.67	57	54.8	86		-	-		75-125	-		20
Selenium, Total	ND	13.4	10.2	76		-	-		75-125	-		20
Silver, Total	ND	33.6	30.4	91		-	-		75-125	-		20

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

## Lab Duplicate Analysis

**Batch Quality Control**

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 03-07,13-15 QC Batch ID: WG1081461-4 QC Sample: L1801460-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 03-07,13-15 QC Batch ID: WG1081465-4 QC Sample: L1801460-01 Client ID: DUP Sample						
Arsenic, Total	1.61	1.57	mg/kg	3		20
Barium, Total	32.7	30.5	mg/kg	7		20
Cadmium, Total	0.326J	0.386J	mg/kg	NC		20
Chromium, Total	7.70	7.48	mg/kg	3		20
Lead, Total	5.67	5.78	mg/kg	2		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20

# **INORGANICS & MISCELLANEOUS**



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-03  
**Client ID:** SB-16 2-5 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/11/18 10:00  
**Date Received:** 01/12/18  
**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	85.8		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-04  
**Client ID:** SB-17 2-5 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/11/18 10:30  
**Date Received:** 01/12/18  
**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	80.8		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-05  
**Client ID:** SB-18 1-4 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/11/18 11:00  
**Date Received:** 01/12/18  
**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	85.9		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Project Number:** 2180345**Lab Number:** L1801264**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-06**Client ID:** SB-19 2-5 FT**Sample Location:** 115-121 W. THIRD ST., & 200-21**Matrix:** Soil**Date Collected:** 01/11/18 11:15**Date Received:** 01/12/18**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	85.5		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Project Number:** 2180345**Lab Number:** L1801264**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-07**Client ID:** SB-20 1-4 FT**Sample Location:** 115-121 W. THIRD ST., & 200-21**Matrix:** Soil**Date Collected:** 01/11/18 11:40**Date Received:** 01/12/18**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	87.8		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-08  
**Client ID:** SB-21 14-15 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/11/18 12:15  
**Date Received:** 01/12/18  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.1		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-09  
**Client ID:** SB-22 15-16 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/11/18 13:00  
**Date Received:** 01/12/18  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.8		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Project Number:** 2180345**Lab Number:** L1801264**Report Date:** 01/19/18**SAMPLE RESULTS****Lab ID:** L1801264-10**Client ID:** SB-23 15-16 FT**Sample Location:** 115-121 W. THIRD ST., & 200-21**Matrix:** Soil**Date Collected:** 01/11/18 13:40**Date Received:** 01/12/18**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	87.0		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI





**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-11  
**Client ID:** SB-30 14-15 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/12/18 10:50  
**Date Received:** 01/12/18  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.6		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-13  
**Client ID:** SB-26 0.5-2 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/12/18 09:00  
**Date Received:** 01/12/18  
**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	90.4		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-14  
**Client ID:** SB-28 0.5-2 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/12/18 09:50  
**Date Received:** 01/12/18  
**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	79.6		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

**SAMPLE RESULTS**

**Lab ID:** L1801264-15  
**Client ID:** SB-29 3-5 FT  
**Sample Location:** 115-121 W. THIRD ST., & 200-21  
**Matrix:** Soil

**Date Collected:** 01/12/18 10:20  
**Date Received:** 01/12/18  
**Field Prep:** Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.3		%	0.100	NA	1	-	01/16/18 14:47	121,2540G	RI



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Duplicate Analysis**  
**Batch Quality Control**

**Lab Number:** L1801264  
**Report Date:** 01/19/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 03-11,13-15 QC Batch ID: WG1081311-1 QC Sample: L1801264-03 Client ID: SB-16 2-5 FT						
Solids, Total	85.8	85.7	%	0		20

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

**Cooler Information**

<b>Cooler</b>	<b>Custody Seal</b>
A	Absent

**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1801264-01A	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		HOLD-WETCHEM()
L1801264-01B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		HOLD-METAL(180)
L1801264-01C	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		HOLD-8082()
L1801264-01D	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		HOLD-8082()
L1801264-02A	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		HOLD-WETCHEM()
L1801264-02B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		HOLD-METAL(180)
L1801264-02C	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		HOLD-8082()
L1801264-02D	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		HOLD-8082()
L1801264-03A	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-03B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-03C	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-03D	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-04A	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-04B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-04C	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14),NYTCL-8082(14)
L1801264-04D	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14),NYTCL-8082(14)
L1801264-05A	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-05B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-05C	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14),NYTCL-8082(14)
L1801264-05D	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14),NYTCL-8082(14)

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1801264-06A	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-06B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-06C	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-06D	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-07A	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-07B	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-07C	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-07D	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-08A	Vial MeOH preserved	A	NA		3.0	Y	Absent		NYTCL-8260HLW-R2(14),NYTCL-8260H-R2(14)
L1801264-08B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14),NYTCL-8260H-R2(14)
L1801264-08C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14),NYTCL-8260H-R2(14)
L1801264-08D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-08E	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-09A	Vial MeOH preserved	A	NA		3.0	Y	Absent		NYTCL-8260HLW-R2(14)
L1801264-09B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14)
L1801264-09C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14)
L1801264-09D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-09E	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-10A	Vial MeOH preserved	A	NA		3.0	Y	Absent		NYTCL-8260HLW-R2(14)
L1801264-10B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14)
L1801264-10C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14)
L1801264-10D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-10E	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-11A	Vial MeOH preserved	A	NA		3.0	Y	Absent		NYTCL-8260HLW-R2(14)
L1801264-11B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14)
L1801264-11C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	NYTCL-8260HLW-R2(14)

**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1801264-11D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-11E	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-12A	Vial MeOH preserved	A	NA		3.0	Y	Absent		HOLD-8260HLW(14)
L1801264-12B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-12C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-12D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		HOLD-WETCHEM()
L1801264-12E	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		HOLD-8270(14)
L1801264-13A	Vial MeOH preserved	A	NA		3.0	Y	Absent		HOLD-8260HLW(14)
L1801264-13B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-13C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-13D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-13D1	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-13E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-13F	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8082(14)
L1801264-13G	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-14A	Vial MeOH preserved	A	NA		3.0	Y	Absent		HOLD-8260HLW(14)
L1801264-14B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-14C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-14D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-14D1	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-14E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-14F	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8082(14)
L1801264-14G	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)
L1801264-15A	Vial MeOH preserved	A	NA		3.0	Y	Absent		HOLD-8260HLW(14)
L1801264-15B	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-15C	Vial water preserved	A	NA		3.0	Y	Absent	13-JAN-18 08:55	HOLD-8260HLW(14)
L1801264-15D	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)



**Project Name:** 115-121 W 3RD ST+200-210 W. ST**Lab Number:** L1801264**Project Number:** 2180345**Report Date:** 01/19/18**Container Information**

<b>Container ID</b>	<b>Container Type</b>	<b>Cooler</b>	<b>Initial pH</b>	<b>Final pH</b>	<b>Temp deg C</b>	<b>Pres</b>	<b>Seal</b>	<b>Frozen Date/Time</b>	<b>Analysis(*)</b>
L1801264-15D1	Plastic 2oz unpreserved for TS	A	NA		3.0	Y	Absent		TS(7)
L1801264-15E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.0	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)
L1801264-15F	Glass 60mL/2oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8082(14)
L1801264-15G	Glass 120ml/4oz unpreserved	A	NA		3.0	Y	Absent		NYTCL-8270(14)

**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

## GLOSSARY

### Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

### Footnotes

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

### Terms

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

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

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

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

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

### 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

**Report Format:** DU Report with 'J' Qualifiers



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

#### Data Qualifiers

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

- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



**Project Name:** 115-121 W 3RD ST+200-210 W. ST  
**Project Number:** 2180345

**Lab Number:** L1801264  
**Report Date:** 01/19/18

## REFERENCES

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

## LIMITATION OF LIABILITIES

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

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



**Alpha Analytical, Inc.**Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 11

Published Date: 1/8/2018 4:15:49 PM

Page 1 of 1

**Certification Information**

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


**Westborough Facility****EPA 624:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 300:** DW: Bromide**EPA 6860:** SCM: Perchlorate**EPA 9010:** NPW and SCM: Amenable Cyanide Distillation**SM4500:** NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO<sub>2</sub>, NO<sub>3</sub>.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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


**Westborough Facility:****Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E,****SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.****EPA 624:** Volatile Halocarbons & Aromatics,**EPA 608:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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



 <b>NEW YORK CHAIN OF CUSTODY</b>		<b>Service Centers</b> 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 1/13/18		ALPHA Job # L1801264					
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		<b>Project Information</b> Project Name: 115-121 W Third St & 200-210 Washington St Project Location: 115-121 W Third St & 200-210 Washington St Project # 218 5345 (Use Project name as Project #) <input type="checkbox"/>				<b>Deliverables</b> <input type="checkbox"/> ASP-A <input type="checkbox"/> ASP-B <input type="checkbox"/> EQUIS (1 File) <input type="checkbox"/> EQUIS (4 File) <input type="checkbox"/> Other		<b>Billing Information</b> <input type="checkbox"/> Same as Client Info PO #			
<b>Client Information</b> Client: Labell Associates Address: 300 Pearl St Buffalo, NY Phone: 716-710-3043 Fax: Email: edullon@labellinc.com		Project Manager: azebrowski@labellapc.com ALPHAQuote #: Turn-Around Time: Standard <input checked="" type="checkbox"/> Due Date: Rush (only if pre approved) <input type="checkbox"/> # of Days:		<b>Regulatory Requirement</b> <input type="checkbox"/> NY TOGS <input type="checkbox"/> NY Part 375 <input type="checkbox"/> AWQ Standards <input type="checkbox"/> NY CP-51 <input type="checkbox"/> NY Restricted Use <input type="checkbox"/> Other <input type="checkbox"/> NY Unrestricted Use <input type="checkbox"/> NYC Sewer Discharge				<b>Disposal Site Information</b> Please identify below location of applicable disposal facilities. Disposal Facility: <input type="checkbox"/> NJ <input type="checkbox"/> NY <input type="checkbox"/> Other:					
These samples have been previously analyzed by Alpha <input type="checkbox"/>						<b>ANALYSIS</b>				<b>Sample Filtration</b> <input type="checkbox"/> Done <input type="checkbox"/> Lab to do <b>Preservation</b> <input type="checkbox"/> Lab to do (Please Specify below)			
Other project specific requirements/comments: TCL VOCs Labels indicate no preservatives; However, there are preservatives in the terracore kits. Please email to ckibler@labellapc.com						Please specify Metals or TAL.				Total Bottles			
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection		Sample Matrix		Sampler's Initials		TCL SVOCs KURA Metals PCBs TCL VOCs		Sample Specific Comments	
				Date	Time								
01264-01		SB-14 2-3 ft		1/11/18	9:00	Soil		SD		✓ ✓ ✓		ON HOLD	
-02		SB-15 2-3 ft		1/11/18	9:30	Soil		SD		✓ X X		ON HOLD	
-03		SB-16 3-4 ft		1/11/18	10:00	Soil		SD		X X X		ON HOLD	
-04		SB-17 2-4 ft		1/11/18	10:30	Soil		SD		X X X		ON HOLD	
-05		SB-18 2-3 ft		1/11/18	11:00	Soil		SD		X X X		ON HOLD	
-06		SB-19 3-4 ft		1/11/18	11:15	Soil		SD		X X X		ON HOLD	
-07		SB-20 2-3 ft		1/11/18	11:40	Soil		SD		X X X		ON HOLD	
-08		SB-21 14-15 ft		1/11/18	12:15	Soil		SD		X X		ON HOLD	
-09		SB-22 15-16 ft		1/11/18	13:00	Soil		SD		X X		ON HOLD	
-10		SB-23 15-16 ft		1/11/18	13:40	Soil		SD		X X		ON HOLD	
Preservative Code:		Container Code		Westboro: Certification No: MA935		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. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)	
A = None B = HCl C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> K/E = Zn Ac/NaOH O = Other		P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Mansfield: Certification No: MA015		Preservative							
Form No: 01-25 HC (rev. 30-Sept-2013)		Relinquished By:		Date/Time		Received By:		Date/Time					
		JMAC AAC		1/12/18 17:15		JMAC AAC		1/12/18 17:15					
				1/12/18 17:15				1/13/18 01:20					



 <b>NEW YORK CHAIN OF CUSTODY</b> Westborough, MA 01581 8 Walkup Dr. TEL: 508-896-9220 FAX: 508-898-9193		<b>Service Centers</b> 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 <b>1/13/18</b>		ALPHA Job # <b>U801264</b>	
		<b>Project Information</b> Project Name: <b>Jonestown Brewery</b> Project Location: <b>15-121 N Third St + 20020 Woburn St</b> Project # <b>2180345</b>		<b>Deliverables</b> <input type="checkbox"/> ASP-A <input type="checkbox"/> ASP-B <input type="checkbox"/> EQUIS (1 File) <input type="checkbox"/> EQUIS (4 File) <input type="checkbox"/> Other		<b>Billing Information</b> <input type="checkbox"/> Same as Client Info PO #			
<b>Client Information</b> Client: <b>Label's Associates</b> Address: <b>300 Pearl St</b> Phone: <b>716-710-3013</b> Fax: _____ Email: <b>sdc@label's.com</b>		<b>Project Manager:</b> <b>Adam Zehmski</b> ALPHAQuote #: _____ Turn-Around Time: Standard <input checked="" type="checkbox"/> Due Date: _____ Rush (only if pre approved) <input type="checkbox"/> # of Days: _____		<b>Regulatory Requirement</b> <input type="checkbox"/> NY TOGS <input type="checkbox"/> NY Part 375 <input type="checkbox"/> AWQ Standards <input type="checkbox"/> NY CP-51 <input type="checkbox"/> NY Restricted Use <input type="checkbox"/> Other <input type="checkbox"/> NY Unrestricted Use <input type="checkbox"/> NYC Sewer Discharge		<b>Disposal Site Information</b> Please identify below location of applicable disposal facilities. Disposal Facility: <input type="checkbox"/> NJ <input type="checkbox"/> NY <input type="checkbox"/> Other:			
These samples have been previously analyzed by Alpha <input type="checkbox"/> Other project specific requirements/comments:						<b>ANALYSIS</b>		<b>Sample Filtration</b> <input type="checkbox"/> Done <input type="checkbox"/> Lab to do <b>Preservation</b> <input type="checkbox"/> Lab to do (Please Specify below)	
Please specify Metals or TAL.						TAL VOCs TL SVOCs PCRA Metals PCBs		Total Bottle	
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials				
G1264-01	SB-30 14.5 ft	1/12/18	10:50	Soil	SD	X	X		
-012	SB-33 15-16 ft	1/12/18	12:40	Soil	SD	X	X		
-13	SB-26 05-1 ft	1/12/18	9:00	Soil	SD	X	X	X	
-14	SB-28 0.5-1 ft	1/12/18	9:50	Soil	SD	X	X	X	
-15	SB-29 3-4 ft	1/12/18	10:20	Soil	SD	X	X	X	
Preservative Code: A = None B = HCl C = HNO <sub>3</sub> D = H <sub>2</sub> SO <sub>4</sub> E = NaOH F = MeOH G = NaHSO <sub>4</sub> H = Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 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		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.)	
Relinquished By: <b>Shannon Diller</b>		Date/Time: <b>1/12/18/17:15</b>		Received By: <b>SMAL AAC</b>		Date/Time: <b>1/12/17 17:15</b>			
<b>SMAL AAC</b>		<b>1/12/18/17:15</b>		<b>[Signature]</b>		<b>1/13/18 01:20</b>			

## APPENDIX 2

### Qualifications





## LaBella Project Personnel

LaBella Staff Member	Title	Phone Number
Greg Senecal	Environmental Director	585-295-6243
Rob Napieralski	Environmental Operations Manager	716-551-6283
Adam Zebrowski	Project Manager	716-840-2548
Daniel Noll	Design Team Leader	585-295-6611
Chris Kibler	Senior Environmental Analyst	716-768-3184
Richard Rote	Health and Safety Director	585-295-6241
Shannon Dalton	Environmental Analyst	716-710-3043



## GREG SENECA

Director, Environmental Division

### CHMM

**Certified Hazardous Materials Manager**

### EDUCATION

**State University of New York at Syracuse, School of Environmental Science and Forestry: BS, Environmental Science**

**State University of New York at Cobleskill: AAS, Fisheries and Wildlife Technology**

### CERTIFICATION / REGISTRATION

**Certified Hazardous Materials Manager**

**Certified Hazardous Waste Operations & Emergency Response (40-Hour OSHA Health and Safety Training 29)**

Greg is Director of Environmental Services and is a Certified Hazardous Materials Manager responsible for the direction of all environmental investigation projects undertaken by the firm. He has over 25 years of experience in designing, managing, and conducting numerous site assessments, remedial projects, Brownfield redevelopment projects, groundwater monitoring well installations, test pit excavations, underground petroleum storage tank removals, and spill cleanups. Greg coordinates staffing and client relationships for many of the firm's environmental clients. This effort includes working closely with the client, and forming the best technical project teams for the diverse array of environmental consulting and engineering services offered by the firm.

### PHASE I/II INTRO:

As Director of Environmental Services, Greg is responsible for the direction of all environmental investigation projects undertaken by the firm. Greg has over 25 years of experience scoping, scheduling, and reviewing Phase I Environmental Site Assessments, Phase II Environmental Site Assessments, and remedial efforts undertaken by the firm. Greg is a Certified Hazardous Materials Manager (CHMM) and has extensive experience in the field of Environmental Management relating to Phase I and Phase II Environmental Site Assessments, remediation, and environmental compliance evaluations. Greg has conducted or supervised over 3,000 Phase I Environmental Site Assessments and over 1,500 Phase II Environmental Site Assessments, as the firm has averaged performing 550 assessments per year.

### Ithaca Chainworks: Brownfield Redevelopment Project - Ithaca, NY

Greg has designed all of the purchasers environmental due diligence efforts for this project. The Chainworks project involves the purchase and redevelopment of Ithaca's largest Industrial Complex. The project Site is a state superfund listed property that encompasses 98 acres and houses 900,000 of vacant industrial building space. Greg worked very closely with the purchaser and the purchasers environmental legal team to negotiate with the seller and the

NYSDEC. The out come of these negotiations was an agreement to hold the purchaser harmless for the contamination that exists at the property. An agreement was designed and signed by the seller, that requires the seller to conduct all environmental clean up to meet restricted residential levels. Cleanup has been ongoing since the late 1990's and is expected to be complete in approximately twenty years.

### Monoco Oil Brownfield Cleanup & Redevelopment - Pittsford, NY

Greg has been responsible for

directing all environmental services associated with the NYSDEC Brownfield Cleanup Program for this project. This complex environmental project involves the cleanup and demolition of a 20-acre blighted vacant oil refinery. The redevelopment plan for the project includes redevelopment of an upscale waterfront apartment and town home complex along the Canal. Greg has conducted NYSDEC, NYSDOH, and local negotiations for many aspects of the project. Public participation and communication has been paramount to the project success.

**Former Emerson Street Landfill: Redevelopment Programs - Rochester, NY**

Greg is Client Manager for these studies which have been ongoing for the past 15 years. Greg functions a liaison between the City of Rochester and the owners of 66 buildings that have been constructed on the 260 acre landfill footprint. Tasks include:

- Development of environmental cost premiums for projects that are being completed on the landfill;
- Development of a fill management protocol for redevelopment projects;
- Direction of soil vapor intrusion studies as required by the NYSDEC for the 66 buildings that have been redeveloped on the landfill footprint;
- Formation of technical teams to design sub slab soil vapor mitigation systems for buildings and building additions that are being constructed on the landfill footprint;
- Directed environmental efforts for the expansion at a City of Rochester High School that is

located on the landfill footprint.

**Monroe County Environmental Testing Term Agreement Monroe County, NY**

As Director of Environmental Services, Greg has been responsible for the successful completion of over 12 years of term agreements (with annual renewals) for hazardous materials inspection and abatement design with Monroe County. Greg's responsibilities typically include meeting with the County, understanding the needs of the environmental project and forming the best possible project team to meet the County's needs. Recent assignments include environmental evaluation of three Sites for the County Crime Lab, and the asbestos inspection, design, and abatement monitoring for a New Downtown Monroe Community College Campus at a former Kodak headquarters building.

**City of Rochester: Brownfield Assistance Program Term Agreement (4 Consecutive Terms) - Rochester, NY**

Greg serves as the Client Manager who directs all of the projects under the term. Projects range from Phase I Environmental Site Assessments to Site Characterizations, Remedial Cost Estimates, and Brownfield Cleanups. Greg works with the City and the individual property owner to design and implement investigative programs and evaluate clean up and redevelopment options.

**690 St. Paul Street: NYSDEC Brownfield Cleanup Project - Rochester, NY**

Greg is serving as the project director for this multi-faceted Brownfield investigation and

cleanup project. Greg acts as the liaison between the building owners, the former owner (Bausch & Lomb), the Building tenant (City of Rochester School District), and the numerous regulatory agencies involved in the project. This project includes a large SVI investigation, design and installation of a SVI mitigation system, monthly performance monitoring of indoor, sub slab, and exterior air, and communication of the above results to the agencies, tenants, and various stakeholder groups this project also included several IRM's for the removal of orphan tanks and petroleum impacted soils. The RI is currently focusing on the identification and delineation of suspected TCE plumes on the property and under the building structures.

**Buffalo Avenue Industrial Corridor Brownfield Opportunity Area: Pre-Nomination Study - Niagara Falls, NY**

Greg served as the project director for this 1500 acre, 2500 industrial parcel Brownfield Opportunity Area Project. Greg coordinated the effort between LaBella's Planning and environmental division. He also oversaw the schedule and public outreach components of the project.

**Vacuum Oil/South Genesee Brownfield Opportunity Area: Pre-Nomination Study - Rochester, NY**

Director of the Project Team for the City of to prepare a pre-nomination study for the proposed Vacuum Oil-South Genesee River Corridor Brownfield Opportunity Area. LaBella developed mapping that allowed for the Brownfield

Opportunity Area boundaries to be established in a logical manner at the 56 acre 1.2 mile long corridor along the Genesee River. LaBella conducted economic and demographic research for the project site and gathered zoning, occupancy, and environmental information for potential underutilized Brownfield properties within the BOA.

**Oswego River Corridor BOA - Oswego County, NY**

Environmental Division Director for this 1,300 acre BOA on the Lake Ontario and Oswego River waterfronts. The project will focus on opportunities to redevelop strategic sites on the waterfront, downtown and underutilized or contaminated brownfields.

**Town of Tonawanda: Tonawanda BOA - Tonawanda, NY**

Environmental Division Director responsible for technical environmental services for this 1,000 acre BOA on the Niagara River.

**Foster Wheeler Plant: Site Characterization - Dansville, NY**

Project Manager for this due diligence investigation, which consisted of a complete Phase I Environmental Site Assessment and Phase II Site Characterization.

**Port of Rochester Redevelopment Project: Phase II Site Characterization - Rochester, NY**

Project Manager for complete Phase II Site Characterization, which involved sub surface characterization of approximately 38 acres. Greg directed the environmental team who received a beneficial re-use determination to re use 80,000

cubic yards of iron foundry slag as on site fill.

**Bureau of Water, Lighting, & Parking Meter Operations - Rochester, NY**

Greg served as Client Manager to remediate the Water Bureau site to obtain regulatory closure or inactivation. The project scope includes the redevelopment of the current site for reuse as a new facility for the operations center.

**CSXT Train Derailment & Hazardous Materials Spill - Rochester, NY**

Project Manager responsible for review of all delineation reports, implementation of additional delineation studies, review of remedial work plans, and oversight of all facets of the execution of IRM as it related to achieving a cleanup that would limit long term liability for the City and allow for the planned redevelopment to occur.

**Rochester Rhinos Stadium: Brownfield Redevelopment - Rochester, NY**

Greg served as Project Manager of the NYSDEC Voluntary Cleanup of this prominent urban redevelopment site. The voluntary clean was based around a soils management plan approach that included the re-use of approximately sixty thousand yards of low level petroleum contaminated soils as on site fill under parking lots and in landscaped berm areas of the property.

**Seneca Nation: USEPA Brownfield Cleanup Grant**

Client Manager responsible for the preparation of a USEPA funded Brownfield Cleanup.

The site consists of a vacant rail yard that is contaminated with diesel fuel and heavy metals. The cleanup involves removal and ex-situ bio-remediation of petroleum impacted soils and an environmental management approach that allows for the re-use of railroad ballast and shallow soil impacted with low levels of heavy metals and semi volatile organic compounds as fill under paved parking lots.

**NYSDOT: Hazardous Waste Projects, Region 4, Region 5 - State of New York**

Project Manager responsible for the development of a characterization workplan to satisfy City, NYSDEC, NYSDOH, MCEMC, and NYSDOT requirements, and implementation of a multiple phase work plan including: shallow soil sampling, test pitting, drilling, geo-probing, and groundwater monitoring well installation. Greg also served as the environmental liaison between LaBella Associates, the NYSDOT, the NYSDEC, and the City of Rochester. In addition, he provided direction of investigative and remedial work and evaluation of contamination levels and impacts. Greg was responsible for final report preparation for the City and the NYSDEC.

**Automotive Service Center: Voluntary Cleanup Investigation - Rochester, NY**

Project Manager responsible for the delineation of an area of impairment for the client, and the release of future environmental liability for the client from the NYSDEC.

**Pennsylvania Act II Site**



## ROBERT NAPIERALSKI

Buffalo Regional Manager

### CPG

**Certified professional Geologist**

### EDUCATION

**Boston University: BA, Geology  
(Hydrogeology)**

### ORGANIZATIONS

**American Institute of  
Professional Geologists**

**Association of Groundwater  
Scientists and Engineers**

Rob is the Buffalo Regional Manager for Environmental Services. With more than 25 years of professional consulting experience for public and private sector clients involving a wide range of environmental, infrastructure and transportation projects, his background includes extensive experience with: SEQRA/NEPA compliance and documentation, Regulatory compliance and permitting, Environmental due diligence assessments, Brownfield investigation, remediation and redevelopment, Solid waste management facility permitting and monitoring, Municipal infrastructure planning, design and construction, and Locally administered, federally funded transportation projects.

Responsibilities include project management, business development and client management.

#### **Petroleum Brownfields Inventory -Niagara County, NY**

Principal-in-Charge for the preparation of an inventory of petroleum Brownfield sites throughout Niagara County under a USEPA assessment grant. The work included review of existing Brownfield databases and state and federal records; community outreach; surveys of municipalities; conversion of the inventory into GIS; and preparation of site evaluation worksheets for identified sites. The site evaluation worksheets were ultimately used to rank sites for prioritization for funding environmental site assessments with the remainder of the County's USEPA grant and other grant programs.

#### **Brownfield Cleanup Program RI/ AA, A&A Metals Site - Perry, NY**

Principal/Project Manager for the investigation of former industrial site under the Brownfield Cleanup Program (BCP). The site is located along the Silver Lake

outlet, functioned as a metal tank manufacturing facility for over 50 years and is currently slated for redevelopment as an alternative energy incubator. Rob was responsible for the management of technical staff and subcontractors, completion of the risk assessment, technical review of project deliverables and communications with the Client and NYSDEC.

#### **Brownfield Redevelopment Project, Covanta Rail-to-Truck Intermodal Facility - Niagara Falls, NY**

Project Manager for the accelerated investigation, remediation and redevelopment of a 15-acre former industrial site for use as a Rail-to-Truck Intermodal Facility (RTIF). The project is being advanced under the Brownfield Cleanup Program (BCP) and has involved the completion of a Remedial Investigation (RI); development of a NYSDEC-approved Remedial Action Work Plan to address a



range of contamination, including radioactive slag; obtaining site plan approval for the proposed development; and completing site and architectural design of the RTIF. The remedial design and site design efforts were fully integrated to produce a cleanup plan that dovetails with the site development plan and optimizes the project schedule.

**Chautauqua County: Brownfield Assessment, Demonstration Pilot Program - Chautauqua County, NY**

Responsible for the management of programmatic and technical services provided in support of this EPA Brownfield Pilot Program under a multi-year contract. Duties included the management of technical staff and subcontractors involved in the assessment, investigation, and remedial planning for multiple Brownfield sites. Responsibilities also included participation in the County's Brownfield Task Force and community involvement program, as well as assisting the County with the preparation of quarterly progress reports for submittal to EPA. Project required extensive communication with regulatory personnel from EPA and NYSDEC, as well as public officials and agencies. (E13/200)

**Niagara Region Brownfield Coalition: Grant Management Services**

Principal-in-Charge for a multi-year contract to assist the Niagara Region Brownfield Coalition (NRBC), consisting of the Cities of Buffalo and Niagara Falls and Erie and Niagara Counties, with the management and implementation of a USEPA-funded Brownfield Showcase Community Grant. Responsible for providing

programmatic and site specific technical and strategic assistance to coalition members relative to site prioritization and assessment, funding and regulatory programs, and community/agency outreach.

**Brownfield Opportunity Area: Step 1 Pre-Nomination Study - City of Dunkirk, NY**

Principal-in-Charge for the BOA Pre-Nomination Study which focused on a large former steel manufacturing complex within the City of Dunkirk. The scope of the Step 1 BOA program includes identifying a manageable study area; completing community outreach activities; completing an inventory of Brownfield sites; identifying current and historic uses of the study area; describing current conditions within the proposed BOA; and assembling a vision for the successful redevelopment of the area. Responsible for general oversight of contractual, budgetary, scheduling and quality assurance/quality control aspects of the project, as well as periodic communications with the client, NYSDOS and NYSDEC.

**Brownfield Opportunity Area: Step 1 Pre-Nomination Study - City of Olean, NY**

Principal-in-Charge for the BOA Pre-Nomination Study that focuses on a 500-acre area within the northwestern portion of the City of Olean that was formerly occupied by a large petroleum refinery complex. The scope of the Step 1 BOA program includes identifying a manageable study area; completing community outreach activities; completing an inventory of Brownfield sites; identifying current and historic uses of the study area; describing

current conditions within the proposed BOA; and assembling a vision for the successful redevelopment of the area. Additionally, the work includes the preparation of conceptual redevelopment plans to assist with the advancement of the remediation of a portion of the study area by a responsible private party. Responsible for general oversight of contractual, budgetary, scheduling and quality assurance/quality control aspects of the project, as well as periodic communications with the client, NYSDOS and NYSDEC.

**Brownfield Opportunity Area: Step 2 Nomination Study - City of Lackawanna, NY**

Principal/Project Manager for the BOA Nomination study focusing on 2,000-acres that encompass the former Bethlehem Steel site and First Ward of the City of Lackawanna. Responsible for the management of technical staff and subconsultants involved in environmental and infrastructure analysis, market and economic studies, conceptual planning efforts, and stakeholder and public consultation.

**Brownfield Opportunity Area: Step 2 Nomination Study, Highland Area - City of Niagara Falls, NY**

Principal-in-Charge for the environmental and infrastructure characterization and analysis portion of an area-wide redevelopment planning study of the Highland Area of Niagara Falls. Assisted the City with a successful BOA grant application, providing \$375,000 to complete a redevelopment plan for this 560-acre area community that contains a high concentration of Brownfield sites. As a

subconsultant to an international planning firm, analyzed environmental and infrastructure constraints and opportunities to assist in the development of the redevelopment plan.

**Brownfield Opportunity Area:  
Step 1 Pre-Nomination Study,  
Chadakoin River Corridor - City  
of Jamestown, NY**

Principal-in-Charge for characterization and preliminary analysis of redevelopment opportunities within a 600-acre segment of the Chadakoin River corridor, which extends through the industrial spine of the City of Jamestown. Responsible for guiding community and stakeholder outreach programs, efforts to characterize existing conditions within the project corridor and the analysis of redevelopment opportunities and constraints.

**Brownfield Opportunity Area:  
Step 1 Pre-Nomination Study -  
City of Lockport, NY**

Principal-in-Charge for the BOA Pre-Nomination Study that focuses on the two primary stream corridors in the City of Lockport: the Erie Canal and 18-Mile Creek. The scope of the Step 1 BOA program includes identifying a manageable study area; completing community outreach activities; completing an inventory of Brownfield sites; identifying current and historic uses of the study area; describing current conditions within the proposed BOA; and assembling a vision for the successful redevelopment of the area. Responsible for general oversight of contractual, budgetary, scheduling and quality assurance/quality control aspects of the project, as well as

periodic communications with the client, NYSDOS and NYSDEC.

**Brownfield Redevelopment  
Feasibility Study, Former ALCO  
Complex - Dunkirk, NY**

Project Manager for the analysis of redevelopment potential for the 30-acre site of a former locomotive manufacturing complex. Project involved the building condition assessment of a 300,000 SF building complex to determine potential for rehabilitation and/or adaptive reuse, as well as the comparative analysis of demolition and rehabilitation costs. Project also included the development of conceptual site plans for several reuse alternatives, and coordination of strategic planning process to identify critical issues (e.g., funding shortfalls, environmental liability, flow of ownership complications) and strategies for addressing said issues.

**Brownfield Reuse Assessment:  
Flintkote Complex - Lockport,  
NY**

Project Manager for the assessment of an abandoned manufacturing complex to determine the potential for reuse of the remaining structures. Project involved a structural evaluation and development of order of magnitude cost estimates for the rehabilitation of portions of the building complex. Recommendations and cost estimates for asbestos abatement and demolition were ultimately made.

**Niagara Metals Facility:  
Brownfield Redevelopment -  
Niagara Falls, NY**

Principal-in-Charge for the first phase of redevelopment of

the 53-acre former Airco Speer Carbon Graphite site in the City of Niagara Falls, NY. Obtained site plan approval and special use permit to construct the new headquarters and recycling facility for Niagara Metals on this Class 3 Inactive Hazardous Waste Site. Project required the review and evaluation of historical environmental reports, coordination with the NYSDEC Division of Environmental Remediation, SEQRA documentation, site plan preparation and presentation to the City Planning Board.

**Assessment of Brownfield Site -  
Brocton, NY**

Project Manager for the Phase I ESA and asbestos and lead-based paint survey of a 100,000 SF former food processing facility. This work was performed in conjunction with the potential remediation, demolition and redevelopment of the property. It served as the basis for the development of a 1996 Clean Water/Clean Air Bond Act Environmental Restoration Project Application for Investigation submitted to the NYSDEC on behalf of the County.

**Brownfield Site Evaluation,  
Abandoned Steel Plant Complex  
- Lackawanna, NY**

Responsible for the evaluation of a former fully integrated steel plant that encompasses more than 1,000 acres along the waterfront to the south of Buffalo. Technical responsibilities include the review of existing site data to define site conditions and the magnitude and extent of contamination, chemicals and wastes. Duties also include determination of probable cleanup levels, and

the oversight of technical staff involved in the screening of remedial alternatives, remedial cost estimating, and reporting. Responsibilities also include expert testimony and analysis of potential funding opportunities via insurance asset recovery.

**Phase I/II Environmental Site Assessments, Brownfield Pilot Sites - Niagara Falls, NY**

Project Manager for the Phase I/II ESAs of two Brownfield sites funded via a Supplemental EPA Brownfield Assessment Demonstration Pilot. The Phase I ESAs were performed in accordance with ASTM E-1527, while the Phase II ESAs were in accordance with site-specific work plans prepared pursuant to EPA requirements. Responsible for client and regulatory communications, public meetings, management of technical staff and subcontractors, and technical review of project deliverables (e.g., work plans, health and safety plans, ESA reports).

**Phase II Environmental Site Assessment, Brownfield Site Jamestown, NY**

Project Manager for the Phase II ESA of the site of a former metal office furniture manufacturing complex located in the main industrial corridor of the City of Jamestown. This project involved the drilling and installation of seven monitoring wells and the collection and chemical analysis of groundwater, soil, and river sediment samples. Negotiated a No Further Action letter from the NYSDEC to facilitate site redevelopment.

**Phase II Environmental Site Assessment, Brownfield Site Jamestown, NY**

Project Manager for the Phase II ESA of a former furniture manufacturing facility site located in the main industrial corridor of the City of Jamestown. This project involved the investigation of potential impacts to groundwater following the discovery and removal of a number of leaking fuel oil USTs. The results of this investigation were utilized to verify the successful completion of site remediation activities and clear the site for redevelopment.

**Remedial Investigation/ Alternatives Analysis (RI/AA) Program, Edgewood Warehouse: - Dunkirk, NY**

Principal-in-Charge for the RI/AA of a former locomotive manufacturing facility advanced under the New York State Environmental Restoration Program (ERP). The scope of the RI program includes the characterization of potentially contaminated fill, soil, sediments, building materials and groundwater. The project also involves the identification and detailed analysis of remedial alternatives available to address the affected media.

**Remedial Investigation/ Alternatives Analysis (RI/AA) and Interim Remedial Measures (IRMs), Electruk Site -Town of Lockport, NY**

Principal-in-Charge for the implementation of an RI/AA program and IRMs at a former battery manufacturing facility advanced under the New York State Environmental Restoration Program (ERP). The scope of the RI program included the characterization of soil, sediment, surface water, and groundwater potentially contaminated with

lead and VOCs. The project also involved the identification and detailed analysis of remedial alternatives available to address the affected media. The IRM activities included the removal of contaminated sediment and water and the closure of drainage features.

**Remedial Investigation/ Alternatives Analysis Program (RI/AA), Former Niagara Motors Site - Dunkirk, NY**

Quality Assurance Officer for the RI/AA of an abandoned four-acre site formerly utilized for the manufacture of marine engines. Project is being performed under the New York State Environmental Restoration Program (ERP). Responsibilities include review of project Quality Assurance Plan, implementation of project audits, Quality Assurance reviews of project staff and subcontractors involved in site characterization and remedial alternatives analysis, as well as client and regulatory communications. Duties also include technical review of project plans, reports and estimates.

**Remedial Investigation/ Alternatives Analysis Program (RI/AA), Former Felmont Oil Site - Olean, NY**

Quality Assurance Officer for the RI/AA of a 22-acre former oil refining, storage, and distribution facility under the New York State Environmental Restoration Program (ERP). The scope of the RI program includes a passive soil gas survey, a geophysical survey, and the characterization of potentially contaminated fill, soil, groundwater, surface water, and sediment. The project involves the identification and detailed analysis of remedial alternatives



available to address the affected media. Responsibilities included client and regulatory communications, implementation of community involvement plan, coordination of project staff and subcontractors, and technical review of project plans and reports.

**Remedial Investigation/  
Alternatives Analysis (RI/AA)  
Program, Youngstown Cold  
Storage - Youngstown, NY**

Principal-in-Charge for the RI/AA of a former apple storage facility adjacent to a public park that is being advanced under the New York State Environmental Restoration Program (ERP). The scope of the RI program included the characterization of fill, soil, and groundwater potentially contaminated with arsenic and PCBs, and building materials that contain asbestos. The project involves the identification and detailed analysis of remedial alternatives available to address the affected media. Responsibilities included client and regulatory communications, and the technical review of project plans and reports.

**Remedial Investigation/  
Alternatives Analysis Program  
(RI/AA), Former C&B Dry Cleaner  
Site - Jamestown, NY**

Principal-in-charge for the RI/AA of an abandoned commercial site formerly occupied by a dry cleaning facility. Project was performed under the New York State Environmental Restoration Program (ERP) and involved the onsite and offsite delineation of subsurface PCE contamination, implementation of an IRM to address vapor intrusion in a neighboring business, and the development of a remedy

consisting of soil removal and insitu treatment. Responsibilities included the technical review of project plans, reports and estimates, as well as extensive interaction with regulatory officials.

**Remedial Investigation/  
Alternatives Analysis (RI/AA)  
and Interim Remedial Measures  
(IRM) Program, Bristol Avenue  
Site - Lockport, NY**

Principal-in-Charge for the implementation of an RI/AA and IRM program at a commercial site that formerly contained petroleum bulk storage (PBS) facilities. Project is being advanced under the New York State Environmental Restoration Program (ERP) and involves the delineation of subsurface petroleum contamination, implementation of an IRM to remove petroleum-contaminated soil, and the selection of a long term remedy that is supportive of reuse of the site for commercial purposes.

**Chautauqua County Department  
of Public Facilities Site  
Investigation/Remedial  
Alternatives Report (SI/RAR),  
Brownfield Site - Dunkirk, NY**

Project Manager for the SI/RAR of an abandoned 12-acre site utilized for heavy industrial purposes since the early 1900s. This project was completed under the New York State Environmental Restoration Program (ERP). The scope of the SI program included a radiological survey and the characterization of fill, soil, groundwater, surface water, building components, and drainage systems contaminated with chlorinated solvents, PCBs and lead. The project involved the identification and detailed

analysis of remedial alternatives available to address the affected media. Responsibilities included client and regulatory communications, implementation of community involvement plan, technical and administrative oversight of project staff and subcontractors, technical review of project plans and reports. Duties also included the coordination of efforts to obtain cleanup funding via insurance asset recovery.

**Site Investigation/Remedial  
Alternatives Report (SI/RAR),  
Former Industrial Site - Buffalo,  
NY**

Quality Assurance Officer for the SI/RAR of a 16-acre site formerly occupied by a fertilizer manufacturing facility and later developed as a public park. This project was completed under the NYS ERP. Responsibilities include technical and administrative oversight of project staff and subcontractors involved in site characterization and remedial alternatives analysis, as well as client and regulatory communications. Duties also include technical review of project plans, reports and estimates.

**Site Investigation/Remedial  
Alternatives Report (SI/RAR),  
Flintkote Site - Lockport, NY**

Project Manager for the SI/RAR of an abandoned six-acre site utilized for industrial purposes since the 1880s. This project was completed under the NYS ERP. Responsibilities include technical and administrative oversight of project staff and subcontractors involved in site characterization and remedial alternatives analysis, as well as client and regulatory communications.

Duties also include technical review of project plans, reports and estimates, and analysis of potential funding opportunities via insurance asset recovery. Project also requires close communication with County planning agency to ensure integration of end use planning and remedial alternative selection.

**Site Investigation/Remedial Alternatives (SI/RAR) Report, Brownfield Site - Brocton, NY**

Project Manager for the SI/RAR of a former food processing facility under the New York State Environmental Restoration Program (ERP). This project involved the investigation of soil, fill, groundwater, building surfaces and components, and drainage systems at this 70,000 SF facility, as well as the evaluation of appropriate remedial alternatives to address contamination identified in on-site fill and drainage systems. Responsibilities included client and regulatory communications, technical and administrative oversight of project staff and subcontractors, and technical review of project plans and reports.

**Site Investigation/Remedial Alternatives Report (SI/RAR), Brownfield Site - Town of Ellicott, NY**

Project Manager for the SI/RAR for an abandoned industrial site in Chautauqua County, NY under the Brownfield Program. Assisted municipal representatives with the preparation of a complete application for State financial assistance through the assembly of a Statement of Work (SOW) and detailed cost estimate that was approved by the NYSDEC,

Division of Environmental Remediation. Also responsible for the design of the site investigation program and the management of technical staff involved in the preparation of the SI/RAR Work Plan, including the Field Sampling Plan, QA/QC Plan, Health and Safety Plan, and Citizen Participation Plan.

**Buffalo Niagara International Airport (BNIA): Remedial Action Summary Report, Landside Expansion Project - Cheektowaga, NY**

Responsible for managing the preparation of the post-construction, remedial action summary report for the BNIA east access improvements and parking expansion project, much of which was constructed on a NYSDEC Inactive Hazardous Waste Site, the former Westinghouse Site. The report was submitted to the NYSDEC to certify that remedial activities conducted in connection with soil and groundwater contamination encountered during construction of new access roads and parking areas were conducted in accordance with applicable standards, criteria and/or guidance.

**Assessment, Remediation and Demolition, Brownfield Site - Jamestown, NY**

Project Manager for the assessment and demolition of a 150,000 SF abandoned manufacturing facility. Project involved a Phase I ESA of the property and pre-demolition inspection of a building complex comprised of six structures. Responsibilities included the preparation of plans and specifications for environmental remediation, asbestos abatement

and building demolition, bid administration, and monitoring of contractor activities.

**Remedial Construction Administration and Oversight, Former Welch Foods Site - Brocton, NY**

Principal-in-Charge responsible for the remediation and demolition of a former food processing facility. The \$1.2M project is being completed under the New York State Environmental Restoration Program (ERP). The work includes the demolition of the existing building, the cleanup of contaminated sediments and soil, and the removal of asbestos-containing materials.

**Remedial Design/Remedial Construction, Former Roblin Steel Site - Dunkirk, NY**

Principal-in-Charge for \$1.5M cleanup of former steel plant site under the New York State Environmental Restoration Program (ERP). Project was completed in two phases involving the removal of contaminated soil and fill, insitu groundwater remediation of chlorinated solvents and placement of a soil cover system.

**Remedial Design and Oversight, Franczyk Park - Buffalo, NY**

Principal-in-Charge for the implementation of a Pre-Design Investigation; the preparation of the Remedial Action Work Plan, contract documents, and technical specifications; and the oversight and administration of the remediation of this 16-acre Brownfield site. The work is being completed under a New York State Environmental Restoration Program (ERP) grant. The remediation includes soil excavation and off-site disposal,

installation of an interceptor trench, the placement of a clean soil cover, and the design and installation of new park equipment.

**Jamestown Gateway Intermodal Station and Visitor Center: Riverwalk Connector Trail - Jamestown, NY**

Principal-in-Charge for preliminary/final design and construction phases of this locally administered federal aid project involving the rehabilitation of a national historic register-listed train station and extension of a recreational trail along the Chadakoin River in the City of Jamestown. Project required intense coordination with multiple funding and approval agencies including, FHWA, FTA, NYSDOT and SHPO. Design and environmental approvals were hinged on the negotiation of a Programmatic Agreement relative to historic preservation elements, and were obtained within a 6-month timeframe to meet funding program requirements.

**Niagara County Community College: New Entrance Road Sanborn, NY**

Principal-in-Charge for the design of a new 2,900 LF entrance road off of NY Route 31 to Niagara County Community College (NCCC). The roadway is intended to provide a separate access for trucks entering to the service area, to provide access and parking to campus sports facilities at the east end of the campus, and to complete a circulatory roadway system around the campus to improve emergency vehicle access and response times. Project involved a wetland delineation and reconfiguration of preliminary roadway alignment to

avoid wetland impacts.

**Millennium Parkway: Industrial Access Road Project - Dunkirk, NY**

Principal-in-Charge for environmental and engineering services provided for a new access road intended to improve access from Interstate 90 to the existing Chadwick Bay Industrial Park in the Towns of Dunkirk and Sheridan, New York. This \$10 million locally administered federal aid project involves extensive agency, stakeholder and public coordination; a comprehensive alternatives analysis; preparation of a NEPA/SEQRA documentation; and preliminary through final design services.

**Transportation Planning, Feasibility Studies - Chautauqua, Cattaraugus and Allegany Counties, NY**

Principal-in-Charge for three transportation studies commissioned by the Southern Tier West Regional Planning and Development Board. These included a preliminary corridor planning study for the Route 60/62 corridor in Chautauqua County for the purpose of analyzing a City of Jamestown bypass, and a preliminary feasibility study for an east-west highway corridor extending through the northern regions of Cattaraugus through Allegany County.

**Environmental Impact Statement (EIS), Williamsville Toll Barrier Improvement Project - Western NY**

Project Manager responsible for managing the preparation of the EIS pursuant to NEPA and SEQRA for the development of

a modern mainline toll barrier on the New York State Thruway (I-90) to the northeast of the Buffalo metropolitan area. Key components of this \$80 million project include the analysis of a 17-mile study corridor for potential relocation sites, as well as the evaluation of potential impacts to travel patterns on a regional level. Duties have included the implementation of a public/agency scoping process, coordination with State and Federal regulatory agencies and local government agencies, and the management of technical staff and subconsultants involved in the development and analysis of alternatives, as well as natural and human resource impact evaluation.

**Progress Drive Reconstruction - Dunkirk, NY**

Principal-in-Charge for design and construction phase services for the reconstruction of Progress Drive in the City and Town of Dunkirk, New York. This \$2.5M project is being funded through a grant from the US Department of Commerce, Economic Development Administration and includes the realignment of Middle Road and reconfiguration of multiple intersections to enable connection of Progress Drive with Millennium Parkway in the future.

**New York State Department of Transportation, Region 5: Environmental and Hazardous Waste/Contaminated Materials Screening, Six LDSA Bridge Projects - Region 5, NY**

Managed the environmental screening and hazardous waste/contaminated materials screening for six bridge replacement or rehabilitation projects conducted under the Local Design Service

Agreement (LDSA) Program in NYSDOT Region 5. Screenings were performed in accordance with the procedures outlined in the NYSDOT Environmental Procedures manual, as well as ASTM Practice E 1527. Required SEQRA and NEPA documentation was prepared, as were applicable State and Federal permit applications.

**City of Buffalo: Hazardous Waste/Contaminated Materials Assessment, South Park Avenue Lift Bridge - Erie County, NY**

Managed the environmental investigation of a former industrial property situated adjacent to the South Park Avenue Lift Bridge over the Buffalo River and slated for acquisition by the City of Buffalo for the construction of a new ancillary electrical building. The investigation involved the drilling of a series of test borings and the installation of groundwater monitoring wells to enable the collection and chemical analysis of soil and groundwater samples. Based upon the results of the investigation, recommendations were developed to minimize worker exposure to contaminated fill material during the construction of the new infrastructure and building.

**Industrial Access Road Feasibility Study - Fredonia, NY**

Project Manager for the feasibility study associated with a new 0.7 mile access road between NY State Route 60 and an active manufacturing facility. Project involved the review of soil suitability, drainage, wetlands, threatened/endangered species, cultural resources, traffic, noise, and existing utilities to aid in alignment selection.

**Winsor Street Reconstruction - City of Jamestown, NY**

Principal-in-Charge for the reconstruction of Winsor Street in the City of Jamestown. Project involved roadway and utility design, the preparation of plans and specifications, bid administration, and construction phase services.

**Handicap Ramp Improvement Project - Jamestown, NY**

Principal-in-Charge for construction inspection services provided to the City of Jamestown for a city-wide handicap ramp improvement project. Responsible for client communications and the coordination of inspection staff.

**Dunkirk Waterfront Recreational Trail - Dunkirk, NY**

Principal-in-Charge for environmental, survey, design and construction phase services for a 3-mile long recreational trail extending along the Lake Erie waterfront in the City of Dunkirk, New York. This project links three of the City's waterfront parks, including Point Gratiot, Veterans and Wright Parks and is funded by New York State Office of Parks, Recreation and Historic Preservation and federal transportation grants.

**Outer Harbor Greenbelt, Recreational Trail - Buffalo, NY**

Principal-in-Charge for construction services provided for the Port Greenbelt Shoreline Restoration project completed for the Niagara Frontier Transportation Authority. Project involved the construction of shoreline improvements for a public park and asphalt pathway

along 5,500 LF of Lake Erie shoreline.

**Environmental Impact Statement, Limestone Quarry - Cheektowaga, NY**

Project Manager for the modification of the Mined Land Reclamation Permit for a limestone quarry encompassing the relocation of onsite stone processing and asphalt production facilities and the mining of an additional 40 acres of the site. The project involved the preparation of an Environmental Impact Statement pursuant to SEQRA. This entailed numerous detailed human and natural resource studies, including air quality and noise modeling, blasting studies, and the assessment of potential impacts to property values. Responsibilities included extensive communication with regulatory officials, the oversight of project staff and subconsultants, and the technical review of project deliverables.

**Generic Environmental Impact Statement, Infrastructure Design, Business Park Development - Tonawanda, NY**

Principal-in-Charge for environmental and engineering services provided for a public sector, 92-acre business park development project, including GEIS preparation, and sewer and water infrastructure design. Project involved coordination with a multi-member steering committee and multiple local, state and federal agencies. Studies performed in support of the GEIS included wetland delineation, Stage 1A/B cultural resource survey, and traffic impact study.

**Niagara-Wheatfield Central**



**School District: Draft Environmental Impact Statement (DEIS) - Niagara, NY**

Project Manager responsible for the preparation of the DEIS pursuant to SEQRA and New York State Education Department requirements for the development of a new elementary school. Directed technical staff and subconsultants during the characterization and evaluation of impacts to human and natural resources.

**Environmental Impact Statement Review (EIS) - Lancaster, NY**

Performed third party technical and procedural reviews of the draft and final EIS for a proposed 870,000 SF warehouse and distribution facility on 136 acres of undeveloped farmland. Involved in assisting with the preparation of the Positive Findings Statement.

**Supplemental Environmental Impact Statement (SEIS), Commercial Plaza - Amherst, NY**

Project Manager for the preparation of a SEIS for the expansion of a retail plaza in the Town of Amherst. The expansion consisted of 67,000 SF of additional retail space and 8,000 SF of restaurant space. Significant issues evaluated in the SEIS included potential impacts to traffic, wetlands, drainage and visual resources.

**Environmental Impact Assessment (EIA), Pharmaceutical Manufacturing Facility Expansion - Grand Island, NY**

Completed Parts 1, 2, and 3 of the SEQRA full Environmental Assessment Form (EAF) for the rezoning of 15 acres of undeveloped

land to accommodate the 140,000 SF expansion of an existing pharmaceutical manufacturing facility. The proposed development included administrative offices and manufacturing, distribution and wastewater treatment facilities. Part 3 of the full EAF consisted of a detailed report describing the project setting and proposed development, and thoroughly analyzed the severity and importance of potential impacts identified in connection with the project. Issues analyzed in the report included air quality, water services, historical and archaeological resources, traffic, visual and aesthetic resources, land use and zoning, noise, community services, historical and archaeological resources, and socioeconomics. Following review of the EIA, the Lead Agency issued a Negative Declaration for the project, signifying that the project would not result in any significant adverse environmental impacts and that a DEIS was not required.

**Environmental Impact Assessment, Brownfield Restoration and Redevelopment - Falconer, NY**

Project Manager responsible for assisting the Lead Agency, Chautauqua County Industrial Development Agency, with the environmental review pursuant to SEQRA of an environmental restoration and redevelopment project at a Brownfield site. The project consisted of the environmental remediation of residual contamination at an abandoned industrial site under a Voluntary Cleanup Agreement between the NYSDEC and the developer, and the subsequent redevelopment of the property for manufacturing use. Prepared

Parts 1, 2 and 3 of the full Environmental Assessment Form (EAF). Part 3 of the full EAF consisted of a detailed report describing the environmental setting of the project, the proposed remediation program, and the proposed 160,000 SF development. Assisted the Lead Agency in the preparation and filing of a Negative Declaration for the project signifying that the project would not result in any significant adverse impacts and that a DEIS would not be required.

**Environmental Assessment Forms (EAF), Multiple Projects - New York State**

Prepared short and full EAFs pursuant to SEQRA for numerous projects across New York State ranging from mining projects to telecommunication tower development sites.

**Phase I & II Environmental Site Assessments**

**Chautauqua County Department of Public Facilities: Term Environmental Services - Chautauqua County, NY**

Program Manager for environmental services provided under 11 consecutive one-year term contracts. He managed technical staff, subconsultants and subcontractors involved in environmental assignments including Phase I and II environmental site assessments, UST removal, environmental impact assessment and analysis for business/industrial park developments, Brownfield redevelopment, grant preparation and administration, and regulatory compliance. He was responsible for contract administration, technical review

of project deliverables, Client consultation, public presentations and outreach, and regulatory communications.

**Vapor Intrusion Assessment, Commercial Plaza - Alden, NY**

Project Manager for a Vapor Intrusion Assessment (VIA) of a commercial plaza that formerly contained a dry-cleaning business. Project involved the collection and laboratory analysis of sub-slab vapor and indoor air samples; the evaluation of the resulting data relative to applicable regulatory guidance; and the preparation of a technical report with recommendations for mitigation.

**Site Investigation, Commercial Property - West Seneca, NY**

Principal-in-Charge for the investigation of a commercial property containing purifier waste from a manufactured gas plant. The work was implemented in an effort to fully characterize the fill materials at the site and was performed in response to concern by the NYSDEC. Project involved the development and implementation of a NYSDEC-approved investigation work plan.

**Environmental Analysis, Historic Canal District - City of Utica, NY**

Project Manager for the environmental assessment of the City of Utica's historic canal district, an area that encompasses approximately 30 city blocks. Responsible for the oversight of staff conducting an ASTM-type assessment, which identified 23 sites with environmental concerns, and the categorization of the relative level of concern associated with each of these sites. Outlined potential impacts to redevelopment options for the

City to aid in the redevelopment planning process, and provided recommendations for additional site specific studies and Brownfield funding opportunities.

**Vapor Intrusion Assessment, Adaptive Re-use Project - Lockport, NY**

Project Manager for a Vapor Intrusion Assessment (VIA) of a former industrial building in connection with adaptive re-use for mixed use purposes. Project involved the collection and laboratory analysis of sub-slab vapor and indoor air samples; the evaluation of the resulting data relative to applicable regulatory guidance; and the preparation of a technical report.

**Phase I Environmental Site Assessments, Telecommunication Tower Sites - New York State**

Responsible for the coordination and review of Phase I ESAs of over 90 sites proposed for the development of telecommunication towers. These ESAs were performed in accordance with ASTM E-1527 and were completed within an aggressive three-month schedule.

**Phase I/II Environmental Site Assessment, City Block - Jamestown, NY**

Project Manager for the Phase I/II ESAs of a city block located adjacent to a new downtown ice arena. The site is slated for redevelopment and currently contains several commercial buildings and surface parking lots. Assessments were performed in accordance with ASTM E-1527 and involved site inspections, historic land use and records

review, and interviews with past, present and adjacent land owners. This Phase I ESA resulted in the identification of numerous recognized environmental conditions in connection with the subject property including the potential for subsurface petroleum contamination, and the potential for past discharge solvents and other chemicals based on historical land use. The Phase II portion of the project involved the drilling and installation of eight test borings (four of the test borings contained groundwater monitoring wells), and the collection and chemical analysis of groundwater, and soil samples.

**Phase I Environmental Site Assessments (ESA) - Various Locations, New York State**

Conducted numerous Phase I ESAs for commercial property transfers. Performed assessments in accordance with American Society for Testing and Materials (ASTM) Standards and involved site inspections, historical land use and records review, and interviews with past, present and adjacent land owners. Projects required extensive interaction with clients and financial institutions.

**Phase I/II Environmental Site Assessment - Buffalo, NY**

Performed an ESA of vacant land situated in a former industrial sector of Buffalo, NY in association with the proposed commercial development of the property. Extensive historical research indicated that the property had at one time been occupied by support facilities related to aircraft manufacturing and numerous

USTs had been present on the property. To further define potential liabilities associated with the site, a surface geophysical survey to detect buried metal objects was performed and was supplemented by a drilling program designed to characterize soil and groundwater conditions at the site.

**Phase I Environmental Site Assessment (ESA) - Hamburg, NY**

Performed a Phase I ESA of an industrial facility involved in the manufacture of fiberglass reinforced plastic (FRP) tanks and towers for the chemical industry. This Phase I ESA resulted in the identification of numerous recognized environmental conditions in connection with the subject property including the improper storage of hazardous chemicals and wastes, the discharge of hazardous waste and petroleum products to the subsurface, and leaking aboveground storage tanks.

**Phase I Environmental Site Assessment (ESA) - East Northport, NY**

Performed a Phase I ESA of an industrial facility involved in the inspection, repair and reconditioning of aircraft life support equipment. This Phase I ESA was conducted in accordance with ASTM E-1527 and resulted in the identification of numerous recognized environmental conditions including improper storage of hazardous chemicals, hazardous waste, low-level radioactive waste, the discharge of spent solvents to the subsurface, the presence of five underground storage tanks, and the lack of a process wastewater management

system meeting applicable local and state regulations.

**Phase I Environmental Site Assessment (ESA), Industrial Site - Dunkirk, NY**

Project Manager for the Phase I ESA of a seven acre industrial site that was originally developed as part of a Civil War era railroad locomotive manufacturing complex. The purpose of this ESA was to assist the Chautauqua County Industrial Development Agency in evaluating the feasibility of pursuing a site investigation grant under the NYSDEC Brownfield Program pursuant to the Clean Water/Clean Air Bond Act of 1996. Based upon the historical records and information obtained as a result of site reconnaissance, interviews with former employees, and a regulatory record search, numerous environmental concerns were identified in connection with the subject site. These concerns included documented hazardous waste discharges, groundwater contamination and the potential presence of underground storage tanks.

**Investigation and Remediation, Fleet Vehicle Maintenance Facility - Waterport, NY**

Project Manager for the subsurface investigation of petroleum contamination at an active fleet vehicle maintenance and repair facility operated by the New York State Office of Parks, Recreation and Historic Preservation. The investigation was designed to delineate the extent of soil and groundwater contamination, was conducted in accordance with a NYSDEC-approved work plan, and involved completion of a soil gas survey,

drilling and installation of test probes and monitoring wells, and the chemical analysis of soil and groundwater samples. Implemented NYSDEC-approved in situ groundwater treatment program using Oxygen Release Compound (ORC) coupled with a quarterly monitoring program.

**Phase II Environmental Investigation - Buffalo, NY**

Conducted a Phase II investigation of a manufacturing facility contaminated with heavy metals and polynuclear aromatics (PNA). Project involved soil, sediment and storm water characterization that revealed PNA and metals contamination in a storm water control system. Developed program for storm sewer remediation and prepared Remedial Action Plan for regulatory agency review.

**Phase II Environmental Investigation - Buffalo, NY**

Conducted a Phase II investigation of an industrial site located adjacent to several listed inactive hazardous waste sites. Developed and implemented a NYSDEC approved subsurface investigation plan which entailed the installation of seven groundwater monitoring wells, the excavation of test pits, and the collection and analysis of groundwater, surface water and soil samples. Prepared a report identifying the type and extent of contamination, potential contaminant sources and possible pathways of migration.

**Subsurface Investigation, Fuel Dispensing Facility - Amherst, NY**

Project Manager for the subsurface investigation of inactive retail dispensing facility

involving the delineation of soil contamination, installation of shallow and bedrock monitoring wells to characterize groundwater quality, and the assessment of appropriate remedial alternatives. Project involved preparation of investigation plan for regulatory agency review, as well as extensive client relations.

#### **Phase II Environmental Site Assessment (ESA) - East Northport, NY**

Project Manager for the Phase II ESA of an active industrial facility conducted to investigate potential contamination associated with the historical use of the facility, numerous USTs, and the subsurface discharge of spent solvents. This Phase II ESA involved the advancement of 17 test probes to enable the collection and field screening of continuous soil samples, and the chemical analysis of soil samples. The resulting report identified several areas of soil contamination and was utilized to define the scope of remedial measures required to complete the transfer of ownership of the facility.

#### **Phase II Environmental Site Assessment - Hamburg, NY**

Based upon a review of a Phase I ESA, developed and conducted a Phase II ESA at the site on an automotive service and repair facility contaminated with hydraulic oil. Project involved the drilling of 26 test borings and the installation of three groundwater monitoring wells for the purpose of characterizing physical and chemical subsurface conditions. Developed program for soil remediation involving the decommissioning and removal of belowground hydraulic lifts

and an oil/water separator, as well as the excavation and off-site disposal of petroleum-contaminated soil.

#### **Phase I/II Environmental Site Assessment - Cheektowaga, NY**

Project Manager for the Phase I/II ESA of an abandoned aircraft controls manufacturing facility proposed for commercial redevelopment. Based upon the results of the Phase I ESA that indicated the potential presence of a UST and solvent releases, a Phase II ESA was conducted to confirm the presence or absence of contamination. In response to the detection of asbestos containing building materials during the Phase I ESA, a pre-demolition asbestos survey was also conducted. The Phase II ESA included the completion of a surface geophysical survey and the advancement of 17 test probes to enable the collection, field screening and chemical analysis of soil samples. This investigation resulted in the detection of TCE contamination in soil proximal to the facility's service entrance.

#### **Risk Based Corrective Action (RBCA) Evaluation, Automobile Dealership - Town of Hamburg, NY**

Project Manager for the evaluation of a petroleum-impacted site using the RBCA process outlined in the NYSDEC Draft Interim Procedures for Inactivation of Petroleum-Impacted Sites. This project involved the identification of complete exposure pathways and the calculation of Site Specific Target Levels (SSTLs) for residual contamination that are protective of human health and the environment under current and

future site use scenarios. This evaluation demonstrated that levels of residual contamination in groundwater at the site are below the calculated risk-based thresholds, and received NYSDEC technical approval.

#### **Phase II Environmental Site Assessment (ESA), Maintenance and Storage Yard - Falconer, NY**

Project Manager for the investigation of a public works maintenance and storage yard involving the drilling of a series of test borings and the installation of eight groundwater monitoring wells to investigate potential subsurface contamination identified as a result of a Phase I ESA. As a result of this investigation, soil contamination in connection with the historical storage and dispensing of liquid asphalt was identified, as was groundwater contamination emanating from an off-site source.

#### **Phase I/II Environmental Site Assessment (ESA) - Lancaster, NY**

Project Manager for the Phase I/II ESA of an active industrial facility containing a chrome-plating operation. This work involved the advancement of soil probes and the installation of groundwater monitoring wells to characterize subsurface conditions, as well as the sampling and analysis of drain, sump and sewer sediments/fluids. Developed and implemented a remediation plan involving the proper abandonment of a dry well, removal of an in-floor oil sump, the removal of contaminated sewer sediments, the remediation of petroleum-contaminated soil, and the modification of the facility's wastewater collection



and conveyance system. Following regulatory review of the confirmatory sampling results, the site was given closed status signifying the satisfactory completion of the remedial program.

**Phase II Environmental Site Assessment - Dunkirk, NY**

Project Manager for the Phase II ESA of an abandoned industrial site proposed for redevelopment by adjacent industry. The scope of the investigation included the drilling and installation of nine monitoring wells and seven additional test borings to characterize subsurface conditions. Additionally, the inspection and sampling of numerous drains, sumps, vaults, and potential PCB containing electrical equipment located on the property was conducted. Based on the results of the investigation, recommendations for site remediation were developed.

**New York Power Authority: NAPL Investigation, NYPA Right-of-Way - Niagara Falls, NY**

Principal-in-Charge for an investigation designed to delineate non-aqueous phase liquids (NAPL) within the NYPA Lewiston Power Project conduit right-of-way in the vicinity of Royal Avenue. The project included the review of historical documents, drilling of overburden and bedrock test borings, collection of characterization samples, and preparation of work plan and final reports.

**Building Demolition, Food Processing Plant - Town of Ripley, NY**

Principal-in-Charge for the design, bidding and construction

phases of a building demolition project involving a 26,000 SF concrete block/wood/steel structure. Project involved demolition design; preparation of plans, specifications and contract documents; bid administration; and oversight of demolition. Project also involves removal of asbestos containing materials and drums/containers of chemicals.

**Building Demolition, Former Randolph Foundry - Village of Randolph, NY**

Principal-in-Charge for the design and preparation of contract documents for the demolition of a 25,000 SF former foundry and machine shop. The work was completed under a New York State Environmental Restoration Program grant as an Interim Remedial Measure. The project included removal of asbestos containing materials, foundry sand and containers of chemicals and the demolition and disposal of the building.

**Building Demolition, Former Roblin Steel Plant - Dunkirk, NY**

Principal-in-Charge for the design, bidding and construction phases of a building demolition project involving a 90,000 SF former steel mill building. Scope of services includes demolition and asbestos abatement design; preparation of plans, specifications and contract documents; bid administration; and oversight of demolition. Contract documents were prepared in accordance with NYS Environmental Restoration Program requirements for this brownfield redevelopment project.

**Building Demolition, Former Alumax Extrusion Facility -****Dunkirk, NY**

Principal-in-Charge for the design, bidding and construction phases of a building demolition project involving a 143,000 SF former industrial complex. Scope of services includes demolition and asbestos abatement design; preparation of plans, specifications and contract documents; bid administration; and oversight of demolition at this brownfield redevelopment site.

**Building Demolition, Former Edgewood Warehouse - Dunkirk, NY**

Principal-in-Charge for the design, bidding and construction phases of a building demolition project involving a 165,000 SF former industrial building. Scope of services included demolition and asbestos abatement design and the preparation of plans, specifications and contract documents.

**Manufacturing Facility, Decommissioning/Demolition - Tonawanda, NY**

Principal-in-Charge for design and oversight services provided for the decommissioning and demolition of a 75,000 SF portion of an active manufacturing facility. Project included the removal and disposal of contaminated sediment, decommissioning of numerous pits and sumps, asbestos abatement, abandonment of portions of the existing mechanical and electrical systems, structural closure and restoration of new exterior building walls. Demolition of multiple buildings, including a tall chimney, was conducted without disruption of ongoing plant operations.

**Asbestos Survey of Commercial Site - Tonawanda, NY**

Project Manager for the Phase I ESA and Asbestos Survey of a commercial site containing two buildings encompassing 100,000 SF. The project was completed in support of the acquisition and renovation of the buildings.

**Pre-Renovation Survey, Commercial Building - Jamestown, NY**

Project Manager for the asbestos-containing material (ACM) and lead-based paint (LBP) survey of a commercial building slated for renovation and reuse as the headquarters of the Chautauqua Area Rural Transit System (CARTS). The project involved the review of available building plans, an inspection of the structure, the sampling and laboratory analysis of suspect ACM and LBP, the evaluation and presentation of the resulting data in a technical report, and cost estimating for abatement.

**Pre-Demolition Asbestos Surveys, Numerous Redevelopment Sites - State of New York**

Project Manager for the pre-demolition survey of numerous commercial redevelopment sites containing multiple structures. Responsibilities included the coordination of multiple survey crews involved in building inspections and sample collection, the review of data resulting from the analysis of samples via polarized light microscopy (PLM), and the compilation of final reports identifying the location, type and quantity of asbestos containing building materials.

**Asbestos and Lead-Based****Paint Survey, Harness Racing Complex - Batavia, NY**

Project Manager for the Phase I ESA of a 45-acre harness racing complex. Responsible for managing asbestos and lead-based paint inspections of five buildings encompassing 117,000 SF in conjunction with planned demolition and renovation activities at the complex.

**Pre-Demolition Survey, Food Processing Facility - Brocton, NY**

Project Manager for the pre-demolition asbestos survey of the abandoned portion of a former food processing facility encompassing approximately 70,000 SF. The survey involved the review of historical building plans, the collection and laboratory analysis of hundreds of samples of suspect asbestos-containing material, technical report preparation and abatement cost estimating.

**Pre-Demolition Environmental Assessment and Decommissioning Program, Industrial Facility - Tonawanda, NY**

Principal-in-Charge for the environmental assessment and decommissioning program performed at an active industrial complex in support of the planned demolition of unused portions of the facility. Responsibilities included consultation with the Client and their legal counsel relative to environmental conditions at the site and corresponding implications with respect to regulatory requirements, risk management and the demolition project. Also provided oversight of project team and subcontractors conducting site-specific sampling and analysis,

pre-demolition asbestos surveys, and the cleanup and closure of an outdoor electrical substation and a number of process pits and sumps.

**Chautauqua Lake Watershed: Watershed Management Project - Chautauqua County, NY**

Principal-in-Charge for the development of a management program for the Chautauqua Lake watershed. The project includes community outreach; identification and evaluation of areas with acute erosion issues; GIS database development; technical assistance to municipalities and private entities; and educational seminars.

**Aquifer Study, Landfill Site - Cattaraugus County, NY**

Participated in the design and execution of a drilling, well installation and pump test program to determine the areal extent and hydrologic properties of a valley fill aquifer, as well as its hydraulic connection to an adjacent landfill site. The relationship of the subject aquifer was also evaluated relative to a nearby primary aquifer based upon available literature and mapping.

**Storm Water Pollution Prevention Plans, Various Facilities - New York State**

Managed the preparation of Storm Water Pollution Prevention Plans for over 10 industrial facilities in western and central New York. Plans were prepared in accordance with State Pollutant Discharge Elimination System (SPDES) regulations pertaining to industrial storm water discharge, and involved the review of site activities, potential contaminants utilized or stored at the facility,

current storm water management practices, and the development of best management practices to minimize storm water pollution.

**Wetland Delineations - Various Locations, New York State**

Project Manager for the investigation and delineation of Federal jurisdictional wetlands in accordance with the 1987 Manual issued by the US Army Corps of Engineers (USCOE). Projects ranged from residential and commercial developments to several airport expansions, and involved the preparation of reports characterizing and delineating upland and wetland communities encountered during field investigations, the completion of joint State and Federal permit applications, and extensive interaction with NYSDEC and USCOE representatives.

**Hydrogeologic Appraisal - Clarence, NY**

Characterized the existing hydrogeologic resources on and adjacent to the site of a proposed 75,000 SF manufacturing facility, and identified and evaluated potential impacts to these resources associated with project development. The design of the project included the installation of several water supply wells to provide the facility with cooling water directly to groundwater. This study included an evaluation of impacts to a nearby unconsolidated aquifer and an underlying bedrock aquifer, and was incorporated in the Environmental Impact Statement for the project.

**Brass Foundry: Storm Water Management System, Evaluation and Redesign - Elmira, NY**

Project Manager for the investigation and redesign of the storm water management system at a 100+ year old foundry site to improve site drainage, enable the proper closure of numerous dry wells, and assist in achieving pollution prevention initiatives. This work involved the topographic survey of the site, delineation of the existing storm water conveyance system for which no historical plans existed, storm water calculations, and design modifications to the on-site collection and conveyance systems. As part of this program, a closure plan complying with the Underground Injection Control Program (UICP) was developed for the on-site industrial drainage wells.

**ISG Lackawanna LLC: Industrial Facility SPDES Monitoring - Lackawanna, NY**

Principal-in-Charge for weekly, monthly and quarterly SPDES monitoring conducted at galvanizing and rolling mills operated by ISG. Supervised staff involved in sample collection, laboratory coordination and Discharge Monitoring Report (DMR) preparation. Also provided technical support relative to permit compliance and other waste disposal issues.

**Water Line Replacement - Town of Lancaster, NY**

Principal-in-Charge for design and construction phase services provided in conjunction with the replacement of 7,800-LF of waterline in the Town of Lancaster.

**Evaluation of Waste Water Treatment Plant Discharges Wellsville, NY**

Principal-in-Charge for the

evaluation of wastewater treatment plant influent consisting of sanitary sewage and leachate and the resulting discharges from the plant. The project included the evaluation of existing information, the collection of wastewater samples for analysis, performance of calculations of Maximum Allowable Headworks Loadings, and establishment of pretreatment discharge limitations and a protocol for acceptance of new or increased discharges.

**Mined Land Reclamation Permit Modification, Quarry Expansion - Shelby, NY**

Project Manager for the modification of the Mine Land Reclamation Permit enabling an 11.3 acre expansion of an existing 95-acre limestone and dolomite quarry. Conducted hydrogeologic, noise and blasting studies to assess potential impacts to nearby residences, stream and wetlands and prepared revised Mining Plan Map. Project also involved close coordination with NYSDEC, USACOE and NYSOPRHP regarding stream crossing, wetland and cultural resource issues. Additionally, technical support was also provided for procurement of a Special Use Permit from the Town of Shelby to address recently enacted local zoning law relative to mining.

**Mining Permit - Wheatfield, NY**

Prepared a 6 NYCRR Part 420-426 Mining Permit Application and Mined Land Use Plan for a 20-acre surface unconsolidated mine. The mining plan involved the excavation of over 300,000 cubic yards of clay for use off site, while the reclamation plan

entailed the use of the affected land for storm water retention ponds for a proposed residential subdivision.

**Limestone Quarry Expansion - Cheektowaga, NY**

Project Manager for the development of a revised Reclamation Plan pursuant to 6 NYCRR Part 420-426 for the 65-acre expansion of an existing limestone quarry. The reclamation objective outlined in the graphical and written plans consisted of a lake surrounded by mixed-use development.

**Mining Permit - Waterloo, NY**

Project Manager for the preparation of a Mining Permit Application and Mined Land Use Plan for a 35-acre surface unconsolidated mine. The mining plan involved the extraction of 850,000 cubic yards of clay to be used in conjunction with the operation and closure of an adjacent solid waste landfill, while the reclamation plan consisted of the creation of a storm water retention pond surrounded by graded, revegetated land suitable for a return to agricultural use or for commercial development.

**Mining Permit - Phelps, NY**

Project Manager for the preparation of a Mining Permit Application and Mined Land Use Plan for a 9-acre surface unconsolidated mine. The mining plan involved the extraction of 200,000 cubic yards of sand and gravel to be used in conjunction with the operation and closure of a nearby solid waste landfill, while the reclamation plan provided for graded, revegetated land suitable for residential development and/or recreational use.

**Draft Environmental Impact Statement (DEIS), Limestone Quarry Expansion - Cheektowaga, NY**

Project Manager responsible for the preparation of a DEIS pursuant to SEQRA for the rezoning of 140 acres of undeveloped land to accommodate the expansion of an existing limestone quarry. Detailed investigations of the following natural and human resources were completed in support of the DEIS: hydrogeology, air quality, ecology, wetlands, traffic, noise, land use and rezoning, archaeology, and aesthetics. Evaluation of potential impacts to an adjacent Critical Environmental Area (CEA) and two adjacent waste disposal facilities was also required.

**Mining Permit Modification, Limestone Quarry - Cheektowaga, NY**

Project Manager for the modification of the Mined Land Reclamation Permit for a limestone quarry encompassing the relocation of onsite stone processing and asphalt production facilities and the mining of an additional 40 acres of the site. Responsibilities included extensive communication with regulatory officials and the negotiation of special MLR permit conditions.

**Ripley Interstate Development Site, Warehouse/Distribution Center, Site Planning and Shovel-Ready Status - Ripley, NY**

Principal-in-Charge for site planning and preliminary design services for a 200-acre interstate site in the Town of Ripley that is being marketed for

the development of a 1,000,000 SF warehouse/distribution center. Oversaw pre-acquisition environmental site assessments of multiple parcels, the development and evaluation of multiple site plan alternatives, traffic impact analysis and the modeling and preliminary design of stormwater management facilities. Also, assisted the Chautauqua County IDA with the process of obtaining shovel-ready status through ESDC.

**Buffalo Lakeside Commerce, Park Industrial/Business Park Site, Planning and Design, Phase III - Buffalo, NY**

Principal-in-Charge for the site planning and infrastructure design for Phase III of the Buffalo Lakeside Commerce Park, which is a 275-acre brownfield redevelopment project. Project involves the layout of parcels, roadways and utilities; SEQRA compliance/documentation; geotechnical investigation; wetland permitting; the design of roadways, waterlines, sanitary sewer and pump station, and stormwater management facilities; the preparation of plans and specifications; bid and construction administration; and construction inspection. Extensive coordination with NYSDEC to ensure compliance with brownfield soil/fill management plan is also required.

**Phase III, Country View Estates - Jamestown, NY**

Principal-in-Charge for roadway and utility design and construction phase services provided for a 15-acre residential subdivision. Project included topographic survey, design of 1,200 LF of roadway and the design of stormwater



management facilities. Bid documents and cost estimates were prepared and construction support was provided.

**Business Park Development, Environmental Assessment and Conceptual Design - Ripley, NY**

Project Manager for the environmental review and conceptual design of a 42-acre business park. Managed technical staff and subconsultants involved with natural and human resource studies including ecological survey, wetland delineation, Stage 1A cultural resource survey, and traffic impact study. The results of these studies were used to develop concept plans for the proposed development that minimized impacts while optimizing the developable area.

**Geotechnical Engineering Investigation - Geneseo, NY**

Supervised the drilling of test borings and the installation of piezometers as part of the geotechnical investigation for the design of surface facilities associated with a proposed subterranean salt mine. Responsibilities included classifying soil samples and logging rock cores, piezometer placement, and the collection of groundwater samples for chemical analysis.

**Geotechnical Engineering Investigations, Development Sites - New York State**

Supervised the collection of data for use in foundation design for several sites proposed for the development of restaurant, hotel and institutional facilities. Responsibilities included the supervision of drilling activities, the classification of soil samples,

piezometer design and placement, and the preparation of reports characterizing existing hydrogeologic conditions.

**Former Industrial Site Investigation & Cleanup - Cheektowaga, NY**

Project Manager for the Phase I/II ESA and subsequent cleanup of a commercial property in connection with a real estate transaction. Recognized Environmental Conditions (RECs) identified as a result of the Phase I ESA were investigated and contamination was delineated in subsurface fill and sediment occurring within an on-site drainage ditch. Worked closely with the purchaser and owner to develop and implement a remedial program to address contamination and enable the transaction to proceed. The cleanup was completed in accordance with a NYSDEC approved work plan and spill file closure was achieved.

**Technology Incubator Development Site - Dunkirk, NY**

Principal-in-Charge for environmental services provided in conjunction with the development of a \$5 million high technology incubator facility in Dunkirk, NY. Project involved the investigation and cleanup of subsurface petroleum contamination in order to prepare the site for redevelopment.

**Jamestown Community College: Investigation and Remediation of Petroleum Spill Site - Jamestown, NY**

Project Manager for a multi-phased investigation of a former truck terminal site slated for redevelopment as part of Jamestown Community College's

Manufacturing Technology Institute. Subsurface petroleum contamination was delineated and cleanup was completed in accordance with a NYSDEC approved remedial work plan. Responsibilities include regulatory negotiations, client communications and coordination and technical oversight of staff and subcontractors.

**Industrial Facility, PCB Remediation - Buffalo, NY**

Developed and managed the implementation of the Post-Cleanup Sampling Program, pursuant to TSCA, following the completion of remedial activities at a PCB spill site in an industrial section of Buffalo, NY. Following EPA approval of sampling design, which employed a statistical sampling scheme developed by the Midwest Research Institute, supervised sample collection and implementation of a QA/QC program. Directed additional remedial measures to reduce contaminant levels to within acceptable levels and verified compliance with federal standards. Prepared Spill Remediation Report in order to document and certify remedial efforts. Report was submitted to and accepted by NYSDEC and USEPA.

**Groundwater Remediation, Federal Leaking Underground Storage Tank (LUST) - Various Sites, NY**

Managed the design, installation and monitoring of several groundwater extraction and treatment systems at LUST sites owned and operated by the Federal Government. Systems utilized included a mobile unit equipped with oil/water separator, total

suspended solids filtration, and liquid phase granular activated carbon components. Projects involved periodic monitoring of treatment system effluent and the procurement of applicable discharge approvals from State regulatory agencies.

**Remedial Action Plan (RAP) - Hamburg, NY**

Prepared a RAP for regulatory review and negotiated clean-up requirements for the voluntary remediation of petroleum-contaminated soil at an automotive dealership, repair and service facility. Managed the implementation of the remedial program which involved the decommissioning and removal of 18 leaking belowground hydraulic lifts and the excavation and off-site disposal of over 3,000 tons of soil contaminated with hydraulic oil and waste oil. The project also involved the removal of an old oil/water separator and replacement with a new unit meeting current regulatory requirements for separation, as well as the removal of several previously undiscovered USTs. A field laboratory was utilized throughout the project to define the limits of contaminated soil and to verify that clean-up levels were achieved. The project was completed without suspending the daily operations of the facility.

**Industrial Facility, Underground Storage Tank (UST) Closures - Lockport, NY**

Project Manager for the closure of two inactive USTs occurring at an industrial facility involved in the manufacture and machining of parts for the paper industry. Following the removal of residual product and sludge, the tanks were removed and cleaned

for proper off-site disposal. Visually contaminated soil encountered in the tank cavities was also excavated for disposal at an appropriately permitted off-site facility. Confirmatory samples were collected from the tank cavities and chemically analyzed to verify compliance with regulatory levels. A report summarizing tank closure activities and documenting the quantity and final disposition of wastes generated as a result of the project was submitted to and accepted by the NYSDEC who issued a No Further Action letter.

**Industrial Facility PCB, Drum and Tank Remediation - Elmira, NY**

Supervised the remedial program at a former steel foundry that involved the disassembly and removal of eight leaking transformers from on-site buildings to a secure staging/contaminant area for draining and transport to an off-site disposal facility. The project also entailed the overpacking and secure staging of numerous drums containing hazardous substances and petroleum products encountered throughout the 19-acre site, and the proper closure of eight aboveground storage tanks ranging in size from 250 to 6,000 gallons.

**Abandoned Industrial Facility Soil Remediation - Cheektowaga, NY**

Prepared a Remedial Action Plan (RAP) under the NYSDEC Voluntary Cleanup Program for the remediation of an inactive industrial site contaminated with chlorinated solvents. Following regulatory approval of the Remedial Action Plan, managed the remedial program consisting of the proper closure

of an inactive UST, extraction and on-site treatment of contaminated groundwater in the area of concern, excavation of contaminated soil for off-site treatment and disposal, and the further investigation of down-gradient groundwater conditions. The program also involved the development and implementation of community and site-specific health and safety plans requiring continuous air monitoring for particulate and organic vapor levels.

**Allegany County Landfill Environmental Monitoring Program - Angolica, NY**

Project Manager for the environmental monitoring program at a 24-acre municipal solid waste landfill. Responsible for the supervision of technical staff involved in the evaluation, management and reporting of quarterly and annual groundwater, surface water,

**Characterization: Soil and  
Groundwater Remediation -  
Coudersport, Pennsylvania**

Greg was Project Manager for a Pennsylvania Department of Environmental Protection Act II Voluntary Cleanup project. The site consisted of approximately five acres of land, two vacant gas stations and an agricultural chemical retail store.

**Former Trucking Maintenance  
Facility: Phase II Site  
Characterization and Remedial  
Measures - Bloomfield, NY**

Project Manager for a multi-phased site characterization and remedial effort. Greg was responsible for the oversight of the spill closure, design of a sub slab venting system, removal of 800 tons of impaired soil, and negotiations with the NYSDEC.



### **CHMM**

**Certified Hazardous Materials Manager**

### **EDUCATION**

**University at Buffalo: BS,  
Environmental Science**

**Erie Community College: AS,  
General Studies**

### **CERTIFICATION/ REGISTRATION**

**HAZWOPER 40-hour Certificate**

**Accredited Environmental  
Professional**



## **ADAM ZEBROWSKI**

### **Environmental Technician**

Adam Zebrowski is an Environmental Project Manager with eight years of professional consulting experience on projects throughout the Northeastern United States with a variety of developers, financial institutions, attorneys, municipalities, and county clients. Adam's background includes experience with the following: Management of over 2,000 Phase I Environmental Site Assessments (ESAs) & Transaction Screen Assessments, Management of over 300 Phase II ESAs, Underground Storage Tank Removal/Closure, Remediation and management of petroleum and hazardous substances Sites, Technologically Enhanced Naturally Occurring Radioactive Materials, Soil vapor intrusion assessment and mitigation, and Hazardous building materials.

Adam's responsibilities include project management, business development, and client management.

#### **USEPA Priority Brownfield Sites, Niagara County, NY**

Adam has successfully assisted the Niagara County Department of Economic Development assess environmental liabilities associated with underutilized, environmentally problematic properties throughout Niagara County, New York. The assessments completed typically include properties with significant environmental liens or tax delinquency with histories including hazardous waste disposal sites, abandoned gasoline filling stations, automotive repair facilities, and historical manufacturing facilities. Services provided to the Niagara County Department of Economic Development often include Phase I ESA's, assessment or delineation of subsurface soil and groundwater impact, vapor intrusion, Technologically Enhanced Naturally Occurring Radioactive Materials, and hazardous building materials. These projects require the

strictest quality controls and are subject to USEPA review and approval. Adam has successfully assisted the Niagara County Department of Economic Development in evaluating environmental risk prior to tax foreclosure or redevelopment initiatives of several properties throughout Niagara County.

#### **Automotive Dealership, Niagara Falls, NY**

Adam assisted a purchasing entity evaluate environmental liabilities associated with an automotive dealership located in Niagara Falls, New York. Environmental concerns identified at the property included a historical gasoline filling station located on a non-contiguous parcel associated with the greater dealership operation, approximately 20 in-ground hydraulic lifts, historical underground storage tanks, and long-term automotive repair operations. During subsurface



exploration activities, it was revealed that the property was overlain with slag exhibiting elevated gamma radiation levels. In addition, slag in one portion of the Site was intermixed with apparent industrial waste. Adam was successful in assisting his Client's evaluation of the environmental liability associated with the property, exploration and implementation of remedial and engineering control options, and obtaining bank financing to purchase the property.

#### **Construction Services - Northeast United States**

Adam has experience managing numerous construction Plan Specification Reviews, Draw Inspections, and Property Condition Assessment projects throughout the northeast. Such services were primarily completed for financial institutions for lending purposes or property transactions.

#### **Urban Redevelopment Project, Buffalo, NY**

Adam provided environmental assessment services to a developer for redevelopment of 28 underutilized parcels of land within a portion of the City of Buffalo undergoing urban revitalization. LaBella provided environmental consulting services prior to the client retaining ownership of the properties. These included a Phase I ESA and a National Environmental Policy Act review. Furthermore, Adam explored remedial design options with the Client to be implemented concurrent with development activities to address various gasoline filling station operations, automotive repair operations, dry cleaners, and blacksmith operations historically

conducted at the Site.

#### **Environmental Due Diligence: Automotive Dealerships — Northern Ohio**

Adam was retained to conduct environmental due diligence services on behalf of his client, a financial institution, to evaluate a portfolio of six large automotive car dealerships located in the Cleveland and Canton metropolitan areas. Operations at each automotive dealership included large scale automotive repair and collision repair. The Sites generally included legacy environmental issues related to historical resales associated with in-ground hydraulic lifts, oil-water separators, and petroleum bulk storage. In addition, one of the dealerships were on land historically occupied with a large scale industrial operation, previous automotive and truck repair operations, and two gasoline filling stations. Adam assisted the client assess the environmental risk associated with each Site and conducted a Phase II Environmental Site Assessment to evaluate the environmental concerns identified.

#### **Low-Income Housing Redevelopment — Corning, NY**

Adam provided consulting services for redevelopment of a 30 structure low-income housing development in Corning, New York. The property was developed in the 1950's, was in various stages of disrepair, and redevelopment of the Site was desired by the local community. Adam assessed hazardous building materials within the Site Buildings prior to demolition, prepared several Phase I ESA's, and

evaluated the Site for wetlands and endangered species in compliance with New York State Homes and Community Renewal requirements. Furthermore, Adam helped the client explore options for handling suspected hazardous fill materials historically imported to the Site.

#### **Hazardous Building Materials - Various, NY**

Adam Zebrowski has interfaced directly with LaBella's hazardous building materials specialists on various hazardous building material projects and has been responsible for maintaining project goals, work product quality, schedule, client relations, and field personnel. Adam has provided his clients such services to assess regulatory, environmental, and financial liabilities associated with property transactions, tax foreclosures, building demolition and renovation projects, and compliance with the Asbestos Hazard Emergency Response Act.

#### **Iberdrola USA: SPCC - Various, NY**

Adam Zebrowski managed preparation of Spill Prevention Control and Countermeasure (SPCC) plans for 85 New York State Electric and Gas (NYSEG) electrical substations located throughout Western New York. The SPCC scope of work for each electrical substation included an inventory of oil containing electrical equipment and total oil volume, documentation of secondary oil containment measures, evaluation of local topographic conditions, locating nearby potential water body receptors, and preparation of a SPCC plan report. The purpose of each SPCC plan is to determine

whether on-site controls (i.e. secondary containment such as berms or concrete containment structures) would adequately contain an oil release in the event of electrical equipment failure, and in the event the such controls were inadequate, to identify approximate surface flow characteristics and local at risk water bodies. Obstacles associated with the project included the volume of substations to be assessed, the large geographical distribution of the substations, and strict schedule demands which required all aspects of the project to be completed within four-six weeks. The SPCC plans were successfully completed and delivered to the client within the schedule required.

**Talisman USA: Well Pad Assessments - Various, NY**

Adam Zebrowski managed completion of several Environmental Natural Gas Well Pad Assessments on behalf of Talisman Energy USA. The scope of work for the assessments included a visual assessment of each well pad, review of Talisman Energy USA well records, New York State Department of Environmental Conservation (NYSDEC) records, well permits, historical records (i.e. historical aerial photography, historical atlases, Sanborn maps, etc.), natural gas well lease agreements, completion of an American Society for Testing and Materials 1527 compliant regulatory records review, interviews with Talisman Energy USA representatives and the property owner, and preparation of a report summarizing the results of the assessment. The purpose of the assessments were to determine site specific

reclamation requirements subsequent natural gas well extraction activities. LaBella successfully completed the assessments meeting Talisman Energy USA requirements, project schedules, and budget. In addition, LaBella assisted Talisman Energy USA to characterize well cuttings previously buried at several well pads to determine well cutting disposal requirements.

**PHASE I ESA'S****Phase I Environmental Site Assessments – Northeastern United States**

Adam has managed over 2,000 Phase I ESAs, Transaction Screens, and RSRAs on a wide variety of residential, commercial, industrial, and manufacturing facilities including gasoline stations, repair shops, dry cleaners, apartment complexes, office buildings, and restaurants for various financial institutions, developers, municipalities, attorneys, and non-profit groups. Adam has conducted these assessments throughout the United States with particular project focus on the States of New York, Pennsylvania, and Ohio.

**Phase II Environmental Site Assessments – Northeastern United States**

Adam has managed over 300 Phase II ESAs throughout the Northeastern United States for various financial institutions, developers, municipalities, attorneys, and non-profit groups. Adam has completed investigation of historic and active industrial/manufacturing operations, retail petroleum operations, petroleum distribution facilities, automotive and collision repair facilities,

hazardous waste disposal sites, landfills, drycleaners, printing operations, orchards, blacksmiths, technologically enhanced naturally occurring radioactive materials (TENORM) sites. Adam has extensive experience with investigation methods including exploratory test pit excavations, direct push soil borings, soil vapor sampling, groundwater monitoring well installation and sampling. Adam has conducted assessments throughout the United States with particular project focus on the states of New York, Pennsylvania, Ohio, Maryland, and New Jersey.

**Former Dry Cleaners - Buffalo & Batavia, NY**

As project manager, Adam completed a Phase I ESA at two commercial retail plazas. Based on the results of the Phase I ESA's, both properties were historically utilized as dry cleaning operations. Vapor intrusion assessment were completed and concentrations of chlorinated solvents were identified in vapor samples collected from both properties at concentrations above regulatory guidance values.

**Fuel Oil Underground Storage Tank Assessment - Rochester, NY**

As project manager, Adam completed a Phase I ESA at a commercial property for a real estate purchase. Based on the results of the Phase I ESA, one fuel oil underground storage tank was removed at the site without subsurface sampling. Adam managed completion of a Phase II assessment proximate the former fuel oil UST at an accelerated schedule. As no subsurface impact was identified,

the property transaction was completed within the desired schedule of the client.

**NYSDEC: Former Petroleum Distribution Facility - Buffalo, NY**

On behalf of the New York State Department of Environmental Conservation (NYSDEC), Adam provided project and field management services to characterize the subsurface conditions of a large petroleum distribution facility containing dozens of historic and current underground storage tanks. The property owner was absent and the property was owned by the City of Buffalo for back taxes. Due to the previous use of the property, the City of Buffalo could not find a party interested in purchasing the property. As such, the NYSDEC funded by federal stimulus money requested that a subsurface investigation be completed to characterize the property. Based on the results of initial and subsequent investigations, extensive petroleum related contamination was identified. Adam collaborated with the NYSDEC Region 9 Spills Division and a private developer to identify the likely extent of the petroleum contamination. The property was ultimately purchased by the private developer from the City of Buffalo and enrolled in the NYSDEC Brownfield Cleanup Program.

**Marina Property - Dunkirk, NY**

As project and field manager, Adam completed a site wide subsurface investigation to determine the subsurface conditions on a large marina property located in Dunkirk, New York. Historical use of the property included a gasoline

filling station, oil storage and an asphalt plant. Furthermore, large portions of the property received fill material from unknown sources. Based on the results of the investigation, extensive petroleum related subsurface impact was discovered. As the purpose of the investigation was to provide due diligence for a potential purchaser of the property, Adam explored various remedial options and cost estimates to assist his client determine an appropriate purchase price for the property and assess the risk associated with property ownership. The property was ultimately enrolled in the NYSDEC Brownfield Cleanup Program.

**Former Petroleum Distribution Facility - Berlin, NJ**

As project manager, Adam managed a Site Investigation (SI) of a petroleum distribution and truck repair facility in anticipation that the property would be accepted into the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program. Based on the results of the investigation, several areas of petroleum impacted soil and groundwater were identified at the property. Although portions of the groundwater contamination was clearly the result of on-site operations, a VOC plume appeared to be migrating onto a portion of the site from an adjoining property utilized as a gasoline filling station. As releases were documented at the adjoining gasoline filling station, Adam assisted his client in exploring methods to determine the origin of the groundwater contamination migrating on-site and ultimately the liable party. The property was subsequently

accepted into the NJDEP Site Remediation Program.

**Railroad Car Manufacturer - Pueblo West, CO**

As project manager, Adam managed a site wide subsurface investigation of a manufacturer of railroad cars in Colorado. In addition, an up-gradient chemical manufacturing facility with documented releases had reportedly impacted the local groundwater table. Based on the results of the investigation, Adam was able to determine that the groundwater beneath the subject property had not been impacted. However, arsenic was detected in soils collected from across the site at concentrations above Colorado Department of Public Health and the Environment (CDPHE) guidance and published background levels. Through communication with the CDPHE and the United States Environmental Protection Agency, Adam was able to advise his client that the arsenic concentrations were likely due to a localized elevated arsenic condition and therefore not likely the result of on-site operations.

**Apartment Complex - Buffalo, NY**

As project and field manager, Adam completed a site wide subsurface investigation of a large apartment complex located in the City of Buffalo. The property was redeveloped as an apartment complex in the 1960's and was historically comprised of several city blocks which included various manufacturing and industrial operations. Based on the result of initial and subsequent investigations, several areas of semi-volatile organic compound (SVOC)

contamination was identified and delineated. As the purpose of the investigation was to provide due diligence for a potential purchaser of the property, Adam explored various remedial options and cost estimates to assist his client determine an appropriate purchase price for the property and assess the risk associated with property ownership.

**Historic Gasoline Station - Canandaigua, NY**

As project and field manager, Adam completed a subsurface investigation to investigate a historic gasoline station located in Canandaigua, New York. Based on the results, petroleum contaminated soil and groundwater was identified and a spill was reported to the NYSDEC. At the request of the NYSDEC, Adam designed a subsequent subsurface investigation to determine the extent of the subsurface soil and groundwater impact. Based on the results of both studies, the NYSDEC "closed" the spill and did not require further work.

**Former Automotive Dealership - Baltimore, MD**

As project manager, Adam managed the removal of a large oil/water separator at a vacant automotive dealership. The purpose of the UST removal was to prepare the property for sale to another party. During excavation activities, it was discovered that the reported oil/water separator discharged directly to the ground. Extensive petroleum contaminated soil was encountered and a case was opened by the Maryland Department of the Environment (MDE) Oil Control Program. At the request of the MDE,

approximately 800 tons of contaminated soil was removed from the property. On behalf of the property owner, Adam corresponded with the MDE to gain "closure" of the case and the property was sold.

**Automotive Repair Facility - Cheektowaga, NY**

As project and field manager, Adam was retained to remove three underground storage tanks (USTs) from an automotive repair facility located in Cheektowaga, New York. The purpose of the UST removal was to prepare the property for sale to another party. During UST removal activities, petroleum impacted soil was discovered and a spill was reported to the NYSDEC. At the completion of the project, a total of seven USTs and approximately 1,000-tons of petroleum impacted soil was removed from the property. Based on the work completed, the NYSDEC spill was "closed" and the client successfully sold the property.

**Automotive Dealership - Honeoye Falls, NY**

As the previous dealership structure was destroyed by fire, the property was being redeveloped with a new dealership facility. During demolition activities in-ground hydraulic lifts were removed from within the building footprint, and petroleum impacted soil was encountered by the general contractor. As such the NYSDEC was notified and a spill was assigned to the site. Adam provided oversight services to the general contractor for removal of approximately 1,500-tons of impacted soil from the property associated with the in-ground hydraulic lifts, former trench

drains and oil water separator. Upon removal of the soil, the general contractor was able to complete the new structure. The NYSDEC spill associated with the site remained open as continued groundwater monitoring was required prior to spill closure.

**Former Tin Smith - Buffalo, NY**

As project and field manager, Adam completed an initial subsurface investigation at a convenient store property that was historically developed with an automotive repair facility and an associated gasoline UST, a varnish shop and a tin shop. The purpose of the investigation was to provide due diligence services for a lending institution which was accepting the property as part of a real estate portfolio as collateral for a commercial loan. Upon completion of the initial investigation, concentrations of SVOCs, lead and mercury were detected at concentrations above NYSDEC guidance within soil samples collected. A subsequent investigation was designed by Adam which successfully delineated the extent of the SVOC and metal impact. As such, approximately 100 tons of contaminated soil was excavated from the property. Upon completion of the work, the lending institution accepted the property as collateral.

**Former Gasoline Station Properties - New York City, NY**

Adam managed quarterly groundwater sampling and injection events at two former gasoline filling stations for a period of almost three years. Both sites were active New York State Department of Environmental Conservation (NYSDEC) spill sites. Remedial

efforts at the properties included removal of underground storage tanks, removal of petroleum impacted soil, and in-situ groundwater remediation in accordance with NYSDEC requirements.

**Former Manufacturing Plant -  
Gates, NY**

As project and field manager, Adam completed a subsurface investigation on behalf of the owner of the facility to characterize the subsurface conditions prior to sale of the property to another party. Based on the results of the subsurface investigation, chlorinated solvent impacted soil and groundwater was identified beneath the facility. As such, Adam completed a vapor intrusion assessment of the building which identified a vapor intrusion issue. Adam designed an extensive subsequent vapor intrusion study to delineate the extent of the vapor impact beneath the building and assisted the property owner with implementing corrective action consisting of a sub-slab depressurization system. As no further work was required, the property owner successfully sold the property.





## DAN NOLL

### Brownfield Program Manager

Dan has over 18 years of experience with environmental projects at industrial/manufacturing facilities and environmental investigation projects for a variety of clients including developers, financial institutions, industrial clients, and municipalities. Dan has managed numerous Phase II Environmental Site Assessments and remediation projects such as groundwater monitoring programs, soil vapor investigations, test pit investigations, geo-probe investigations, underground storage tank removals, soil removals, bio-cell remediations, and in-situ groundwater remediation. He also has experience with the design and installation oversight of mitigation systems. In addition, Dan has assisted industrial, municipal and agricultural clients with permitting and annual reporting for State Pollution Discharge Elimination System (SPDES) permits, Part 360 Land Application permits, Composting permits, and Petroleum Bulk Storage (PBS) registrations.

#### PE

**Professional Engineer  
New York**

#### EDUCATION

**Clarkson University: BS,  
Chemical Engineering**

#### CERTIFICATION/ REGISTRATION

**OSHA 40-Hour Certified  
Hazardous Waste Site Worker  
Training**

**OSHA 8-Hour Certified  
Hazardous Waste Site Worker  
Refresher Training**

#### **Springs Land Company: Carriage Cleaners BCP Site — Rochester, NY**

As Project Manager, Dan completed a Brownfield Cleanup Program (BCP) Application & Work Plan to conduct a Remedial Investigation at a former dry cleaning facility. A soil, groundwater, and soil gas study was undertaken to develop remedial costs and assist with redeveloping the property. Subsequently, an Interim Remedial Measure was completed to remove the source area of impacts from the Site. Dan completed a remedial alternatives analysis for selecting a treatment approach for the residual groundwater plume. Dan also attended Town Board Meetings regarding this project.

**American Siepmann  
Corporation: Former  
Manufacturing Facility BCP Site  
— Henrietta, NY**

Dan was the Project Manager for this Brownfield Cleanup Program (BCP) Site and has overseen the installation of a groundwater monitoring well network and subsequent routine sampling as part of a Monitored Natural Attenuation (MNA) program for remediation of chlorinated groundwater impacts at the Site.

#### **Stern Family Limited Partnership: Former Manufacturing Facility BCP Site — Rochester, NY**

Dan was the Project Engineer for this BCP Site, which underwent a Remedial Investigation, Interim Remedial Measures, and installation of a sub-slab depressurization system. Dan completed and stamped the Final Engineering Report required to obtain the Certificate of Completion for the property owner, allowing them to obtain their tax credits.

**RJ Dorschel Corporation: Former Gasoline/Service Station BCP Site — Rochester, NY**

Dan was the Project Manager for this BCP Site, which included Remedial Investigations at two adjoining parcels, implementation of Interim Remedial Measures, and development of the Final Engineering Report and Site Management Plan. The project also included implementation of necessary Citizen Participation requirements. The project ultimately obtained the Certificate of Completion and thus the NYS tax credits.

**One Flint Street Associates: Vacuum Oil BCP Site — Rochester, NY**

Dan was the Project Manager for this Brownfield site that is the oldest oil refinery in the United States. The current project includes developing a remedial investigation plan for two parcels that have had a history of oil refining since the 1800s. The remedial investigation was designed to fill data gaps from previous studies in order to minimize cost to the Client.

**Genesee Valley Real Estate: Former Bausch & Lomb Facility BCP Site — Rochester, NY**

Dan is Project Manager for this Brownfield site that served as a manufacturing facility from the 1930s to the 1970s. The project includes a Remedial Investigation (RI) of a four-acre parcel with ten areas of concern identified based on historic information. The RI identified four areas requiring remedial actions and Interim Remedial Measures have been completed in three of the locations. The areas of remediation included petroleum impacted soil and groundwater

with free floating petroleum product, and chlorinated solvent contamination including bedrock impacts at depth. A remedial alternatives analysis is being completed to determine a final remedy for the site.

**Former Corning Hospital — Corning, New York**

Dan was the project manager for completion of a Phase II Environmental Site Assessment at the Former Corning Hospital and 8 associated adjacent properties. A soil boring and groundwater monitoring program was implemented to identify subsurface impacts associated with former uses of the site including gasoline filling stations and former railroad.

**Bajrangee, Inc.: Comfort Inn — BCP Site — Rochester, NY**

Dan was the Project Manager for this Brownfield site that included a design phase investigation to determine the extent of remedial work. The remediation work included excavation of chlorinated solvent impacts to soil and groundwater from the basement of the building. This included proper shoring design to facilitate the removal action. A second phase of the remediation included injection of treatment chemicals to address downgradient groundwater impacts.

**Alexander Associates: Former Genesee Hospital — Rochester, NY**

Dan was Project Manager for a Phase II ESA of a former hospital campus and adjoining parking garage. This assessment included evaluating potential impacts from the hospital chemical storage area, backup generators

and associated fuel tanks, and historical site uses which included a former car dealership and service center. The Phase II ESA progressed in to the remediation of a NYSDEC Spill prior to redevelopment of the property. The investigation and remediation work obtained closure of a 20+ year old spill in less than 6-months.

**DeCarolis Truck Rental: Petroleum Spill Site Remediation — Rochester, NY**

Dan was Project Engineer for this site, responsible for the coordination of the removal/disposal of approximately 800 tons of petroleum impacted soil and development of a confirmatory soil sampling program. Dan also coordinated work with NYSDEC and completed post removal monitoring in order to close the spill file.

**City of Rochester: Petroleum Soil Removal & Oxygen Injection System — Rochester, NY**

As Project Engineer, Dan developed a soil and groundwater study to investigate former underground storage tanks at a former gasoline/auto repair facility. A remedial alternatives analysis was conducted to evaluate several options for remediating soil and groundwater at the site including light non-aqueous phase liquid. Dan followed this project through remediation which consisted of removing about 1,500 cy of soil and designing/installing an oxygen injection system to remediate groundwater over time.

**Hoselton: Petroleum Spill Remediation — Rochester, NY**

Dan was project manager for

this project which included the removal and disposal of approximately 900 tons of petroleum impacted soil. Dan negotiated closure of the spill file with NYSDEC by addressing off-site contaminant migration by injection of treatment chemicals at the property line.

**Mizkan Americas: Lagoon Design/Construction and SPDES Permitting — Lyndonville, NY**

Dan served as the Project Manager and Engineer for the design and construction assistance for a 700,000 gallon lagoon to store food-grade wastewater. The objective was to reduce facility costs by discharge of food-grade wastewater to local sprayfields. The lagoon was designed and installed in accordance with NYSDEC requirements in order to store wastewater during the non-spraying season. This is a 20+ year old client who built their existing lagoon with LaBella's assistance in 1987. Project also includes permitting through NYSDEC SPDES (State Pollution Discharge Elimination System) Program.

**Leo Dickson and Sons, Inc.: Land Application and Composting Permits — Bath, NY**

Dan managed a project to permit a facility for composting of wastewater biosolids. The project included developing a report for NYSDEC to document design details for the facility, facility operations, and proposed monitoring. The facility received a NYSDEC Part 360 Composting Permit. In addition, Dan continues to provide annual reporting services for ensuring the facility operates within the permit conditions. He also assists this client with the annual reporting

and permit renewals of a 2,000+ acre land application project under NYSDEC Part 360 solid waste regulations. The land application work includes permitting approximately 16 municipal facilities for land application.

**City of Hornell: Land Application Reporting, Permit Renewals and Modifications — Hornell, NY**

Project Manager and Engineer responsible for assisting the City of Hornell with their annual Land Application Reporting, permit renewals and modifications to their permit for over 20 years. In addition to completing each annual report in the past five years, LaBella also recently assisted the City of Hornell with their Permit Renewal (May 2010) and a Permit Modification (July 2011). LaBella has assisted the City of Hornell for the past 20 years with permitting approximately 498 acres of land for their biosolids application work. Hornell conducts land applications via subsurface injection and typically applies 700,000 to 1 Million gallons annually. In 2011, LaBella assisted Hornell with permitting approximately 204 acres of land. LaBella assisted with all aspects of the process including coordinating with agencies, wetland issues, test pitting, soil sampling, etc. LaBella's work with the City of Hornell has provided us with significant experience in quickly determining issues that require resolution/clarification as a first step prior to completing the application process.

**Former Emerson Power Transmission Facility — Ithaca, NY**

Dan completed a detailed review

of this 100-acre site with 800,000 sq. ft. of manufacturing space. The site is in the NYSDEC Inactive Hazardous Waste Disposal Site registry and was a heavy industrial facility for over 100 years. The facility closed in 2009 and Dan is the project manager for environmental due diligence activities for a potential buyer. The facility has known issues with chlorinated solvents in bedrock and with significant off-site impacts. The overall project will include a detailed and in-depth environmental site assessment with sampling for soil, bedrock, groundwater, soil gas, sediments, and surface waters in order to document any impacts above NYSDEC criteria and thus limit liability for the purchaser.

**City of Rochester: Genesee River Dredging Project — Rochester, NY**

Dan managed a project to permit three areas for dredging near the mouth of the Genesee River. The project included evaluating the previous dredging operations in the area, the existing sediment sampling data, sediment levels, discharge points in the area to be dredged and 3-D modeling of the sediments for accurate volume calculations. This information was summarized in a presentation to NYSDEC and the Army Corp of Engineers in order to streamline the permitting process and determine any additional requirements for obtaining a permit. Subsequent to the presentation, Dan developed the permit and submitted them to the Client for signature, and then approval by regulatory agencies.

**MRB Group: Sediment Sampling Project — Erie Canal, NY**

Dan managed a project to pre-



characterize sediment in the Erie Canal in order to determine the depth and volume of sediment in the work area, as well as the waste disposal requirements. This work was conducted prior to a utility line installation project in order to determine the feasibility of the project and the associated costs.

**Dansville Properties, Inc.: Former Foster Wheeler Facility — Dansville, NY**

Dan managed the effort to close out existing NYSDEC and EPA permits for the former facility and subsequently obtained permits for the new facility, which included multiple industrial companies operating throughout the campus. The permitting effort included obtaining: a sewer use permit from the local municipality, a SPDES Multi-Sector General Permit, RCRA Generator ID, Title V Air Permit, and PBS Registration.

**Buckingham Properties: Manufacturing Facility — Rochester, NY**

Dan assisted a developer that purchased a former Bausch & Lomb manufacturing facility to obtain a SPDES Permit for Industrial Discharges. This project included assessing the new operations and discussion of the Site with NYSDEC to determine the appropriate permits for the facility, since multiple tenants with various operations were in operation at the Site.

**City of Rochester: Port Marina — Rochester NY**

Dan assisted with the environmental investigation of the City of Rochester Port Marina. This project included evaluating the extent of slag fill materials that would require proper management during any redevelopment work. The extent of slag was evaluated by implementing

a grid pattern of soil borings and using the resulting data to develop a 3-dimensional model of the subsurface at the Site. This model was used to generate volumes of material to be disturbed during redevelopment and estimate the cost burden of the environmental portion of the project. This project also included evaluating the magnitude and permitting of a massive dewatering program to allow the mass excavation to be completed.

**City of Rochester: Former Forestry Building — Rochester, NY**

Dan managed a project to evaluate the extent of mercury impacts at a former City of Rochester Forestry operations building. The project included multiple rounds of sampling at various depths in order to determine the extent of mercury impacted soils that required removal prior to redevelopment of the Site by a local manufacturing company.

**Valeo North America: Former Valeo Facility — Rochester, NY**

Dan managed Remedial Investigations of two areas of potential contamination at this former manufacturing facility. These assessments included evaluating bedrock groundwater for plating waste impacts (metals and chlorinated solvents). These evaluations were complicated by the fact that multiple industrial companies were in operation at the Site in the past and thus requiring LaBella to provide a focused assessment to only evaluate potential Valeo responsibilities.

**City of Rochester: NYSDEC Legacy Site Soil Vapor Intrusion Project — Rochester, NY**

Dan is Project Manager for this project which includes evaluating soil vapor intrusion from a former 230-acre municipal landfill with

methane gas and chlorinated solvent impacts. The landfill was converted into an industrial park after closure in 1971 and is now developed with 45 separate parcels and over 2,000,000 square feet of building space. This challenging project included obtaining access from 27 different property owners and conducting site assessments at each facility and separately evaluating groundwater impacts over approximately 20-acre area. The results of this work determined the cost burden and liability of the City for addressing soil vapor intrusion. LaBella utilized all of the following mitigation approaches for minimizing this significant cost burden to the City: sealing of floors, vapor barriers, sub-slab depressurization systems and building pressurization depending on building conditions/uses.

**City of Rochester: Vacuum Oil Brownfield Opportunity Area — Rochester, NY**

Dan was Project Engineer for this project and his role was to develop a Pre-Nomination Study Report to facilitate entering the area into the NYSDEC Brownfield Opportunity Area program. The pre-nomination study included evaluating demographics of the area, current and past property uses, property ownership, area-wide utilities, etc. The pre-nomination report was approved by NYS Department of State and a grant was approved for the next phase of the BOA program.

**Yates County: Environmental Restoration Program — Penn Yan, NY**

Dan was project manager for this Environmental Restoration Program site that included completing a Remedial Investigation at the site and developing a Site Management Plan to guide future redevelopment in-conjunction with remediation. This project turned a liability into an asset for the County.

**Monroe County: Crime Lab Property Acquisition — Rochester, NY**

Dan was project manager for this project which included conducting Phase I ESAs and Phase II ESAs at three properties being considered for development by the County for a new crime lab facility. The project included investigation and remedial cost estimates for the County to use in property acquisition negotiations. After property selection, Dan assisted with implementation of a remedial program that included removal of over 3,000 tons of NYSDEC Regulated Solid Waste. In addition, he designed and oversaw installation of a sub-slab depressurization system for addressing soil vapor intrusion concerns at the approximate 11,000 square foot new building.

**City of Rochester: Fill Relocation and Sub-Slab Mitigation System — Rochester, NY**

Dan was project manager for this project which relocated approximately 3,000 cubic yards of fill material from a development site that is located on a former landfill operated by the City of Rochester. This work was conducted for the City but on private property. The fill was relocated and placed in a soil berm on City property with NYSDEC approval. In addition, Dan designed and oversaw construction of a sub-slab depressurization system for the new 8,000 square foot building.

**City of Rochester: Bureau of Water, Lighting, and Parking Meter Operations — Rochester, NY**

As Environmental Engineer, Dan worked on the redevelopment of the current site for reuse as a new facility for the operations center, which included the following tasks: delineate the extent of soil and groundwater contamination, evaluate potential remediation options, develop a Comprehensive Action

Plan (CAP), assist in the development of remediation specifications, and identify the scope of potential Interim Remedial Measures (IRMs) at the site.

**935 West Broad Street Petroleum Spill Site Characterization and Corrective Action — Rochester, NY**

As Project Engineer, Dan developed a soil and groundwater study to investigate former underground storage tanks at a former gasoline/ auto repair facility. A remedial alternatives analysis was conducted to evaluate several options for remediating soil and groundwater at the site including light non-aqueous phase liquid. Dan followed this project through remediation which consisted of removing about 1,500 cy of soil and installing an oxygen injection system to remediate groundwater over time.



## CHRIS KIBLER

### Environmental Analyst

#### EDUCATION

University at Buffalo: BA,  
Geography-Physical and  
Environmental Systems

#### ORGANIZATIONS

New York State Commercial  
Association of Realtors

#### CERTIFICATION/ REGISTRATION

Environmental Professional

OSHA 40-hour HAZWOPER

OSHA 8-Hour HAZWOPER  
Refresher January, 2017

Princeton Groundwater Pollution  
and Hydrology Training

Chris is a Project Scientist with several years of professional consulting experience. Working with financial institutions, attorneys, private developers and municipalities, he conducts ESAs in support of real estate transactions and brownfield redevelopment initiatives. Chris' experience includes historical and regulatory records review, field sampling and data collection using a variety of techniques and equipment; the review and evaluation of field and laboratory analytical data; and the preparation of technical reports defining potential environmental liabilities and, if warranted, remedial options.

In addition, Chris has experience managing projects encompassing Phase II Site Assessments, brownfield investigation, remediation and redevelopment, underground storage tank (UST) removal, vapor intrusion, geophysical surveys, and tank tightness testing. Furthermore, he has working knowledge of regulatory criteria/compliance relating to projects within several states including New York, Pennsylvania, Maryland, New Jersey, Ohio, Delaware and Virginia.

#### Phase I Environment Site Assessments - Northeastern United States

Performed numerous Phase I ESAs and Transaction Screens on a wide variety of residential, commercial, industrial, and manufacturing facilities including gasoline stations, repair shops, apartment complexes, office buildings, and restaurants including but not limited to the following groups:

#### Financial Institutions

Bank of Akron, Bank of the Fingerlakes, Canandaigua National Bank, Citizens Bank, Community Bank, NA, Evans Bank, Five Star Bank, JP Morgan Chase Bank, Key Bank, Lakeshore Savings, Lyons National Bank, M&T Bank, Northwest Bank, PNC Bank

#### Municipal & Government Clients

Niagara County Department of Economic Development, Niagara County Refuse Disposal District, New York State Department of Environmental Conservation, Seneca Nation of Indians

#### Development & Construction Companies

Benderson Development, Buffalo Niagara Riverkeeper, Phillips Lytle, LP, The Benchmark Group, Ciminelli Real Estate Corporation

#### Phase II Environmental Site Assessments - Barker Chemical - Barker, New York

A site-wide investigation was completed to determine conditions at the former Barker Chemical in Barker, New York. Such included testing of surface water, groundwater, surface soil and subsurface soil at the Site.

Historical use of the property included manufacturing and distribution of fungicides and herbicides. The results of this investigation were utilized to identify viable remedial options for the Site and potentially clear it for redevelopment.

**2020 River Road - Wheatfield, New York**

A site-wide investigation was completed to determine conditions at the property located at 2020 River Road, Wheatfield, New York. Such included environmental and radiological testing of surface soil at the site. In addition, test pits were conducted throughout the property including environmental and radiological testing of the subsurface soil. Historically, the property was utilized for filling purposes including industrial-type wastes such as slag, ash, cinders, fire-brick, coal and foundry sand. The results of this investigation were utilized to determine if the Town of Wheatfield could redevelop the property into a public park.

**Carr's Warehouse - Batavia, New York**

A site-wide investigation was completed to determine conditions at the property in Batavia, New York. Such included subsurface soil and groundwater testing at the site. The results of this investigation were utilized to evaluate reuse options for the property through the City of Batavia's Brownfield Opportunity Area Program Grant.

**Vapor Intrusion Assessment- Commercial Plaza - Alden, New York**

Vapor intrusion assessment of a commercial plaza which

historically contained dry cleaning operations. Included the collection and laboratory analysis of sub-slab vapor and indoor air samples; the evaluation of the resulting data relative to applicable regulatory guidance; and the preparation of a technical report with recommendations for mitigation.

**120-Acre GMCH Site - Lockport, New York**

A site-wide investigation was completed to determine conditions at the site located in Lockport, New York, prior to acquisition of the property. Such included environmental and radiological testing of surface soil, subsurface soil and sediment.

**Della Penna Site - Batavia, New York**

A site-wide investigation was completed to determine conditions at the property in Batavia, New York. Such included subsurface soil and groundwater testing at the site. The results of this investigation were utilized to evaluate reuse options for the property through the City of Batavia's Brownfield Opportunity Area Program Grant.

**Delta Sonic - Buffalo, New York**

A site-wide investigation was completed to determine conditions at the property in Buffalo, New York. Such included subsurface soil and groundwater testing at the site. The results of the investigation were utilized to assist in the replacement of the fuel assets at the facility.

**Brownfield Redevelopment Project, Covanta Rail-to-Truck Intermodal Facility - Niagara Falls, New York**

Field Manager for the accelerated investigation, remediation and redevelopment for a 15-acre former industrial site for use as a Rail-to-Truck Intermodal Facility (RTIF). The project is being advanced under the Brownfield Cleanup Program (BCP) and has involved the completion of a Remedial Investigation; development of a NYSDEC-approved Remedial Action Work Plan to address a range of contamination, including radioactive slag; obtaining site plan approval for the proposed development; and completing site and architectural design of the RTIF. The remedial design and site design efforts were fully integrated to produce a cleanup plan that coincides with the site development plan and optimizes the project schedule.

**Brownfield Opportunity Area Step 1 Nomination Study Batavia Central Corridor - Batavia, New York**

Environmental Analyst for the characterization and analysis of environmental conditions and redevelopment opportunities within a 250-acre area in the center of the City of Batavia.

**USEPA Brownfield Site- Philadelphia Furniture - Salamanca, New York**

A site-wide investigation was completed to determine conditions at the property due to historical operations of concern and fill placement. Such included environmental testing of the surface and subsurface soil, and groundwater at the site. The results of this investigation were utilized to evaluate redevelopment options for the property through the USEPA Brownfield Assessment Grant Program.

**Track 266 Relocation Easement  
- Niagara Falls, New York**

Field manager responsible for environmental and radiological monitoring during the remediation of soil/fill and relocation of CSX Track 266 at the property. Additional responsibilities included oversight, management of personnel and document preparation.

from each of the ten source outlets previously identified with lead concentrations of concern. The samples were assessed in accordance with USEPA sampling protocols by collecting a first draw sample from each outlet. It was determined thereafter that installation of the Brita filters successfully remedied the previously-identified lead levels of concern at the Site.

**Occidental Chemical  
Corporation: Hydrogen Line  
Excavation - Niagara Falls, New  
York**

Field manager responsible for environmental and radiological monitoring during the excavation of, and installation of a protection casing over a hydrogen line. Additional responsibilities included oversight, management of personnel and document preparation.

**Niagara County Refuse Disposal  
District Monitoring - Lockport,  
New York**

Implementation of fieldwork and reporting for the quarterly monitoring program at the Niagara County Refuse Disposal District's active and closed landfills. The work includes the performance of gas monitoring, leachate and groundwater sampling, data summary and evaluation, and quarterly and annual reporting.

**Global Concepts Charter School  
- Lackawanna, New York**

Lead was detected in the potable drinking water from ten outlets at the property. Subsequently, these locations were fitted with Brita filtration systems. Following installation of such, Chris served as the field technician for the collection and laboratory analysis of ten potable water samples





## **RICK ROTE**

### Senior Industrial Hygienist

Rick is a Certified Industrial Hygienist with a background in occupational and public safety. He brings to his projects an expertise in asbestos, lead, PCB and the management of hazardous materials. Projects have included building surveys, hazard assessments, abatement project planning, and project inspection and monitoring. Rick manages LaBella's in-house laboratory for asbestos air and bulk samples, as well as managing air monitoring projects. His responsibility is to identify environmental impacts, and design and manage appropriate environmental responses for these projects.

#### **MS, CIH**

**Master of Science  
Certified Industrial Hygienist**

#### **EDUCATION**

**University of Rochester: MS,  
Industrial Hygiene**

**St. Lawrence University: BS,  
Geology**

#### **ORGANIZATIONS**

**American Industrial Hygiene  
Association**

**American Board of Industrial  
Hygiene**

**Air & Waste Management**

**American Society of Safety  
Engineers**

#### **CERTIFICATION/ REGISTRATION**

**NC Asbestos Inspector &  
Abatement Designer**

**40 Hour Hazwaste**

#### **Beard Hall Asbestos Inspection, UNC Chapel Hill, Chapel Hill NC**

Rick completed a comprehensive inspection of the second and third floors of the building and the attic in support of a major renovation. Existing inspection and abatement documentation was carefully reviewed and utilized to prevent duplicate sampling. An inspection report for asbestos, lead paint, mercury and perchlorates was provided and abatement options were reviewed. Abatement drawings and specifications were prepared separately but in conjunction with the larger renovation project. SCO approval was received without need for modification.

The work was completed under an Open Ended Design Services Agreement with the University. Contract services include inspection for regulated building materials such as asbestos, lead paint, mercury, and PCB, and abatement design services in support of the preparation of bid documents.

#### **Federal Credit Union | Charlotte, NC**

A comprehensive building asbestos inspection was completed, except for the roof, to assist with renovation design feasibility and to provide an approximate abatement cost estimate. The building is a main branch and office, and was in active use when the inspection was completed. Pipe insulation and floor tile were identified, and the exterior is sided with thick asbestos cement panels. Abatement design, including abatement drawings and specifications, is anticipated.

#### **Wallace House Renovation | Mitchell Community College | Statesville, NC**

Project Manager responsible for a pre-renovation asbestos inspection of a historic building used for arts instruction. Abatement of flooring and pipe insulation was required as part of the extensive renovation to convert the one-time residence to an alumni support and meeting facility.

#### **Pre-renovation Asbestos Inspection | Carolinas Telco**

#### **Blue Heel Development |**

**Huntersville, NC**

Rick was Project Manager of a Phase I and an asbestos inspection required for the development of a site and the construction of town homes. The Phase I uncovered the presence of a UST and the asbestos inspection revealed the presence of several asbestos-containing materials. Rick managed the abatement design and tank removal projects.

**Community Medicine Foundation, Inc | Rock Hill, SC**

Rick managed a series of projects facilitating the preparation of a site for the construction of a new medical services building. The projects included a Phase I, Phase II, geotechnical services, asbestos inspection & abatement design, UST removal and building demolition. Due to the use of federal grant money, a NEPA Environmental Assessment was required for the project Site. Construction of the new building began after successful completion of these projects.

**BeeBee Station | RG&E Rochester, NY**

Rick served as Project Manager for Regulated Building Material abatement design for the abatement required prior to the demolition of a dozen support buildings and associated exterior piping. Existing inspection reports were reviewed, deficiencies identified and data gaps filled with additional investigation and sampling. Abatement drawings and specifications were prepared for bid. Asbestos-containing materials were field marked for easy identification to aid both the bid and the abatement process.

**College Town, LLC | Asbestos, PCB & Lead Inspection, Design, & Monitoring for Building Demolition Rochester, NY**

Project Manager for hazardous materials management services provided to CollegeTown, LLC for the demolition of 3 large commercial buildings in preparation for the development of the new College Town Project site. Rick was responsible for the management of all services, including building inspection, abatement design, variance development and submission, bid document preparation, bid support and project and air monitoring.

Rick's team prepared site-specific variances proposing methods allowing safe demolition with non-friable asbestos in-place, saving the project significant time and money.

**Asbestos Term Agreement | Rochester Housing Authority Rochester, NY**

Rick manages LaBella Associates' Term Agreement (4 consecutive years) for Asbestos Management Services. His responsibilities include coordinating scheduling and supervising field work, abatement design, variance development, reviewing final reports and contract management. Services include Project and Air Monitoring during abatement. Projects have ranged from single family homes to multi-building residential complexes.

**Wegmans Food Markets | M&T Bank Pre-demo Abatement Rochester, NY**

Rick was the project manager for the regulated building materials inspection and abatement design

required to accomplish the demolition of the 7 story bank and the adjacent parking garage. The inspection revealed spray-on fireproofing and other ACMs, as well as extensive use of PCB caulk around the exterior of both structures and on the interior side of windows. Fireproofing was identified between structural steel and exterior pre-fabricated cement panels, requiring partial demolition of the panels to gain access for abatement in otherwise inaccessible locations. This was a unique and challenging project, requiring innovative design and flexible response.

**Wegmans Food Markets | Asbestos Inspection, Design, & Monitoring for Store Demolition Rochester, NY**

Project Manager for hazardous materials management services provided to Wegmans for over 15 years, including the demolition of buildings at 10 retail store sites. Rick is responsible for the management of all services, including building inspection, abatement design, bid document preparation, bid support and project and air monitoring.

Rick's team has provided the same services for pre-renovation projects that have occurred in Wegmans stores, as well a number of leased spaces.

**Monroe Community College Downtown Campus | Monroe County | Rochester, NY**

Project Manager responsible for all regulated building materials inspection and abatement design services to support required abatement for the conversion of former Kodak Office Building

space into the MCC Downtown Campus. This scope required a floor-by-floor investigation of 250,000 square feet of office space and mechanical rooms for asbestos-containing materials, lead-based paint (LBP), PCB-containing items, mercury and others. Coordination and phasing considerations were important due to the multiple work areas across the seven floors and rooftop.

LaBella completed the investigation and determination of suspect ACMs discovered at the Site. Samples of suspect materials were collected and submitted to our in-house laboratory for analysis. Abatement drawings and specifications were prepared for bidding. The inspection and abatement design work for this 3 million dollar abatement/demolition project was completed within the original budget.

#### **Environmental Testing Term Agreement | Monroe County Rochester, NY**

Rick is the Project Manager for LaBella's term agreement service (with annual renewals since 1999) for hazardous materials inspection and abatement design with Monroe County. Projects range from small utility spaces to large multi-story commercial complexes. Recently completed projects include: MCC multi-year window replacement project, Monroe County Jail (asbestos & lead paint testing), MCC Field House Addition, Monroe Community Hospital renovations and Faith Wing roof replacement.

#### **Asbestos Inspection and Abatement Design | University of**

#### **Rochester | SWBR**

Project Manager for asbestos and lead paint inspection, and abatement design services supporting renovation of the coffee shop lounge in Wilson Hall. The lounge area, the Lobby below and the entrance way were inspected for asbestos and lead paint. Abatement specifications and drawings were prepared for the project bid documents.

#### **Asbestos Inspection and Abatement Design | University of Rochester | HBT Architects**

Project Manager for asbestos and lead paint inspection, and abatement design services supporting renovation of a pair of bathrooms. The bathrooms and associated chases were inspected for asbestos and lead paint. Abatement specifications and drawings were prepared for the project bid documents.

#### **Asbestos Inspection and Abatement Design | University of Rochester | SWBR**

Project Manager for asbestos and lead paint inspection, and abatement design services supporting a classroom and office space renovation project in Gavett Hall. Inspections were completed in various spaces that would be impacted by the project. Abatement specifications and drawings were prepared for the abatement required for the renovations.

#### **Asbestos Inspection and Abatement Design | Gates Chili Central School District Gates, NY**

Project Manager for asbestos and lead paint inspection, and abatement design services related to improvements and modifications to 10 buildings. Asbestos and lead management

services have been provided for an on-going series projects since 2009. The project work requires coordination between the project team, school staff, and several architectural firms.

#### **Asbestos Inspection and Abatement Design | Greece Central School District Greece, NY**

Project Manager of the Team providing pre-renovation asbestos inspection and abatement design services for the district-wide Excel II Capital Improvement Project. Extensive renovations will impact asbestos in nearly every school. AHERA records are reviewed, spaces inspected, reports written, specifications prepared and abatement drawings created for each affected school.

#### **Mills II | Urban League of Rochester, Economic Development Corporation Rochester, NY**

Rick was the project manager of lead and asbestos services for a rehab project converting a section of vacant street side shops and housing into multiple housing units. Inspection and lead remediation design services were provided. Architecturally important wooden door and window parts were saved, de-leaded, painted and re-installed. Worker safety required interim lead clearance testing during different phases of construction, and final clearance testing was performed for each of 21 housing units.

#### **Asbestos Abatement Design | Fredric Douglas Building University of Rochester, Rochester, NY**

Project Manager and lead



abatement designer for Phase I of a major building renovation project. A thorough review of a recently completing building asbestos inspection preceded the preparation of detailed abatement drawings for 4 floors of the building. Abatement specifications were also prepared for the bid package.

**Asbestos Inspection, Design, and Monitoring for Renovation | Rush Henrietta Central School District Henrietta, NY**

Project Manager for regulated building materials management services provided to the school district for the renovation of six schools. Services, including hazardous materials inspection, abatement design, bid document preparation, bid support and project and air monitoring, have been provided over a 10 year period.

**Asbestos Term Agreement | NYSDOT Statewide, NY**

Rick managed LaBella Associates' six Term Agreements for Asbestos Management, spanning over 20 years. His responsibilities included coordinating scheduling and supervising field work, reviewing final reports and contract management. Services are provided to four regions and included asbestos sampling, analysis, Project Design, Project Monitoring and Air Monitoring. Over the six consecutive term agreements, Rick's group has inspected hundreds of bridges and completed over one hundred pre-demolition surveys of other structures. (1990 – 2010)

**Asbestos Inspection and Abatement Design | Hilton Central School District Hilton, NY**

Project Manager for asbestos

and lead paint inspection, and abatement design services in support of the District 2013 Capital Improvements project. Five schools and the Facilities & Transportation buildings were inspected for the project. Abatement specifications and drawings were prepared in response to the planned renovations.

**Asbestos Inspection and Abatement Design | Dansville Central School District Dansville, NY**

Project Manager for asbestos and lead paint inspection, and abatement design services in support of the District 2012 Capital Improvements project. The Primary, Elementary and High Schools were inspected for the project. Abatement specifications and drawings were prepared in response to the planned renovations.

**Asbestos Inspection and Abatement Design | Spencerport Central School District Spencerport, NY**

Project Manager for asbestos and lead paint inspection, and abatement design services in support of projects at several different schools in 2012 and 2013. Inspections were completed in various spaces that would be impacted by the projects. Abatement specifications and drawings were prepared in response to the planned renovations.

**Asbestos Inspection and Abatement Design | Rochester Joint Schools Construction Board Rochester, NY**

Project Manager for asbestos, PCB and lead paint inspection, and abatement design services

in support of major renovation projects at School 28 and Edison Technical School. The presence of spray-on insulation required careful inspection methods and PCB caulk presented challenging design issues at School 28. Abatement specifications and drawings were prepared in response to the planned renovations at both schools.

**Asbestos Inspection | English Village Apartments Rochester, NY**

Project Manager for asbestos and lead paint inspection of a limited number of units to develop an Asbestos-containing Materials report that was representative of 550 units present at the site. The client's requirement for an accurate abatement cost estimate and sufficient documentation for bidding and abatement were successfully satisfied (2003).

**Monroe County Water Authority | 2010 Roof Replacement Projects Rochester, NY**

Rick was the Project Manager for an asbestos inspection and abatement design project required for roof replacements at two facilities. Testing was completed, specs and drawings prepared, and a cost estimate generated for both sites. Project Monitoring services were provided for one roof project completed in 2010.

**Environmental Services | NYST Statewide, NY**

Project Manager for a multi-disciplined professional service agreement. Responsibilities included supervising asbestos inspections, testing, abatement design, Project Monitoring and contract management.

**Holy Family Catholic Community  
| Hazardous Materials Pre-Demo  
Inspection, Abatement & Demo  
Design Rochester, NY**

A hazardous materials pre-demo inspection was performed at the St. Joseph School. Abatement and demolition design and bid support services were provided. Project Monitoring was performed during abatement and construction management services were provided during demolition.

**Asbestos Inspection and  
Abatement Design for Pioch  
Hall, Basil Hall, and Science  
Center | St. John Fisher College  
Rochester, NY**

Project Manager for the asbestos inspections and abatement design services. Planned renovations and selective demolition required inspection and testing materials likely to be disturbed by the project. The project required coordination with college staff, the contractor and school schedules.

**Bureau of Water, Lighting,  
and Parking Meter Operations  
Rochester, NY**

Rick served as Project Manager, where pre-existing asbestos inspection reports were field verified, and previously untested materials were sampled and submitted for analysis. The buildings were assessed for lead, mercury lamps and PCBs. A detailed cost estimate, abatement specifications, and drawings were prepared.

**Port of Rochester  
Redevelopment Rochester, NY**

Project Manager for the asbestos inspection, abatement design and project monitoring services were a component of a much larger

project involving the design and construction of a new ferry and customs terminal at the Port of Rochester.

**Former Phototech Plant Pre-  
demolition Inspection | City of  
Rochester - Rochester, NY**

Project Manager for the comprehensive inspection of hazardous and Regulated Building Materials at a 3 acre former industrial site, abandoned for many years. Inspection and design were hampered by years of vandalism and widespread industrial chemical contamination. Staff completed inspections, prepared a pre-demo report, abatement drawings, specifications, provided bid support, and project and air monitoring.

**Hazardous Materials Inspection  
and Testing | Garlock Sealing  
Technologies Palmyra, NY**

Rick was Project Manager for the comprehensive hazardous materials inspection and testing of an 80 year old industrial building slated for a complete renovation. Specifications and drawings were prepared for the abatement of ACM, PCB, and mercury-containing items.

**SUNY Fredonia | Alumni Hall  
Bathroom Updates Fredonia, NY**

Project Manager of inspection and abatement design services for the management of asbestos, PCB, lead and mercury related to the rehabilitation of eight student bathrooms in Alumni Hall. Tile floors and walls were cored to determine the presence of asbestos-containing waterproofing. Specifications and drawings were prepared for the abatement of asbestos, lead and mercury -containing light bulbs.

Abatement was completed in the spring of 2011. LaBella provided project and air monitoring services during abatement of asbestos plaster ceilings and insulated light fixtures from the eight bathrooms.

**Erdman Anthony | State  
University at Buffalo, Cary,  
Farber, & Sherman Halls | AM/  
PM Services Buffalo, NY**

Project Manager for all air and project monitoring required during the abatement of pipe insulation, duct insulation, floor tile, and caulk for a facilities upgrade project at Cary, Farber & Sherman Halls. Coordination and phasing considerations were important due to the building remaining occupied and the need for multiple work areas across three buildings.

**DASNY | SUNY Oswego,  
Onondaga Hall | ACM and Lead  
Inspection and Testing Oswego,  
NY**

Rick was the manager of the asbestos and lead inspection and testing efforts required for this project. The planned work presented the potential for impact of asbestos-containing materials (ACM) and lead-based paint. Rick conducted the lead inspection and assisted with the asbestos inspection of bathrooms in this high rise dormitory. A major renovation project for the upgrade of bathrooms and restrooms in the dorm required new fixtures, finishes and plumbing. Abatement specifications and drawings are being prepared for the abatement of confirmed ACM; all paint coatings were found to be lead-free.

**iKon 5 | SUNY Alfred, Harder Hall**

**| AM/PM Services (2010) Alfred, NY**

Project Manager for the air and project monitoring services required during the abatement of acoustical ceiling coating and floor tile at Harder Hall. Abatement was completed in several work areas during the summer months of 2010. Additional suspect materials were discovered during construction, including the identification of suspected pipe insulation in a steam tunnel and foundation wall waterproofing. LaBella assisted with the collection of bulk samples. Samples of suspect materials were submitted to our in-house laboratory for analysis and rush turn around. PCM air samples were also analyzed at the LaBella laboratory.

**Hall Partnership | SUNY Alfred, McMahon Hall | AM/PM Services Alfred, NY**

Rick was responsible for the successful completion of all air and project monitoring required during the abatement of pipe insulation, floor tile, and other ACM at McMahon Hall. During construction other suspect materials were identified; samples were collected and tested in the LaBella laboratory. An incidental disturbance of pipe insulation was identified, delimited, and quantified. Advice and oversight was provided during the response to the disturbance.

**SUNY Alfred | Greenhouses, Asbestos Inspection, Abatement Design, & Demolition Specifications Alfred, NY**

Project Manager for the asbestos and lead inspection and testing of three greenhouses slated for demolition. Specifications and drawings were prepared

for abatement and subsequent demolition.

**HOK | SUNY Geneseo, Greene Hall | AM/PM Services Geneseo, NY**

Rick was Project Manager responsible for overseeing all air and project monitoring required during the abatement of pipe insulation, floor tile, asbestos & PCB caulk and other ACM at Greene Hall.

**Feasibility Study | Newark Housing Authority Newark, NY**

Project Manager for a feasibility study for the conversion of 13 buildings and over 1million s.f. of floor space to day treatment and senior assisted housing. A comprehensive asbestos inspection was completed for 7 buildings and nearly half the floor space to prepare abatement cost estimates as part of the feasibility study.

**Asbestos Inspection and Abatement | Boylan Brown Rochester, NY**

Project Manager for the inspection of 5,000 s.f. of professional building in preparation for demolition. Prepared abatement design and specifications for removal of ACM, light ballasts, and refrigeration. Services included pre-bid support and walkthrough, AM/PM during abatement.

**SUCF 12338 | SUNY Potsdam | Upgrade Site Utilities Phase 3 Potsdam, NY**

Project scope consisted of the upgrade and reconstruction of site infrastructure including roadways, parking lots, sidewalks, site storm drainage systems, and site accessory elements

on the campus. Rick acted as Project Manager of inspections and testing necessary to determine the presence of asbestos-containing materials such as caulks, joint fillers, Transite, waterproofing, etc in the structures impacted by these improvements. LaBella provided abatement design services, which included the preparation of the specification sections and abatement drawings.

**SUCF 02352 | SUNY Brockport | Infrastructure Improvements Brockport, NY**

Rick acted as Project Manager of the pre-renovation regulated building materials sampling survey and the abatement design for this project. Rick managed the air and project monitoring required during construction.

**HEALTH & SAFETY**

Rick, LaBella's Laboratory Director, is an industrial hygienist certified in the Comprehensive Practice of Industrial Hygiene. He has been providing health, safety and environmental services to LaBella clients for 20 years. Prior to joining LaBella Associates, he worked over 10 years for Eastman Kodak Company. Rick has conducted a wide variety of industrial hygiene investigations including:

Industrial Hygiene Walk-Through Surveys, OSHA Personnel Exposure Studies, Noise Exposure Studies, OSHA Compliance Programs and Audits, Asbestos Site Surveys, Indoor Air Quality Studies, Mold Assessment and Testing, Non- ionizing Radiation Surveys, and Health & Safety Plans for Hazardous Waste Sites.

Rick has performed exposure studies for a wide variety of agents, from carcinogens and heavy metals to simple irritants and asphyxiates. He is routinely called upon to complete indoor air quality studies, including the assessment of 'Toxic Mold' contamination and potential for occupant exposure. In some studies, computerized data acquisition is used, allowing for complex data analysis and graphical representations of results. In another area of data management, he designed and helped to develop a database for tracking employee exposure histories and training.

Rick has prepared corporate programs for compliance with OSHA regulations such as Confined Space, Lock Out/Tag Out, Respiratory Protection, Hazard Communication, asbestos, lead and others.

### **Health & Safety Training**

Rick has extensive experience with employee health and safety training programs. He has provided Hazard Communication, Right to Know and Hazard Awareness training courses for many large organizations. Average class sizes ranged from 10 - 30 people. Some of the training courses Rick has prepared and presented are:

Lead, Hazard Communication, Hearing Conservation, Confined Space Entry, Respiratory Protection, Lock Out/Tag Out, and Lab Safety.

**Legionella Assessment – 2 Projects - RIT, Contact: David Armanini, (585) 475-2040, daaehs@rit.edu**

An assessment of several

ventilation systems serving a main campus building was conducted after standing water was recognized to be present within system components. Several systems had condensation pans which, by design, collected and held pooled water several inches deep. The water in these systems was tested for Legionella, and Legionella was not detected. Two other systems had large diameter return air ducts placed well below grade in the basement of the building. Groundwater was naturally infiltrating and collecting in low areas of duct. The infiltrating water was tested at several locations and found to contain non-viable Legionella and evidence of bacterial slime. Cleaning of the duct and remediation of the water infiltration was recommended. Specifications were prepared for appropriate cleaning methods.

Water samples were collected from condensation pans from two ventilation systems in the Student Alumni Union Building, and air samples were collected in several areas served by those ventilations systems. Legionella was detected by the PCR method at low levels in both sets of samples. Facilities took immediate steps to reduce ventilation and treat the contained water in the systems. Water and air sampling were repeated several times using viable analytical methods until consecutive clean samples confirmed that Legionella was no longer present.

### **Astra Zeneca | Environmental, Health & Safety Management**

Project Manager for on-site environmental, health & safety management services to a large pharmaceutical research facility

through a four year contract. LaBella's personnel were responsible for day to day health & safety responsibilities, including facility inspections, accident investigation and reporting, chemical exposure monitoring, compliance program updates and employee training. LaBella was also responsible for the on-going collection and disposal of all chemical and biological wastes generated at the facility.

The contract terminated when the company relocated to an out of state facility. LaBella managed the environmental shut down operations of the facility. Labs and storage areas were inspected for remaining chemicals. Unused chemicals and chemical wastes were marshaled in selected areas and sorted in preparation for lab pack disposal. Disposal contractors were interviewed and the chemical disposal was bid out. Non-hazardous laboratory equipment and supplies were collected in selected areas and made available to local schools and clinics free of charge. Lab hoods were tested for contaminated residues and cleaned as appropriate. Dumpsters were ordered for the disposal of non-hazardous materials. A cleaning company was contracted to complete a final clean to leave the space as required in the lease.

### **Nazareth College | HSE Compliance Services**

Project Manager for the assessment of compliance with OSHA and environmental regulations and exposure monitoring in the Art Department. A Spill Prevention Control & Countermeasure Plan and a Laboratory.



Rick has performed exposure studies for a wide variety of agents, from carcinogens and heavy metals to simple irritants and asphyxiates. He is routinely called upon to complete indoor air quality studies, including the assessment of 'Toxic Mold' contamination and potential for occupant exposure. In some studies, computerized data acquisition is used, allowing for complex data Chemical Hygiene Plan were developed to assist with compliance measures.

**Elmira Psychiatric Center |  
NYSOGS Elmira, NY**

Project Manager for the comprehensive assessment of radon across the entire facility. Results were reported and at-risk spaces were identified. After consideration of site characteristics, space usage, and existing ventilation performance, a design for a comprehensive ventilation upgrade was provided.

**UCB Manufacturing**

Project Manager for the assessment of occupational exposures to methylene chloride and dust during the production of two pharmaceutical products. Several different production phases were monitored for both products. Both 8-hr Time Weighted Averages and Short Term Exposure Limit concentrations were determined for each phase. Ventilation evaluations and recommendations were provided to improve contaminant capture and reduce exposures.

**Pfautler, US, Inc.**

A number of air monitoring studies have been completed to determine exposure concentrations to metals, silica

and solvent vapors across a variety of production operations. The work has been completed as a component of the company's Safety Management Program.

LaBella updated Pfautler's Confined Space Program by reevaluating the plant for confined space hazards, preparing a new program manual and written entry procedures. The plant was also evaluated for Lock-Out/Tag Out hazards. All powered equipment was assessed and a new Lock-Out/Tag-Out Program was prepared, including written Lock-Out/Tag Out procedures. LaBella has provided employee training in these programs and Hazcom on a regular basis.

**NYSDOT | Fredonia Maintenance  
Residency Fredonia, NY**

Volatile Organic Compounds were scanned using SUMA canisters and Method TO-15 to achieve very low detection levels in response to employee concerns over sub-slab gasoline and fuel oil contamination. Sample data was compiled and presented in an industrial hygiene format for presentation to employees. Vapor concentrations were concluded to be low enough to not present the potential for adverse health effects.

**Nexpress/Kodak**

Project Manager for the assessment of occupational exposures to solvents and noise during the development of coating equipment and processes. Ventilation evaluations and design services were provided to improve performance. Respiratory protection program training and

fit testing were provided to new users.

**City of Rochester Indoor  
Air Quality Studies | City of  
Rochester Rochester, NY**

Project Manager for Indoor Air Quality studies, including toxic mold investigations, which been performed at a number of city facilities. Studies have been triggered by employee complaints of upper respiratory irritation, dry scratchy eyes, illness, odors and stale air. Testing was completed for specific contaminants based on conditions identified during the initial walk-through evaluation. Ventilation system design and function are also evaluated. All work was carried out in close association with the Environmental Services Department, including the development of corrective actions.

**Childtime | Various Sites  
Upstate, NY**

LaBella completed visual inspections and assessments for mold contamination at 10 sites across Upstate New York. Contaminated areas were delineated, limited sampling was completed, remediation recommendations were provided and a remediation specification was prepared. During and post remediation inspections were performed with clearance testing done as needed.

**RIT | Indoor Air Quality Study  
Rochester, NY**

Industrial Hygienist and investigator for several Indoor Air Quality and mold studies performed at a number of campus buildings. Studies have been triggered by employee,

faculty and student complaints of upper respiratory irritation, dry scratchy eyes, illness, odors and stale air. Investigations include observation, interviews and testing. Testing assesses ventilation effectiveness, contaminant concentrations, and mold types and concentrations. Recommendations are provided for improved air quality and mold remediation.

**UCB Manufacturing |  
Occupational Exposure  
Monitoring of Methylene  
Chloride and Dust Rochester, NY**

Project Manager for the assessment of occupational exposures to methylene chloride and dust during the production of two pharmaceutical products. Several different production phases were monitored for both products. Both 8-hr Time Weighted Averages and Short Term Exposure Limit concentrations were determined for each phase. Ventilation evaluations and recommendations were provided to improve contaminant capture and reduce exposures.

**Optimation Technology  
| Hexavalent Chromium  
Concentrations during Welding  
Rochester, NY**

Project Manager retained in response to new OSHA regulations, personal exposure monitoring was completed during a variety of stainless steel welding tasks to determine exposure concentrations of hexavalent chromium. Standard welding operations were evaluated with excellent ventilation controls in the work areas. Exposure concentrations did not exceed OSHA limits.

**Wegmans Food Markets, Inc.  
| Project Manager, Employee  
Exposure Assessment  
Rochester, NY**

LaBella measured the concentrations of several different solvents and dark room chemicals to assess employee exposures during various printing operations. The exhaust ventilation system was evaluated for effectiveness. Recommendations were provided on chemical handling and modifications to the exhaust system.

**Indoor Air Quality**

LaBella has completed numerous indoor air quality studies in a variety of environments in response to employee complaints such as, upper respiratory tract irritation, odors, headaches and a high rate of illness. Building design, ventilation, equipment, and operations are evaluated for factors which could contribute to poor indoor air quality. Testing has included agents such as carbon dioxide, volatile organic compounds, solvents, dust, noise and bioaerosols. Recommendations for remediation and ventilation improvements are provided.

**Employee Exposure**

Personal and area samples were taken to measure employee exposures to ammonia and dust at a large egg farm. Full shift dosimetry was performed with data logging. Time history graphs were used to identify specific high exposure tasks.

**Indoor Air Quality**

Warehouse guards had expressed concern about exposure to engine exhaust and particulate. Personal

sampling was conducted to determine employee exposure concentrations to respirable dust, carbon monoxide, and nitrogen dioxide. Recommendations were made for modifications to the guard house ventilation system to help reduce particulate and exhaust gas infiltration.

**Warren County Public Safety  
Facility**

A community noise study was completed to address neighbor complaints about noise from a recently installed roof top chiller. Measurements were taken at several locations revealing that noise from the chiller was only slightly higher than ambient noise levels.

**Affinity Realty Partners, LLC**

Radon monitoring was performed to satisfy lender requirements at this and many other apartment complexes. Testing needs are assessed and monitoring is completed quickly and efficiently.

**American Motive Power**

Project manager for on-site provision of environmental, health & safety services. Plant operations were reviewed and investigated; Hazcom, Lockout/Tagout, Respiratory Protection, waste management and air permit programs were developed. Employee training was provided as required. Employees were monitored to determine exposure concentrations to noise and solvents.

**Nestle Purina**

Completed employee exposure monitoring for two corrosive irritants used during routine cleaning of processing equipment. The client needed

immediate support to respond to employee concerns about the process. Samples were taken for several employee tasks during the B shift within one week of the request to complete the work, the final report was provided two weeks later.

**SUNY Fredonia**

The Fenner House Admissions Office was assessed for mold contamination in response to occupant concerns. Inspection and sampling determined that occupied areas were in good condition, but that the basement needed some corrective actions. The inspection revealed several areas and aspects of water infiltration, leading to recommendations for better drainage and other methods to prevent the reoccurrence of mold growth.

**APD Engineering**

Community noise studies have been completed in several upstate locations in support of the placement and development of large retail establishments. Follow up noise studies have been completed to support retail store response to neighbor noise complaints.

**Residential**

Rick has conducted many industrial hygiene studies and exposure evaluations on operations where lead exposure was a concern, and appreciates how easily serious lead exposures can occur. Rick manages the staff responsible for inspections and risk assessments required for compliance with EPA and HUD lead paint guidelines for housing inspections and abatement clearance.

**Industrial**

Rick has conducted many industrial hygiene studies and exposure evaluations on operations where lead exposure was a concern. The types of operations studied include production, maintenance and demolition. Specific operations include: part finishing, hand and wave soldering for circuit board manufacturing, lead chromate painting operations, incinerator maintenance and ash handling operations, lead smelting, and demolition of lead paint coated steel structures. Rick has experience with the HUD lead paint guidelines for home inspections and abatement clearance.

**City of Rochester | Lead Paint Program Rochester, NY**

Rick has managed LaBella Associates participation in the City Lead Paint Program as a provider of 3rd party Clearance testing following hazard reduction activities. Nearly 100 Clearance Certifications have been completed within the last 6 years.

**School Campus Conversion to Housing | Providence Housing Rochester, NY**

This large project involves the conversion of a former Parrish and private school campus to program housing. Rick managed the provision of lead and asbestos inspection and abatement design services.

Lead testing was completed in 5 different campus buildings that were converted to housing. The project also included limited risk assessments, interim lead clearance and final clearance testing in each completed

housing unit.

**DASNY | SUNY Oswego, Onondaga Hall | ACM and Lead Inspection and Testing Oswego, NY**

Rick was the manager of the asbestos and lead inspection and testing efforts required for this project. The planned work presented the potential for impact of asbestos-containing materials (ACM) and lead-based paint. Rick conducted the lead inspection and assisted with the asbestos inspection of bathrooms in this high rise dormitory. A major renovation project for the upgrade of bathrooms and restrooms in the dorm required new fixtures, finishes and plumbing. Abatement specifications and drawings are being prepared for the abatement of confirmed ACM; all paint coatings were found to be lead-free.

**Asbestos Abatement and Inspection | Gates Chili Central School District Gates, NY**

Project Manager for asbestos and lead paint inspection, and abatement design related to improvements and modifications to 10 buildings. The projects required coordination between the project team, school staff, and several architectural firms. Lead considerations included inspection, testing, abatement design, interim and final clearance tests.

**Astra Zeneca**

Rick and his staff had full responsibility for ongoing health, safety and environmental compliance at a pharmaceutical research operation for over 4 years, until site relocation out of state. The project was

initiated with a comprehensive audit of operations, followed by correction of deficiencies and management of ongoing compliance with all applicable OSHA, EPA, DEC and NRC requirements. Responsibilities included safety audits, training and management; pest inspections and management; and Hazwaste management. Hazwaste management included waste characterization, container labeling, lab pack preparation, scheduling removal, review of manifests and annual reporting.

### **Hazardous Waste Management**

Rick has completed audits and provided consulting assistance to a variety of industries on practices and issues relating to hazardous waste disposal and management. Industry experience includes polymer processing, spray painting, silk screening, plating and varied solvent use.

### **Air Emission Compliance**

Rick is a certified third party compliance inspector for the NYS DEC in the dry cleaner perchloroethylene inspection program. The certified inspector acts as an agent of the DEC in performing annual Part 232 compliance inspections. Rick has performed many Part 201, 228 and Title V compliance determinations for a variety of industries. He has also reviewed and prepared Risk Management Plans for the accidental release of toxic materials.

### **OSHA Safety Compliance**

Rick routinely provides OSHA compliance audits and performance reviews. He prepares compliance programs and consults with industries on their implementation. Rick also

provides employee training for most OSHA safety programs. Example safety programs include Confined Space, Lock Out/Tag Out, Hazcom, Lead, Asbestos, Emergency Evacuation, Laboratory Safety and many more.

### **Attic Cleanup, South Buffalo Charter School Buffalo, NY**

Rick served as Project Manager for an indoor air quality study and the cleanup of a bird contaminated attic space in the main school building. Cleanup methods were proposed and reviewed. Air sampling before, during and after cleanup documented successful cleanup and control methods.

### **Port of Rochester Redevelopment Rochester, NY**

Project Manager of asbestos and environmental management services associated with the design and construction of a new ferry and customs terminal at the Port of Rochester. A large building slated for renovation was contaminated with bird carcass and several inches of bird feces. Rick managed the asbestos inspection and the abatement design for the proper removal of both the asbestos and bird residues.

### **Pole Barn Cleanup, Greece Central School District Rochester, NY**

Rick reviewed conditions associated with the reconstruction of a transportation pole barn that had bird feces in the attic spaces. A specification was developed to inform the contractor of the hazard and to specify control conditions intended to protect adjacent school property from emissions

and impact from the cleanup work.





## SHANNON DALTON

### Environmental Analyst

Shannon is an Environmental Analyst in LaBella's Environmental group. Shannon's experience includes Phase I and Phase II Environmental Site Assessments (ESAs). Shannon's field work experience includes soil and groundwater sampling, soil characterization, low-flow groundwater sampling with peristaltic pumps, SVI testing, groundwater sampling, and soil screening with a photo-ionization detector. In addition, Shannon generates GIS site investigation maps and groundwater contour maps for Phase II ESAs and Brownfield Cleanup Sites.

#### EDUCATION

**Alfred University: BA,  
Environmental Studies**

#### CERTIFICATIONS / REGISTRATIONS

**OSHA 40 Hour HAZWOPER  
Training**

#### Landfill Monitoring

**Allegany County Landfill:  
Groundwater Monitoring 2017 to  
current - Angelica, NY**

Responsible for groundwater, storm water, sediment and leachate sampling; laboratory data assessment; and preparation of quarterly and annual water quality monitoring reports.

**City of Olean: Ischua Landfill  
Water Quality Monitoring  
2016-current - Olean, NY**

Responsible for providing sampling, analysis and reporting services associated with water quality monitoring at the closed landfill.

#### Phase II Environmental Site Assessments

Shannon has performed numerous Phase II ESAs for a wide variety of commercial properties including current and historical automotive repair, historical dry cleaner facilities and offices.

**408 47th Street, Niagara Falls,  
NY- Bank of Akron**

**616 West Avenue, Lockport, NY-  
Best Brothers Development**

**136 Orchard Park Road., West  
Seneca New York- Kim and  
Kevin Jacobi**

**8503 Main Street, Clarence, NY -  
Steuben Trust Company**

**18 & 22 Tonawanda Street,  
Buffalo, NY-Tonawanda Street  
Holdings LLC**

**11075 Walden Avenue, Alden,  
New York-Barclay Damon**

**4401 Transit Road, Amherst,  
NY-Evans Bank**

**115-121 West Third Street and  
200-210 Washington Street,  
Jamestown, NY-Evans Bank**

**South Park, Buffalo, NY-Kyle  
Zick Landscape Architecture,  
Inc.**

**202 Rhode Island Street, Buffalo,  
NY-Sadoff Development LLC**

#### Vapor Intrusion Assessments

**211 Hertel Avenue, Buffalo, NY-  
Hodgson Russ LLP**

**400 North Main Street, Holland,  
NY—Draper Trucking**

**518-520 Elmwood Avenue &  
288-292 West Utica Street,  
Buffalo, NY —Sinatra & Company  
Real Estate**

**1000-1004 Elmwood Avenue,  
Buffalo, NY—Sinatra & Company  
Real Estate**

**1116-1124 Elmwood Avenue &  
577 Forest Avenue, Buffalo, NY—  
Sinatra & Company Real Estate**

**1256-1260 Hertel Avenue,  
Buffalo, NY—Sinatra & Company  
Real Estate**

**11075 Walden Avenue, Alden,  
NY—Barclay Damon**

## Phase I Environmental Site Assessments

Shannon has experience conducting numerous Environmental Site Assessments. Site assessments include evaluation of environmental liability associated with properties such as warehouses, gas stations, colleges, commercial properties, and residential homes. Shannon has completed environmental assessments for the following groups:

### Financial Institutions

Alden State Bank  
Bank of Akron  
Caliber Commercial Brokerage  
ESL Federal Credit Union  
First Niagara Bank  
Five Star Bank  
Lakeshore Savings Bank  
Upstate National Bank  
Steuben Trust Company  
Tompkins Bank of Castile

### Companies

Ellicott Development  
Ryan Homes  
The NRP Group

### Non Profit Organizations

The Nature Conservancy  
Western New York Land  
Conservancy

### Municipal & Government Clients

Town of Shelby

## Internship Experience

### Niagara Frontier Transportation Authority (NFTA) - Buffalo, New York

Shannon served as an environmental engineer intern on various projects. Shannon prepared tables and summaries by compiling and analyzing four years of glycol treatment discharge sampling results for the Buffalo Niagara International Airport engineered wetlands. Shannon also assisted with providing spill database status updates and petroleum bulk storage registration applications. Shannon compiled data from the NFTA print shop and calculated potential VOC emissions compared to regulatory thresholds.

### Development and Construction

## APPENDIX 3

### BCP Contact List Information

## Contact List Information

<b>Municipal and County Contacts</b>		
<b>Name</b>	<b>Department</b>	<b>Address</b>
Mr. Sam Teresi	City of Jamestown Mayor	City of Jamestown Municipal Building 200 E. 3 <sup>rd</sup> St. Jamestown, NY 14701
Mr. Gregory P. Rabb President	City of Jamestown Common Council	518 Lakeview Ave. Jamestown, NY 14701
Mr. Brent Sheldon		83 Durant Ave. Jamestown, NY 14701
Mr. Anthony Dolce		38 Clyde Ave. Jamestown, NY 14701
Ms. Vickye James		809 Lafayette St. Jamestown, NY 14701
Ms. Marie Carrubba		19 Widrig Ave. Jamestown, NY 14701
Ms. Maria B. Jones		455 Broadhead Ave. Jamestown, NY 14701
Mr. Tom Nelson		21 Hunter St. Jamestown, NY 14701
Ms. Kimberly A. Ecklund		32 Harris Ave. Jamestown, NY 14701
Mr. George S. Spitale		67 Camp St. Jamestown, NY 14701
Mr. Vince DeJoy	City of Jamestown Urban Renewal Agency, Executive Secretary	City of Jamestown Municipal Building 200 E. 3 <sup>rd</sup> St. Jamestown, NY 14701
Ms. Stephanie Wright	City of Jamestown Urban Renewal Agency, Economic Development Coordinator	City of Jamestown Municipal Building 200 E. 3 <sup>rd</sup> St. Jamestown, NY 14701
Mr. Vincent E. Horrigan	Chautauqua County Executive	Gerace Office Building 3 N. Erie St. Mayville, NY 14757
Mr. Kevin Sanvidge	Chautauqua County Department of Planning & Economic Development, Director	201 W. 3 <sup>rd</sup> St., Suite 115 Jamestown, NY 14701

**Adjacent Property Owners**

Direction	Property Address	Owner Contact Information
North	200 W. 3 <sup>rd</sup> St.	Star Hotels LLC 3940 Southwestern Blvd. Orchard Park, NY 14127
	114-122 W. 3 <sup>rd</sup> St.	HSG Chadakoin 411 Winsor St. Jamestown, NY 14701
East	111 W. 3 <sup>rd</sup> St.	Thomas D. Johnson 600 Baker St., Apt. 5 Jamestown, NY 14701
	101-103 W. 3 <sup>rd</sup> St.	Jamestown Development Corp., IV, LLC 200 Harrison St. Jamestown, NY 14701
	201 Cherry St.	Pearl City Arts Building, LLC 205 Cherry St. Jamestown, NY 14701
South	107-109 W. 2 <sup>nd</sup> St.	Covenant Manor Apartments, LLC 8111 Rockside Rd., Suite 200 Cleveland, OH 44125
	111 W. 2 <sup>nd</sup> St.	U.S. Commercial Habitat Co. 2407 South Hill Dr. Jamestown, NY 14701
West	201 W. 3 <sup>rd</sup> St.	LLC 201 West Third St. 4 Centre Dr. Orchard Park, NY 14127

<b><u>Site Owner</u></b>
GPatti Enterprises, LLC 115 Livingston Avenue Jamestown, NY 14701

<b><u>Public Water Supply</u></b>
Jamestown Board of Public Utilities Water Division 92 Steele Street Jamestown, NY 14701 (716) 661-1660

<b><u>Local Media</u></b>
The Post-Journal P.O. Box 3386 Jamestown, NY 14702 (716) 487-1111

<b><u>Document Repository</u></b>
James Prendergast Library: Reference Department 509 Cherry Street Jamestown, New York 14701 (716) 484-7135

<b><u>Nearby Daycare</u></b>
YWCA Child Care 401 North Main Street Jamestown, NY 14701 (716) 488-2237

## APPENDIX 4

### Community Air Monitoring Plan



# Site Community Air Monitoring Plan

## Location:

Jamestown Brewery  
115-121 West Third Street  
Jamestown, New York

## Prepared for:

Mr. Gregory Lunquist  
GPatti Enterprises, LLC  
115 Livingston Street  
Jamestown, New York 14701

LaBella Project No. 2180345

July 2018



# TABLE OF CONTENTS

1.0	INTRODUCTION .....	1
2.0	RESPONSIBILITIES .....	1
3.0	ACTIVITIES COVERED.....	1
4.0	WORK AREA ACCESS AND SITE CONTROLS.....	1
5.0	VOLATILE ORGANIC COMPOUND MONITORING .....	1
6.0	PARTICULATE MONITORING .....	2

List of Attachments

- Attachment 1: NYSDOH Community Air Monitoring Plan
- Attachment 2: NYSDEC Fugitive Dust and Particulate Monitoring Plan



## 1.0 INTRODUCTION

---

The purpose of this Site Community Air Monitoring Plan (CAMP) is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of remedial work activities at the Site located at 115-121 West Third in the City of Jamestown, Chautauqua County, New York. This Site-Specific Air Monitoring Program (SSAMP) is not intended for use in establishing action levels for worker respiratory protection.

This SSAMP requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust), at the downwind perimeter of each designated work area when certain activities are in progress at the Site. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the SSAMP will help to confirm that work activities have not spread contamination off-site through the air.

## 2.0 RESPONSIBILITIES

---

This SSAMP is applicable to the remedial activities of contractors, engineers, consultants, facility employees, and their authorized visitors. The Project Manager shall implement the provisions of this SSAMP for the duration of the project. It is the responsibility of all remedial workers to follow the requirements of this SSAMP, and all applicable air safety procedures.

## 3.0 ACTIVITIES COVERED

---

The activities covered under this SSAMP include the following:

- Management of environmental investigation and remediation activities
- Environmental monitoring
- Collection of samples
- Management of excavated soil and liquid waste (groundwater)

## 4.0 WORK AREA ACCESS AND SITE CONTROLS

---

The contractor(s) will have primary responsibility for work area access and site control.

## 5.0 VOLATILE ORGANIC COMPOUND MONITORING

---

Monitoring for VOCs will be implemented in accordance with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan, which is included in Attachment 1.



## 6.0 PARTICULATE MONITORING

---

Monitoring for dust will be implemented in accordance with the NYSDOH Generic Community Air Monitoring Plan (Attachment 1) as well as New York State Department of Environmental Conservation's Fugitive Dust and Particulate Monitoring (Attachment 2).

I:\GPATTI ENTERPRISES INC\2180345 - 115-121 W 3RD 200-210 WASHINGTON\REPORTS\RIWP\APPENDIX 4 - CAMP\RIWP  
CAMP\_JAMESTOWN BREWERY.DOCX



# **ATTACHMENT 1**

## **NYSDOH Community Air Monitoring Plan**

**Attachment 1**  
**New York State Department of Health**  
**Generic Community Air Monitoring Plan**

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

**Continuous monitoring** will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

**Periodic monitoring** for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

#### VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.
2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.
3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.
4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

#### Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter ( $\text{mcg}/\text{m}^3$ ) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed  $150 \text{ mcg}/\text{m}^3$  above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than  $150 \text{ mcg}/\text{m}^3$  above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within  $150 \text{ mcg}/\text{m}^3$  of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009



## ATTACHMENT 2

### **NYSDEC Fugitive Dust and Particulate Monitoring Plan**



## **Attachment 2**

### **Fugitive Dust and Particulate Monitoring**

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.
2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.
3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM<sub>10</sub>) with the following minimum performance standards:
  - (a) Objects to be measured: Dust, mists or aerosols;
  - (b) Measurement Ranges: 0.001 to 400 mg/m<sup>3</sup> (1 to 400,000 :ug/m<sup>3</sup>);
  - (c) Precision (2-sigma) at constant temperature: +/- 10 :g/m<sup>3</sup> for one second averaging; and +/- 1.5 g/m<sup>3</sup> for sixty second averaging;
  - (d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
  - (e) Resolution: 0.1% of reading or 1g/m<sup>3</sup>, whichever is larger;
  - (f) Particle Size Range of Maximum Response: 0.1-10;
  - (g) Total Number of Data Points in Memory: 10,000;
  - (h) Logged Data: Each data point with average concentration, time/date and data point number
  - (i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
  - (j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
  - (k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
  - (l) Operating Temperature: -10 to 50° C (14 to 122° F);
  - (m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.
4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.
5. The action level will be established at 150 ug/m<sup>3</sup> (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m<sup>3</sup>, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m<sup>3</sup> above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m<sup>3</sup> continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM<sub>10</sub> at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

- (a) Applying water on haul roads;
- (b) Wetting equipment and excavation faces;
- (c) Spraying water on buckets during excavation and dumping;
- (d) Hauling materials in properly tarped or watertight containers;
- (e) Restricting vehicle speeds to 10 mph;
- (f) Covering excavated areas and material after excavation activity ceases; and
- (g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m<sup>3</sup> action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

## APPENDIX 5

### Quality Control Plan



## Quality Control (QC) Program

Location:

Jamestown Brewery  
115-121 West Third Street and 200-210  
Washington Street  
Jamestown, New York

Prepared For:

GPatti Enterprises, LLC  
115 Livingston Avenue  
Jamestown, New York

LaBella Project No. 2180345

July 2018

Olympic Towers, 300 Pearl Street, Suite 130 | Buffalo, NY 14202 | p 716-551-6281 | f 716-551-

6282

[www.labellapc.com](http://www.labellapc.com)

## Table of Contents

1.0	INTRODUCTION.....	1
2.0	QUALITY CONTROL OBJECTIVES .....	1
2.1	Accuracy.....	2
2.2	Precision.....	2
2.3	Completeness .....	2
2.4	Representativeness .....	3
2.5	Comparability.....	3
3.0	MEASUREMENT OF DATA QUALITY .....	3
3.1	Accuracy.....	3
3.2	Precision.....	4
3.3	Completeness .....	4
3.4	Representativeness .....	4
4.0	QUALITY CONTROL TARGETS .....	5
5.0	SAMPLING PROCEDURES .....	5
6.0	SOIL & GROUNDWATER INVESTIGATION .....	5
6.1	Soil Borings, and Well Installation .....	5
6.1.1	Investigation Equipment .....	5
6.1.2	Investigation Techniques.....	6
6.1.3	Artificial Sand Pack.....	6
6.1.4	Bentonite Seal .....	7
6.1.5	Grout Mixture.....	7
6.1.6	Surface Protection.....	7
6.1.7	Surveying.....	7
6.1.8	Well Development .....	7
7.0	GEOLOGIC LOGGING AND SAMPLING .....	8
8.0	GROUNDWATER SAMPLING PROCEDURES.....	9
9.0	MANAGEMENT OF INVESTIGATIVE-DERIVED WASTE .....	10
10.0	DECONTAMINATION .....	11
11.0	SAMPLE CONTAINERS.....	12
12.0	SAMPLE CUSTODY.....	14
12.1	Chain-of-Custody.....	15
12.2	Field Custody Procedures .....	15
12.3	Sample Tags .....	15
12.4	Transfer of Custody and Shipment .....	15
12.5	Chain-of-Custody Record .....	16
12.6	Laboratory Custody Procedures.....	16
12.7	Custody Seals .....	16
13.0	LABORATORY REQUIREMENTS AND DELIVERABLES .....	16
14.0	DOCUMENTATION.....	17

## Table of Contents (continued)

	Page
14.1 Sample Identification .....	17
14.2 Daily Logs .....	17
<b>15.0 CORRECTIONS TO DOCUMENTATION .....</b>	<b>18</b>
15.1 Notebook .....	18
15.2 Sampling Forms .....	18
15.3 Photographs .....	18
<b>16.0 SAMPLE HANDLING, PACKAGING, AND SHIPPING .....</b>	<b>19</b>
16.1 Sample Packaging .....	19
16.2 Shipping Containers .....	20
16.3 Marking and Labeling .....	20
<b>17.0 CALIBRATION PROCEDURES AND FREQUENCY .....</b>	<b>20</b>
<b>18.0 FIELD INSTRUMENTATION .....</b>	<b>20</b>
18.1 Photovac/MiniRae PID .....	20
18.3 Conductance, Temperature, and pH Tester .....	21
18.4 Turbidity Meter .....	21
<b>19.0 INTERNAL QUALITY CONTROL CHECKS .....</b>	<b>21</b>
19.1 Blank Samples .....	21
19.2 Field Blanks .....	21
19.3 Field Duplicates .....	22
19.4 Quality Control Check Samples .....	22



## 1.0 INTRODUCTION

---

LaBella's Quality Control (QC) Program is an integral part of its approach to environmental investigations. By maintaining a rigorous QC program, our firm is able to provide accurate and reliable data. QC also provides safe working conditions for all on-Site workers.

The QC program contains procedures which allow for the proper collection and evaluation of data and documents that QC procedures have been followed during field investigations. The QC program presents the methodology and measurement procedures used in collecting quality field data. This methodology includes the proper use of equipment, documentation of sample collection, and sample handling procedures.

Procedures used in the firm's QC program are compatible with federal, state, and local regulations, as well as, appropriate professional and technical standards.

This QC program has been organized into the following areas:

- QC Objectives and Checks
- Field Equipment, Handling, and Calibration
- Sampling Techniques
- Sample Handling and Packaging

It should be noted that project-specific work plans (e.g., Remedial Investigation Work Plans) may have project specific details that will differ from the procedures in this QC program. In such cases, the project-specific work plan should be followed (subsequent to regulatory approval).

## 2.0 QUALITY CONTROL OBJECTIVES

---

The United States Environmental Protection Agency (USEPA) has identified five general levels of analytical data quality as being potentially applicable to site investigations conducted under comprehensive environmental response compensation and liability act (CERCLA). These levels are summarized below:

- **Level I** - Field screening. This level is characterized by the use of portable instruments, which can provide real-time data to assist in the optimization of sampling point locations and for health and safety support. Data can be generated regarding the presence or absence of certain contaminants (especially volatiles) at sampling locations.
- **Level II** - Field analysis. This level is characterized by the use of portable analytical instruments, which can be used on site or in mobile laboratories stationed near a site (close-support labs). Depending upon the types of contaminants, sample matrix, and personnel skills, qualitative and quantitative data can be obtained.



- **Level III** - Laboratory analysis using methods other than the Contract Laboratory Program (CLP) Routine Analytical Services (RAS). This level is used primarily in support of engineering studies using standard USEPA-approved procedures. Some procedures may be equivalent to CLP RAS, without the CLP requirements for documentation.
- **Level IV** - CLP Routine Analytical Services. This level is characterized by rigorous QC protocols and documentation and provides qualitative and quantitative analytical data. Some regions have obtained similar support via their own regional laboratories, university laboratories, or other commercial laboratories.
- **Level V** - Non-standard methods. Analyses, which may require method modification and/or development. CLP Special Analytical Services (SAS) are considered Level V.

Unless stated otherwise, all data will be generated in accordance with Level IV. When CLP methodology is not available, federal and state approved methods will be utilized. Level III will be utilized, as necessary, for non-CLP RAS work which may include ignitability, corrosivity, reactivity, EP toxicity, and other state approved parameters for characterization. Level I will be used throughout the RI for health and safety monitoring activities.

All measurements will be made to provide that analytical results are representative of the media and conditions measured. Unless otherwise specified, all data will be calculated and reported in units consistent with other organizations reporting similar data to allow comparability of data bases among organizations. Data will be reported in micrograms per liter ( $\mu\text{g/L}$ ) and milligrams ( $\text{mg}$ )/L for aqueous samples, and  $\mu\text{g/}$  kilogram ( $\text{kg}$ ) and  $\text{mg/kg}$  (dry weight) for soils, or otherwise as applicable.

The characteristics of major importance for the assessment of generated data are accuracy, precision, completeness, representativeness, and comparability. Application of these characteristics to specific projects is addressed later in this document. The characteristics are defined below.

### **2.1 Accuracy**

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value and is a measure of bias in the system.

### **2.2 Precision**

Precision is the degree of mutual agreement among individual measurements of a given parameter.

### **2.3 Completeness**

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct normal conditions.





## **2.4 Representativeness**

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition

Careful choice and use of appropriate methods in the field will ensure that samples are representative. This is relatively easy with water or air samples since these components are homogeneously dispersed. In soil and sediment, contaminants are unlikely to be evenly distributed, and thus it is important for the sampler and analyst to exercise good judgment when removing a sample.

## **2.5 Comparability**

Comparability expresses the confidence with which one data set can be compared to another. The data sets may be inter- or intra- laboratory.

# **3.0 MEASUREMENT OF DATA QUALITY**

---

## **3.1 Accuracy**

Accuracy of a particular analysis is measured by assessing its performance with "known" samples. These "knowns" take the form of EPA standard reference materials, or laboratory prepared solutions of target analytes spiked into a pure water or sample matrix. In the case of gas chromatography (GC) or GC/MS (mass spectrometry) analyses, solutions of surrogate compounds are used. These solutions can be spiked into every sample and are designed to mimic the behavior of target analytes without interfering with their determination.

In each case the recovery of the analyte is measured as a percentage, correcting for analytes known to be present in the original sample if necessary, as in the case of a matrix spike analysis. For EPA supplied known solutions, this recovery is compared to the published data that accompany the solution.

For the firm's prepared solutions, the recovery is compared to EPA-developed data or the firm's historical data as available. For surrogate compounds, recoveries are compared to EPA CLP acceptable recovery tables.

If recoveries do not meet required criteria, then the analytical data for the batch (or, in the case of surrogate compounds, for the individual sample) are considered potentially inaccurate. The analyst or his supervisor must initiate an investigation of the cause of the problem and take corrective action. This can include recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For highly contaminated samples, recovery of the matrix spike may depend on sample homogeneity. As a rule, analyses are not corrected for recovery of matrix spike or surrogate compounds.



### **3.2 Precision**

Precision of a particular analysis is measured by assessing its performance with duplicate or replicate samples. Duplicate samples are pairs of samples taken in the field and transported to the laboratory as distinct samples. Their identity as duplicates is typically not known to the laboratory. For most purposes, precision is determined by the analysis of replicate pairs (i.e., two samples prepared at the laboratory from one original sample). Often in replicate analysis the sample chosen for replication does not contain target analytes so that quantitation of precision is impossible. For EPA CLP analyses, replicate pairs of spiked samples, known as matrix spike/matrix spike duplicate samples, are used for precision studies. This has the advantage that two real positive values for a target analyte can be compared.

Precision is calculated in terms of Relative Percent Difference (RPD).

- Where  $X_1$  and  $X_2$  represent the individual values found for the target analyte in the two replicate analyses or in the matrix spike/matrix spike duplicate analyses.
- RPDs must be compared to the method RPD for the analysis. The analyst or his supervisor must investigate the cause of RPDs outside stated acceptance limits. This may include a visual inspection of the sample for non-homogeneity, analysis of check samples, etc. Follow-up action may include sample reanalysis or flagging of the data as suspect if problems cannot be resolved.
- During the data review and validation process, field duplicate RPDs are assessed as a measure of the total variability of both field sampling and laboratory analysis.

### **3.3 Completeness**

Completeness for each parameter is calculated as follows:

- The firm's target value for completeness for all parameters is 100%. A completeness value of 95% will be considered acceptable. Incomplete results will be reported to the site managers. In planning the field sample collection, the site manager will plan to collect field duplicates from identified critical areas. This procedure should assure 100% completeness for these areas.

### **3.4 Representativeness**

The characteristic of representativeness is not quantifiable. Subjective factors to be taken into account are as follows:

- The degree of homogeneity of a site;
- The degree of homogeneity of a sample taken from one point in a site; and
- The available information on which a sampling plan is based.



To maximize representativeness of results, sampling techniques and sample locations will be carefully chosen so that they provide laboratory samples representative of the site and the specific area. Within the laboratory, precautions are taken to extract from the sample bottle an aliquot representative of the whole sample. This includes premixing the sample and discarding pebbles from soil samples.

## 4.0 QUALITY CONTROL TARGETS

---

Target values for detection limit, percent spike recovery and percent "true" value of known check standards, and RPD of duplicates/replicates are included in the QCP, Analytical Procedures. Note that tabulated values are not always attainable. Instances may arise where high sample concentrations, non-homogeneity of samples, or matrix interferences preclude achievement of target detection limits or other quality control criteria. In such instances, the firm will report reasons for deviations from these detection limits or noncompliance with quality control criteria.

## 5.0 SAMPLING PROCEDURES

---

This section describes the sampling procedures to be utilized for each environmental medium that will be collected and analyzed in accordance with appropriate state and federal requirements. All procedures described are consistent with EPA sampling procedures as described in SW-846, third edition, September 1986, and subsequent updates. All samples will be delivered to the laboratory and analyzed within the holding times specified by the analytical method.

## 6.0 SOIL & GROUNDWATER INVESTIGATION

---

The groundwater sampling plan outlined in this subsection has been prepared in general accordance with RCRA Groundwater Monitoring Technical Enforcement Guidance Document 9950.1 (September 1986), Office of Solid Waste and Emergency Response.

Prior to drilling, all drill sites will be cleared with appropriate utility companies to avoid potential accidents relating to underground utilities.

### 6.1 *Soil Borings, and Well Installation*

#### 6.1.1 *Investigation Equipment*

##### Direct Push Geoprobe Soil Borings and Monitoring Wells:

Soil borings and monitoring wells may be advanced with a Geoprobe direct push sampling system. The use of direct push technology allows for rapid sampling, observation, and characterization of relatively shallow overburden soils. The Geoprobe utilizes a four-foot or five-foot Macrocore sampler, with disposable polyethylene sleeves. Soil cores will be retrieved in four-foot or five-foot sections, and can be easily cut from polyethylene sleeves for observation and sampling. The Macrocore



sampler will be decontaminated between samples and borings using an alconox and water solution. Any investigation derived waste generated during the advancement of soil borings and monitoring well installations will be containerized and characterized for proper disposal.

### 6.1.2 Investigation Techniques

#### Direct Push Advanced Borings:

Prior to initiating drilling activities, the Geoprobe, Macrocore, drive rods and/or other pertinent equipment will be steam cleaned or washed with an alconox and water solution. This cleaning procedure will also be used between each boring. Throughout and after the cleaning processes, direct contact between the equipment and the ground surface will be avoided. Plastic sheeting and/or clean support structures (e.g., pallets, sawhorses) will be used. All sampling equipment will be steam cleaned or washed with an alconox and water solution upon completion of the investigation and prior to leaving the site.

Soil borings will be advanced with a 2-inch (or larger) inside diameter (ID) direct push Macrocore through overburden soils. Drilling fluids, other than water from a NYSDEC-approved source, will be no allowed without special consideration and agreement of the NYSDEC. The use of lubricants is also not allowed unless approved by the NYSDEC representative.

It will be the responsibility of the consultant to arrange for the appropriate drilling equipment to be present at the site. Standby time to arrange for additional equipment or a water supply will not be allowed unless caused by unexpected site conditions.

During the drilling, a photoionization detector (PID) will be used to screen soils cores retrieved from the Macrocores.

Direct Push Geoprobe advanced groundwater-monitoring wells typically utilize 1.25-inch threaded flush joint PVC pipe with 0.010-inch slotted screen. However, well construction will vary by project and will be specified in the project-specific work plan. PVC piping used for risers and screens will conform to the requirements of American Society for Testing and Materials (ASTM)-D 1785 Schedule 40 pipe, and shall bear markings that will identify the material as which is specified. All materials used to construct the wells will be ASTM approved. Solvent PVC glue shall not be used at any time in the construction of the wells. The bottom of the screen shall be sealed with a treated cap or plug. No lead shot or lead wool is to be employed in sealing the bottom of the well or for sealant at any point in the well. All risers and screens shall be set round, plumb and true to line.

### 6.1.3 Artificial Sand Pack

When utilized, granular backfill will be chemically and texturally clean, inert, siliceous, and of appropriate grain size for the screen slot size and the host environment. The sand pack will be installed using a tremie pipe, when possible (i.e., a tremie pipe may not fit into smaller, 2-in. diameter boreholes). When utilized, the well screen and casing will be installed, and the sand pack



placed around the screen and casing to a depth extending 2-ft. or at least 25 percent of the screen length above the top of the screen.

#### 6.1.4 Bentonite Seal

A minimum 2-ft. thick seal of tamped bentonite pellets will be placed directly on top of the sand pack, and care will be taken to avoid bridging. In the event that Site geology does not allow for a 2-ft. seal (e.g., only 1-ft. of space remains between the top of the sand pack and ground surface), the remaining space in the annulus will be filled with bentonite. The seal will be measured immediately after placement, without allowance for swelling.

#### 6.1.5 Grout Mixture

Upon completion of the bentonite seal, the well may be grouted with a non-shrinking cement grout (e.g., Volclay<sup>®</sup>) mix to be placed from the top of the bentonite seal to the ground surface. The cement grout shall consist of a mixture of Portland cement (ASTM C 150) and water, in the proportion of not more than 7 gallons of clean water per bag of cement (1 cubic foot or 94 pounds). Additionally, 3% by weight of bentonite powder shall be added, if permitted.

#### 6.1.6 Surface Protection

At all times during the progress of the work, precautions shall be used to prevent tampering with or the entrance of foreign material into the well. Upon completion of the well, a suitable lockable cap shall be installed to prevent material from entering the well. Where permanent wells are to be installed, the well riser shall be protected by a flush mounted road box set into a concrete pad. A concrete pad, sloped away from the well, shall be constructed around the flush mount road box at ground level.

Any well that is to be temporarily removed from service or left incomplete due to delay in construction shall be capped with a watertight cap and equipped with a "vandal-proof" cover, satisfying applicable NYSDEC regulations or recommendations.

#### 6.1.7 Surveying

Coordinates and elevations will be established for each monitoring well and sampling location. Elevations to the closest 0.01 foot shall be used for the survey. These elevations shall be referenced to a regional, local, or project-specific datum. USGS benchmarks will be used whenever available. The location, identification, coordinates, and elevations of the wells will be plotted on maps with a scale large enough to show their location with reference to other structures at each site.

#### 6.1.8 Well Development

After completion of the well, but not sooner than 24 hours after grouting is completed, development will be accomplished using pumping, bailing, or surge blocking. No dispersing agents, acids, disinfectants, or other additives will be used during development or introduced into the well at any



other time. During development, water will be removed throughout the entire water column by periodically lowering and raising the pump intake (or bailer stopping point).

Development water will be either properly contained and treated as waste until the results of chemical analysis of samples are obtained or discharged on Site as determined by the Site-specific work plans and/or consultation with the NYSDEC representatives on Site.

The development process will continue until a stabilization of pH, specific conductance, temperature, and turbidity (goal of <50 Nephelometric Turbidity Units (NTUs)) of the discharge is achieved for three consecutive intervals following the removal of a minimum of 110% of the water lost during drilling, or three well volumes; whichever is greater. In the event that limited recharge does not allow for the recovery of all drilling water lost in the well or three (3) well volumes, the well will be allowed to stabilize to conditions deemed representative of groundwater conditions. Stabilization periods will vary by project but will be confirmed with the NYSDEC prior to sampling.

## 7.0 GEOLOGIC LOGGING AND SAMPLING

---

At each investigative location, borings will be advanced through overburden using either a drill rig and hollow-stem auger or direct push technology. Soils will be evaluated for visual and olfactory evidence of impairment (i.e., staining, odors, and elevated PID readings) by a geologist, engineer or qualified Environmental Professional. Sampling devices will be decontaminated according to procedures outlined in the Decontamination section of this document. When required, samples will be stored in glass jars until they are needed for testing or the project is complete.

If hydrogeologic conditions are favorable for well installation at a depth less than design, the well may be installed at the boring or coring termination depth. In the event that maximum design depth is reached and hydrogeologic conditions are not suitable for well installation, the maximum drilling depth may be revised. Hydrogeologic suitability for well placement will be determined by the supervising geologist, engineer or qualified Environmental Professional in consultation with NYSDEC, based on thickness and estimated hydraulic conductivity of the saturated zone encountered. If necessary, the borehole will be advanced to water or abandoned.

Boulders and bedrock encountered during well installation may be cored by standard diamond-core drilling methods using an "NX" size core barrel. All rock cores recovered will be logged by a geologist, labeled and stored in wooden core boxes. The cores will be stored by the firm until the project is completed or for at least one year. Drilling logs will be prepared by an experienced geologist or engineer, who will be present during all drilling operations. One copy of each field boring and well construction log and groundwater data, will typically be submitted as part of the investigation summary report (e.g., Remedial Investigation Report). The value shall be calculated for each 5-foot section. Information provided in the logs shall include, but not be limited to, the following:

- Date, test hole identification, and project identification;
- Name of individual developing the log;



- Name of driller and assistant(s);
- Drill, make and model, auger size;
- Identification of alternative drilling methods used and justification thereof (e.g., rotary drilling with a specific bit type to remove material from within the hollow stem augers);
- Standard penetration test (ASTM D-1586) blow counts;
- Field diagram of each monitoring well installed with the depth to bottom of screen, top of screen, and pack, bentonite seal, etc.;
- Reference elevation for all depth measurements;
- Depth of each change of stratum;
- Thickness of each stratum;
- Identification of the material of which each stratum is composed, according to the USCS system or standard rock nomenclature, as appropriate;
- Depth interval from which each sample was taken;
- Depth at which hole diameters (bit sizes) change;
- Depth at which groundwater is encountered;
- Depth to static water level and changes in static water level with well depth;
- Total depth of completed well;
- Depth or location of any loss of tools or equipment;
- Location of any fractures, joints, faults, cavities, or weathered zones;
- Depth of any grouting or sealing;
- Nominal hole diameters;
- Amount of cement used for grouting or sealing;
- Depth and type of well casing;
- Description of well screen (to include depth, length, location, diameter, slot sizes, material, and manufacturer);
- Any sealing-off of water-bearing strata;
- Static water level upon completion of the well and after development;
- Drilling date or dates;
- Construction details of well; and
- An explanation of any variations from the work plan.

## 8.0 GROUNDWATER SAMPLING PROCEDURES

---

The groundwater in all new monitoring wells will be allowed to stabilize for at least 24-hours following development. Water levels will be measured to within 0.01 feet prior to purging and sampling. Sampling of each well will typically be accomplished via active sampling.

### Active Sampling:

Purging will be completed prior to active sampling. During purging, the following will be recorded in field books or groundwater sampling logs:

- date
- purge start time



- weather conditions
- PID reading immediately after the well cap is removed
- presence of NAPL, if any, and approximate thickness
- pH
- dissolved oxygen
- temperature
- specific conductance
- depth of well
- depth to water
- estimated water volume
- purge end time
- volume of water purged

In general, wells will be purged until the pH, conductivity, temperature, and turbidity of the water being pumped from the well have stabilized with a turbidity goal of 50 NTU. All wells will be purged of at least three well volumes or to dryness.

All groundwater samples and their accompanying QC samples will be run for VOCs using NYSDEC Analytical Services Protocol (ASP; revised July 2005 and subsequent amendments or revisions).

## 9.0 MANAGEMENT OF INVESTIGATIVE-DERIVED WASTE

---

Investigation-derived waste (IDW) may include the following:

- Drill cuttings, discarded soil samples, drilling mud solids, and used sample containers;
- Well development and purge waters and discarded groundwater samples;
- Decontamination waters and associated solids;
- Soiled disposable personal protective equipment (PPE);
- Used disposable sampling equipment;
- Used plastic sheeting and aluminum foil;
- Other equipment or materials that either contain or have been in contact with potentially-impacted environmental media.

Waste materials anticipated to be generated during the implementation of this RIWP include soil generated from soil borings, groundwater generated from development and sampling of the wells, and decontamination water generated from decontaminating field equipment. These waste materials will be spread across the Site surface in the vicinity of the investigation location from which the soils originated, or allowed to infiltrate back into the subsurface of the Site in the vicinity of the sample location from which the material originated. Personal protective equipment, disposable bailers, and similar equipment may be disposed as municipal waste. Procedures will be implemented to prevent soils and water generated during investigation activities from leaving the Site.





## 10.0 DECONTAMINATION

---

Sampling methods and equipment have been chosen to minimize decontamination requirements and to prevent the possibility of cross-contamination. Decontamination of equipment will be performed between discrete sampling locations. Equipment used to collect samples between composite sample locations will not require decontamination between collection of samples. All investigation equipment will be decontaminated after the completion of each location. Special attention will be given to the drilling assembly and augers.

Non-disposable equipment will be decontaminated between each sampling event. The sampler will be cleaned prior to each use, by one of the following procedures:

- Initially cleaned of all foreign matter;
  - Sanitized with a steam cleaner;
- OR**
- Initially cleaned of all foreign matter;
  - Scrubbed with brushes inalconox solution;
  - Rinsed; and
  - Allowed to air dry

Sampling equipment / bottleware constructed of aluminum foil, low density polyethylene (LDPE), glass or Teflon will *not* be used and the sampling containers will not come into contact with these materials during groundwater sampling associated with PFAS.

All groundwater sampling will be completed in a manner to minimize potential cross-contamination of the samples by completing all work as identified below. Because PFAS are found in numerous everyday items, the following special precautions will be taken during all sampling activities:

- Acceptable materials for sampling include stainless steel, high density polyethylene (HDPE), PVC, silicone, acetate and polypropylene
- No use of Teflon®-containing materials (e.g., Teflon® tubing, bailers, tape, sample jar lid liners, plumbing paste)
- No Tyvek® clothing will be worn onsite
- Clothing that contains polytetrafluorethylene (PTFE, GORE-TEX®, etc.) or that have been waterproofed with PFC materials will not be worn on-site.
- All clothing worn by sampling personnel must have been laundered multiple times. Clothing must not be laundered with fabric softener.
- No Post-It® notes will be brought onsite
- No fast food wrappers, disposable cups or microwave popcorn will be brought on-site.
- No use of chemical (blue) ice packs will be allowed.
- No use of aluminum foil, low density polyethylene (LDPE), glass or PTFE materials will be allowed.



- No use of Sharpies®, rather ball point pens will be utilized.
- No use of sunscreen, insect repellants, cosmetic, lotions or moisturizers will be allowed by sampling personnel the day of sampling.
- If any of the above items are handled by the field personnel prior to sampling activities, field personnel will wash their hands thoroughly with soap and water prior to any sampling activities.
- Powder-free nitrile gloves will be worn during all sample collection activities.

## 11.0 SAMPLE CONTAINERS

The containers required for sampling activities are pre-washed and ordered directly from a laboratory, which has the containers prepared in accordance with USEPA bottle washing procedures. The following tables detail sample volumes, containers, preservation and holding time for typical analytes.

**Table 11-1**  
**Water Samples**

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
Volatile organic compounds (VOCs)	40-milliliter (ml) glass vial with Teflon-backed septum	Two; fill completely, no air space	Cool to 4 degrees (°) Celsius (C) (ice in cooler), Hydrochloric acid to pH <2	7 days
Semi volatile organic compounds (SVOCs)	1,000-ml amber glass jar	One; fill completely	Cool to 4° C (ice in cooler)	7/40 days
Metals	500-ml polyethylene	One; fill completely	Cool to 4° C (Nitric acid to pH <2	6 months
Pesticides	1,000-ml amber glass jar	One; fill completely	Cool to 4° C (ice in cooler)	7/40 days
Herbicides	1,000-ml amber glass jar	One; fill completely	Cool to 4° C (ice in cooler)	7/40 days
Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfo nic Acid (PFOS)	250-ml high density polyethylene (HDPE) container with Teflon-free lined caps	Three; fill completely	Cool to 4° C (ice in cooler), preserved with Trizma	14 days
1, 4 dioxane	500-ml amber bottles	Two; fill completely	Cool to 4° C (ice in cooler)	7/40 days



**TABLE 11-2**  
**Soil Samples**

Type of Analysis	Type and Size of Container	Number of Containers and Sample Volume (per sample)	Preservation	Maximum Holding Time
VOCs	40-ml glass vial with Teflon-backed septum	Three, fill with five grams of soil using soil syringe	Cool to 4° C (ice in cooler). Two with 10 ml deionized (DI) water or 5 ml sodium bisulfate, one with five ml methanol	14 days
SVOCs, PCBs, and Pesticides	8- ounce (oz.), glass jar with Teflon-lined cap	One, fill as completely as possible	Cool to 4° C (ice in cooler)	7 days
Metals	8-oz. glass jar with Teflon-lined cap	One; fill completely	Cool to 4° C (ice in cooler)	Must be extracted within 10 days; analyzed within 30 days

\* Holding time is based on the times from verified time of sample collection.

*Note: All sample bottles will be prepared in accordance with USEPA bottle washing procedures.*



**TABLE 11-3**  
**List of Major Instruments**  
**for Sampling and Analysis**

- MiniRae 3000 PID
- YSI Professional Plus Multi-Parameter Instrument – Conductivity, pH, ORP, and Temperature
- LaMotte 2020we Portable Turbidity Meter
- Hewlett Packard (HP) 1000 computer with RTE-6 operating system; and HP 9144 computer with RTE-4 operating system equipped with Aquarius software for control and data acquisition from gas chromatograph/mass spectrometer (GC/MS) systems; combined wiley and National Bureau of Standards (NBS) mass spectral library; and data archiving on magnetic tape
- Viriam 6000 and 37000 gas chromatographs equipped with flame ionization, electron capture, photoionization and wall detectors as appropriate for various analyses,, and interfaced to Variam DS604 or D5634 data systems for processing data.
- Spectra-Physics Model SP 4100 and SP 4270 and Variam 4270 cam puting integrators
- Perkin Eimer (PE) 3000% and 3030% fully Automated Atomic Absorption Spectrophotometers (AAS) with Furnace Atomizer and background correction system
- PE Plasma II Inductively Coupled Argon Plasma (ICAP) Spectre meter with PE7500 laboratory computer
- Dionex 20001 ion chromatograph with conductivity detector for anion analysis, with integrating recorder

## 12.0 SAMPLE CUSTODY

---

This section describes standard operating procedures for sample identification and chain-of-custody to be utilized for all field activities. The purpose of these procedures is to ensure that the quality of the samples is maintained during their collection, transportation, and storage through analysis. All chain-of-custody requirements comply with standard operating procedures indicated in USEPA sample handling protocol.

Sample identification documents must be carefully prepared so that sample identification and chain-of-custody can be maintained and sample disposition controlled. Sample identification documents include:

- Field notebooks,
- Sample label,
- Custody seals, and
- Chain-of-custody records.



### **12.1 Chain-of-Custody**

The primary objective of the chain-of-custody procedures is to provide an accurate written or computerized record that can be used to trace the possession and handling of a sample from collection to completion of all required analyses. A sample is in custody if it is:

- In someone's physical possession;
- In someone's view;
- Locked up; or
- Kept in a secured area that is restricted to authorized personnel.

### **12.2 Field Custody Procedures**

- As few persons as possible should handle samples.
- Sample bottles will be obtained pre-cleaned from a source such as I-Chem. Coolers or boxes containing cleaned bottles should be sealed with a custody tape seal during transport to the field or while in storage prior to use.
- The sample collector is personally responsible for the care and custody of samples collected until they are transferred to another person or dispatched properly under chain-of-custody rules.
- The sample collector will record sample data in the notebook.
- The site manager will determine whether proper custody procedures were followed during the fieldwork and decide if additional samples are required.

### **12.3 Sample Tags**

Sample tags attached to or affixed around the sample container must be used to properly identify all samples collected in the field. The sample tags are to be placed on the bottles so as not to obscure any QC lot numbers on the bottles; sample information must be printed in a legible manner using waterproof ink. Field identification must be sufficient to enable cross-reference with the logbook. For chain-of-custody purposes, all QC samples are subject to exactly the same custodial procedures and documentation as "real" samples.

### **12.4 Transfer of Custody and Shipment**

- The coolers in which the samples are packed must be accompanied by a chain-of-custody record. When transferring samples, the individuals relinquishing and receiving them must sign, date, and note the time on the chain-of-custody record. This record documents sample custody transfer
- Shipping containers must be sealed with custody seals for shipment to the laboratory. The method of shipment, name of courier, and other pertinent information are entered in the "Remarks" section of the chain-of-custody record and traffic reports.



- All shipments must be accompanied by the chain-of-custody record identifying their contents. The original record accompanies the shipment. The other copies are distributed appropriately to the site manager.
- If sent by mail, the package is registered with return receipt requested. If sent by common carrier, a bill of lading is used. Freight bills, Postal Service receipts, and bill of lading are retained as part of the permanent documentation.

### **12.5 Chain-of-Custody Record**

The chain-of-custody record must be fully completed in duplicate, using black carbon paper where possible, by the field technician who has been designated by the project manager as responsible for sample shipment to the appropriate laboratory for analysis. In addition, if samples are known to require rapid turnaround in the laboratory because of project time constraints or analytical concerns (e.g., extraction time or sample retention period limitations, etc.), the person completing the chain-of-custody record should note these constraints in the "Remarks" section of the record.

### **12.6 Laboratory Custody Procedures**

A designated sample custodian accepts custody of the shipped samples and verifies that the sample identification number matches that on the chain-of-custody record and traffic reports, if required. Pertinent information as to shipment, pickup, and courier is entered in the "Remarks" section.

### **12.7 Custody Seals**

Custody seals are preprinted adhesive-backed seals with security slots designed to break if the seals are disturbed. Sample shipping containers (coolers, cardboard boxes, etc., as appropriate) are sealed in as many places as necessary to ensure security. Seals must be signed and dated before use. On receipt at the laboratory, the custodian must check (and certify, by completing the package receipt log and LABMIS entries) that seals on boxes and bottles are intact. Strapping tape should be placed over the seals to ensure that seals are not accidentally broken during shipment.

## **13.0 LABORATORY REQUIREMENTS AND DELIVERABLES**

---

This section will describe laboratory requirement and procedures to be followed for laboratory analysis. Samples collected in New York State will be analyzed by a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. When required, analyses will be conducted in accordance with the most current NYSDEC Analytical Services Protocol (ASP). For example, ASP Category B reports will be completed by the laboratory for samples representing the final delineation of the Remedial Investigation, confirmation samples, samples to determine closure of a system, and correlation samples taken using field testing technologies analyzed by an ELAP-certified laboratory to determine correlation to field results. Data Usability Summary Reports will be completed by a third party for samples requiring ASP Category B



format reports. Electronic data deliverables (EDDs) will also be generated by the laboratory in EQUIS format for samples requiring ASP Category B format reports.

## 14.0 DOCUMENTATION

---

### 14.1 Sample Identification

All containers of samples collected from the project will be identified using the following format on a label or tag fixed to the sample container:

XX-ZZ-O/D-DDMMYYYY

- XX: This set of initials indicates the Site from which the sample was collected.
- ZZ: These initials identify the sample location. Actual sample locations will be recorded in the task log.
- O/D: An "O" designates an original sample; "D" identifies it as a duplicate.
- DDMMYYYY: This set of initials indicates the date the sample was collected

Each sample will be labeled, chemically preserved (if required) and sealed immediately after collection. To minimize handling of sample containers, labels will be filled out prior to sample collection when possible. The sample label will be filled out using waterproof ink and will be firmly affixed to the sample containers. The sample label will give the following information:

- Date and time of collection
- Sample identification
- Analysis required
- Project name/number
- Preservation

### 14.2 Daily Logs

Daily logs and data forms are necessary to provide sufficient data and observations to enable participants to reconstruct events that occurred during the project and to refresh the memory of the field personnel if called upon to give testimony during legal proceedings.

The site log is the responsibility of the site manager and will include a complete summary of the day's activity at the site.

The **Task Log** will include:

- Name of person making entry (signature).
- Names of team members on-site.
- Levels of personnel protection:
  - Level of protection originally used;



- Changes in protection, if required; and
  - Reasons for changes.
- Documentation on samples taken, including:
  - Sampling location and depth station numbers;
  - Sampling date and time, sampling personnel;
  - Type of sample (grab, composite, etc.); and
  - Sample matrix.
- On-site measurement data.
- Field observations and remarks.
- Weather conditions, wind direction, etc.
- Unusual circumstances or difficulties.
- Initials of person recording the information.

## 15.0 CORRECTIONS TO DOCUMENTATION

---

### 15.1 *Notebook*

As with any data logbooks, no pages will be removed for any reason. If corrections are necessary, these must be made by drawing a single line through the original entry (so that the original entry can still be read) and writing the corrected entry alongside. The correction must be initialed and dated. Most corrected errors will require a footnote explaining the correction.

### 15.2 *Sampling Forms*

As previously stated, all sample identification tags, chain-of-custody records, and other forms must be written in waterproof ink. None of these documents are to be destroyed or thrown away, even if they are illegible or contain inaccuracies that require a replacement document.

If an error is made on a document assigned to one individual, that individual may make corrections simply by crossing a line through the error and entering the corrected information. The incorrect information should not be obliterated. Any subsequent error discovered on a document should be corrected by the person who made the entry. All corrections must be initialed and dated.

### 15.3 *Photographs*

Photographs will be taken as directed by the site manager. Documentation of a photograph is crucial to its validity as a representation of an existing situation. The following information will be noted in the task log concerning photographs:

- Date, time, location photograph was taken;
- Photographer
- Description of photograph taken;





## 16.0 SAMPLE HANDLING, PACKAGING, AND SHIPPING

---

The transportation and handling of samples must be accomplished in a manner that not only protects the integrity of the sample, but also prevents any detrimental effects due to the possible hazardous nature of samples. Regulations for packaging, marking, labeling, and shipping hazardous materials are promulgated by the United States Department of Transportation (DOT) in the Code of Federal Regulation, 49 CFR 171 through 177. All samples will be delivered to the laboratory and analyzed within the holding times specified by the analytical method for that particular analyte.

All chain-of-custody requirements must comply with standard operating procedures in the USEPA sample handling protocol.

### 16.1 *Sample Packaging*

Samples must be packaged carefully to avoid breakage or contamination and must be shipped to the laboratory at proper temperatures. The following sample packaging requirements will be followed:

- Sample bottle lids must never be mixed. All sample lids must stay with the original containers.
- The sample volume level can be marked by placing the top of the label at the appropriate sample height, or with a grease pencil. This procedure will help the laboratory to determine if any leakage occurred during shipment. The label should not cover any bottle preparation QC lot numbers.
- All sample bottles are placed in a plastic bag to minimize the potential for cross-contamination.
- Shipping coolers must be partially filled with packing materials and ice when required, to prevent the bottles from moving during shipment.
- The sample bottles must be placed in the cooler in such a way as to ensure that they do not touch one another. Ice will be added to the cooler to ensure that the samples reach the laboratory at temperatures no greater than 4 °C.
- The environmental samples are to be placed in plastic bags. Ice is not to be used as a substitute for packing materials.
- Any remaining space in the cooler should be filled with inert packing material. Under no circumstances should material such as sawdust, sand, etc., be used.
- A duplicate custody record and traffic reports, if required must be placed in a plastic bag and taped to the bottom of the cooler lid. Custody seals are affixed to the sample cooler.



## **16.2 Shipping Containers**

Shipping containers are to be custody-sealed for shipment as appropriate. The container custody seal will consist of filament tape wrapped around the package and custody seals affixed in such a way that access to the container can be gained only by cutting the filament tape and breaking a seal.

Field personnel will make arrangements for transportation of samples to the lab. The lab must be notified as early in the week as possible regarding samples intended for Saturday delivery.

## **16.3 Marking and Labeling**

- Chain of custody seals shall be placed on the container, signed, and dated prior to taping the container to ensure the chain of custody seals will not be destroyed during shipment.
- If samples are designated as medium or high hazard, they must be sealed in metal paint cans, placed in the cooler with vermiculite and labeled and placarded in accordance with DOT regulations.
- In addition, the coolers must also be labeled and placarded in accordance with DOT regulations if shipping medium and high hazard samples.

## **17.0 CALIBRATION PROCEDURES AND FREQUENCY**

---

All instruments and equipment used during sampling and analysis will be operated, calibrated, and maintained according to the manufacturer's guidelines and recommendations as well as criteria set forth in the applicable analytical methodology references. Operation, calibration, and maintenance will be performed by personnel properly trained in these procedures. Section 11 lists the major instruments to be used for sampling and analysis. In addition, brief descriptions of calibration procedures for major field and laboratory instruments follow.

## **18.0 FIELD INSTRUMENTATION**

---

### **18.1 Photovac/MiniRae PID**

Standard operating procedures for the PID require that routine maintenance and calibration be performed every six months. The packages used for calibration are non-toxic analyzed gas mixtures available in pressurized containers.



### **18.3 Conductance, Temperature, and pH Tester**

Temperature and conductance instruments are factory calibrated. Temperature accuracy can be checked against a certified thermometer prior to field use if necessary. Conductance accuracy may be checked with a solution of known conductance and recalibration can be instituted, if necessary.

### **18.4 Turbidity Meter**

LaMotte 2020WE Turbidity Meter is calibrated before each use. The default units are set to NTU and the default calibration curve is formazin. A 0 NTU Standard (Code 1480) is included with the meter. To calibrate, rinse a clean tube three times with the blank. Fill the tube to the fill line with the blank. Insert the tube into the chamber, close the lid, and select “scan blank”.

## **19.0 INTERNAL QUALITY CONTROL CHECKS**

---

QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of field equipment. Field-based QC will comprise at least 10% of each data set generated and will consist of standards, replicates, spikes, and blanks. Field duplicates and field blanks will be analyzed by the laboratory as samples and will not necessarily be identified to the laboratory as duplicates or blanks. For each matrix, field duplicates will be provided at a rate of one per 10 samples collected or one per shipment, whichever is greater. Field blanks which consist of trip, routine field, and rinsate blanks will be provided at a rate of one per 20 samples collected for each parameter group, or one per shipment, whichever is greater.

Calculations will be performed for recoveries and standard deviations along with review of retention times, response factors, chromatograms, calibration, tuning, and all other QC information generated. All QC data, including split samples, will be documented in the site logbook. QC records will be retained and results reported with sample data.

### **19.1 Blank Samples**

Blank samples are analyzed in order to assess possible contamination from the field and/or laboratory so that corrective measures may be taken, if necessary. Field samples are discussed in the following subsection:

### **19.2 Field Blanks**

Various types of blanks are used to check the cleanliness of field handling methods. The following types of blanks may be used: the trip blank, the routine field blank, and the field equipment blank. They are analyzed in the laboratory as samples, and their purpose is to assess the sampling and transport procedures as possible sources of sample contamination. Field staff may add blanks if field circumstances are such that they consider normal procedures are not sufficient to prevent or control sample contamination, or at the direction of the project manager. Rigorous documentation of all blanks in the site logbooks is mandatory.



- **Routine Field Blanks** or bottle blanks are blank samples prepared in the field to access ambient field conditions. They will be prepared by filling empty sample containers with deionized water and any necessary preservatives. They will be handled like a sample and shipped to the laboratory for analysis.
- **Trip Blanks** are similar to routine field blanks with the exception that they are **not** exposed to field conditions. Their analytical results give the overall level of contamination from everything except ambient field conditions. For the RI/FS, one trip blank will be collected with every batch of water samples for VOC analysis. Each trip blank will be prepared by filling a 40-ml vial with deionized water prior to the sampling trip, transported to the site, handled like a sample, and returned to the laboratory for analysis without being opened in the field.
- **Field Equipment Blanks** are blank samples (sometimes called transfer blanks or rinsate blanks) designed to demonstrate that sampling equipment has been properly prepared and cleaned before field use, and that cleaning procedures between samples are sufficient to minimize cross contamination. If a sampling team is familiar with a particular site, they may be able to predict which areas or samples are likely to have the highest concentration of contaminants. Unless other constraints apply, these samples should be taken last to avoid excessive contamination of sampling equipment.

### **19.3 Field Duplicates**

Field duplicate samples consist of a set of two samples collected independently at a sampling location during a single sampling event. In some instances the field duplicate can be a blind duplicate, i.e., indistinguishable from other analytical samples so that personnel performing the analyses are not able to determine which samples are field duplicates. Field duplicates are designed to assess the consistency of the overall sampling and analytical system.

### **19.4 Quality Control Check Samples**

Inorganic and organic control check samples are available from USEPA free of charge and are used as a means of evaluating analytical techniques of the analyst. Control check samples are subjected to the entire sample procedure, including extraction, digestion, etc., as appropriate for the analytical method utilized.

# Groundwater Sampling for Emerging Contaminants

February 2018

---

Issue: NYSDEC has committed to analyzing representative groundwater samples at remediation sites for emerging contaminants (1,4-dioxane and PFAS) as described in the below guidance.

## Implementation

NYSDEC project managers will be contacting site owners to schedule sampling for these chemicals. Only groundwater sampling is required. The number of samples required will be similar to the number of samples where “full TAL/TCL sampling” would typically be required in a remedial investigation. If sampling is not feasible (e.g., the site no longer has any monitoring wells in place), sampling may be waived on a site-specific basis after first considering potential sources of these chemicals and whether there are water supplies nearby.

Upon a new site being brought into any program (i.e., SSF, BCP), PFAS and 1,4-dioxane will be incorporated into the investigation of groundwater as part of the standard “full TAL/TCL” sampling. Until an SCO is established for PFAS, soil samples do not need to be analyzed for PFAS unless groundwater contamination is detected. Separate guidance will be developed to address sites where emerging contaminants are found in the groundwater. The analysis currently performed for SVOCs in soil is adequate for evaluation of 1,4-dioxane, which already has an established SCO.

## Analysis and Reporting

Labs should provide a full category B deliverable, and a DUSR should be prepared by a data validator.

The work plan should explicitly describe analysis and reporting requirements.

PFAS sample analysis: Samples should be analyzed by an environmental laboratory certified by ELAP to use EPA method 537 or ISO 25101. ELAP does not currently offer certification for PFAS analysis of non-drinking water samples (including groundwater, soil and sediment), so there is no requirement to use an ELAP certified method. The preferred method is the modified EPA Method 537. Labs have been able to achieve reporting limits for PFOA and PFOS of 2 ng/l (part per trillion). If labs are not able to achieve similar reporting limits, the NYSDEC project manager will make case-by-case decisions as to whether the analysis can meet the needs for the specific site.

PFAS sample reporting: DER has developed a PFAS target analyte list (below) with the intent of achieving reporting consistency between labs for commonly reportable analytes. It is expected that reported results for PFAS will include, at a minimum, all the compounds listed. This list may be updated in the future as new information is learned and as labs develop new capabilities. If lab and/or matrix specific issues are encountered for any particular compounds, the NYSDEC project manager will make case-by-case decisions as to whether particular analytes may be temporarily or permanently discontinued from analysis for each site. Any technical lab issues should be brought to the attention of a NYSDEC chemist.

Some sampling using this full PFAS target analyte list is needed to understand the nature of contamination. It may also be critical to differentiate PFAS compounds associated with a site from other sources of these chemicals. Like routine refinements to parameter lists based on investigative findings, the full PFAS target analyte list may not be needed for all sampling intended to define the extent of

contamination. Project managers may approve a shorter analyte list (e.g., just the UCMR3 list) for some reporting on a case by case basis.

1,4-Dioxane Analysis and Reporting: The method detection limit (MDL) for 1,4-dioxane should be no higher than 0.28 µg/l (ppb). ELAP offers certification for both EPA Methods 8260 and 8270. In order to get the appropriate detection limits, the lab would need to run either of these methods in “selective ion monitoring” (SIM) mode. DER is advising PMS to use 8270, since this method provides a more robust extraction procedure, uses a larger sample volume, and is less vulnerable to interference from chlorinated solvents (we acknowledge that 8260 has been shown to have a higher recovery in some studies).

### Full PFAS Target Analyte List

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	<b>Perfluorobutanesulfonic acid</b>	<b>PFBS</b>	<b>375-73-5</b>
	<b>Perfluorohexanesulfonic acid</b>	<b>PFHxS</b>	<b>355-46-4</b>
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	<b>Perfluorooctanesulfonic acid</b>	<b>PFOS</b>	<b>1763-23-1</b>
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	<b>Perfluoroheptanoic acid</b>	<b>PFHpA</b>	<b>375-85-9</b>
	<b>Perfluorooctanoic acid</b>	<b>PFOA</b>	<b>335-67-1</b>
	<b>Perfluorononanoic acid</b>	<b>PFNA</b>	<b>375-95-1</b>
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane-sulfonamides	Perfluorooctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoacetic acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

Bold entries depict the 6 original UCMR3 chemicals

## APPENDIX 6

### Health and Safety Plan



# Site Health and Safety Plan

Location:

Jamestown Brewery  
115-121 West Third Street

Jamestown, New York

Prepared For:

Mr. Gregory Lunquist  
GPatti Enterprises, LLC  
115 Livingston Street  
Jamestown, New York 14701

LaBella Project No. 2180345

July 2018



## Table of Contents

	Page
1.0 Introduction .....	1
2.0 Responsibilities .....	1
3.0 Activities Covered .....	1
4.0 Work Area Access and Site Control .....	1
5.0 Potential Health and Safety Hazards .....	1
6.0 Work Zones.....	4
7.0 Decontamination Procedures .....	4
8.0 Personal Protective Equipment .....	4
9.0 Air Monitoring .....	5
10.0 Emergency Action Plan.....	5
11.0 Medical Surveillance .....	5
12.0 Employee Training.....	6

### Tables

Table 1	Exposure Limits and Recognition Qualities
---------	---

## SITE HEALTH AND SAFETY PLAN

<b>Project Title:</b>	Jamestown Brewery - Brownfield Cleanup Program
<b>Project Number:</b>	2180345
<b>Project Location (Site):</b>	115-121 West Third Street Jamestown, New York
<b>Environmental Director:</b>	Rob Napieralski
<b>Project Manager:</b>	Adam Zebrowski
<b>Plan Review Date:</b>	_____
<b>Plan Approval Date:</b>	_____
<b>Plan Approved By:</b>	_____ Mr. Richard Rote, CIH
<b>Site Safety Supervisor:</b>	Chris Kibler
<b>Site Contact:</b>	Gregory Lunquist, GPatti Enterprises, LLC
<b>Safety Director:</b>	Rick Rote, CIH
<b>Proposed Date(s) of Field Activities:</b>	To Be Determined
<b>Site Conditions:</b>	0.59± acres; Current Site features include landscaping and impervious surfaces including an asphalt parking lot and a concrete pedestrian ramp.
<b>Site Environmental Information Provided By:</b>	<ul style="list-style-type: none"><li>❑ Phase I Environmental Site Assessment report, 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York, prepared by LaBella Associates, D.P.C. dated August 4, 2017</li><li>❑ Draft Supplemental Phase II Environmental Site Assessment report, 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York, prepared by LaBella Associates, D.P.C. dated November 10, 2017</li><li>❑ Supplemental Soil Investigation report, 115-121 West Third Street and 200-210 Washington Street, Jamestown, New York, prepared by LaBella Associates, D.P.C. dated February 9, 2018</li></ul>
<b>Air Monitoring Provided By:</b>	LaBella Associates, D.P.C.
<b>Site Control Provided By:</b>	LaBella Environmental, LLC

## EMERGENCY CONTACTS

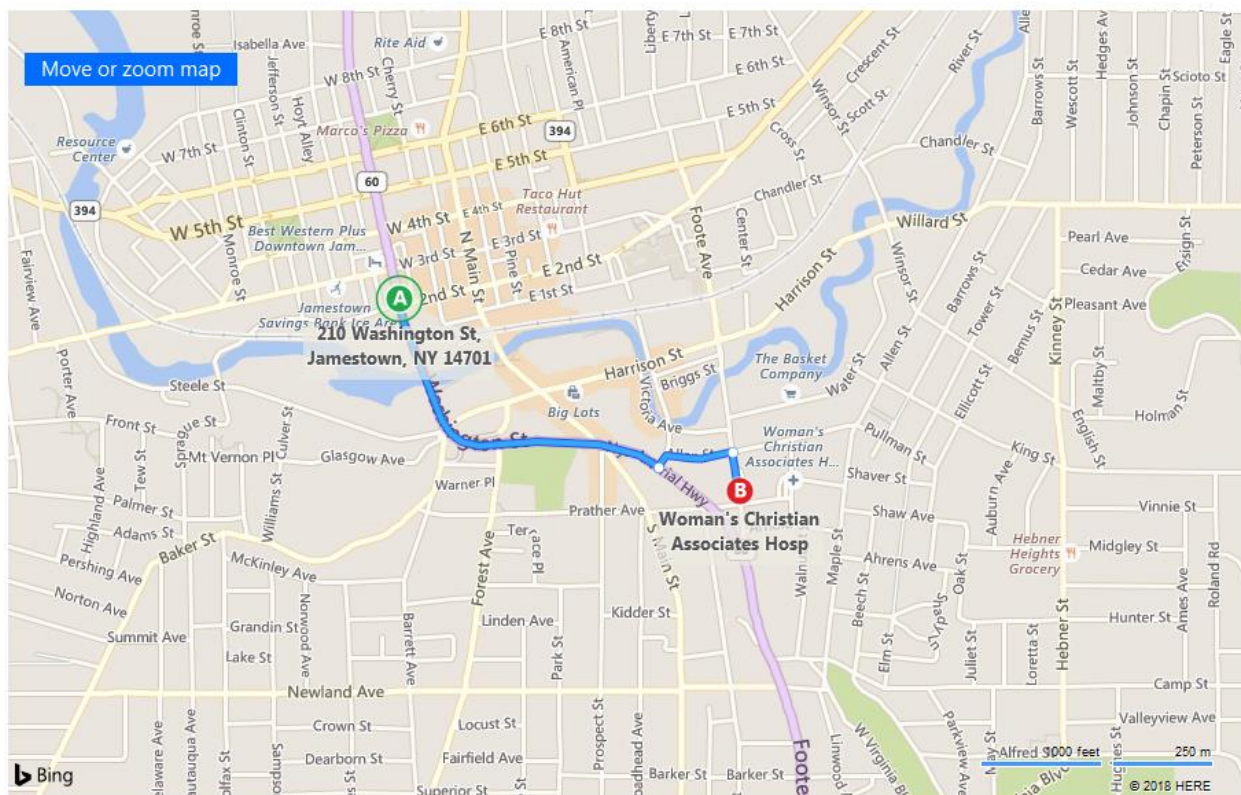
	<b>Name</b>	<b>Phone Number</b>
Ambulance:	As Per Emergency Service	911
Hospital Emergency:	Woman's Christian Associates Hospital	716-487-0141
Poison Control Center:	National Poison Control Center (serving Buffalo Area)	800-222-1222
Police (local, state):	Jamestown City Police Department	911
Fire Department:	Jamestown Fire Department	911
Site Contact:	Gregory Lunquist, GPatti Enterprises, LLC	716-665-7031
Agency Contact:	NYSDEC – Damianos Skaros NYSDOH – To Be Determined	716-851-7220 To Be Determined
Environmental Director:	Rob Napieralski	Direct: 716-551-6283
Project Manager:	Adam Zebrowski	Direct: 716-840-2548
Site Safety Supervisor:	Shannon Dalton	Direct: 716-698-4463
Safety Director	Rick Rote, CIH (LaBella)	Direct: 704-941-2123

## MAP AND DIRECTIONS TO THE MEDICAL FACILITY - WOMAN'S CHRISTIAN ASSOCIATES HOSPITAL

### A 210 Washington St, Jamestown, NY 14701

↑	1.	Depart <b>RT-60 / Washington St</b> toward W 2nd St ▲ Minor Congestion	0.6 mi
↶	2.	Turn <b>left</b> onto <b>Institute St</b> , and then immediately bear <b>right</b> onto <b>Allen St</b>	0.1 mi
↷	3.	Turn <b>right</b> onto <b>Foote Ave</b>	325 ft
	4.	Arrive at <b>Foote Ave</b> If you reach Prather Ave, you've gone too far	

### B Woman's Christian Associates Hosp



Source: Google Maps 2015



## 1.0 INTRODUCTION

---

The purpose of this Health and Safety Plan (HASP) is to provide guidelines for responding to potential health and safety issues that may be encountered during the Remedial Investigation (RI) at 115-121 West Third Street in the City of Jamestown, Chautauqua County, New York (Site). This HASP only reflects the policies of LaBella Associates, D.P.C. The requirements of this HASP are applicable to all approved LaBella personnel at the work Site. This document's project specifications, and the Community Air Monitoring Plan (CAMP), are to be consulted for guidance in preventing and quickly abating any threat to human safety or the environment. The provisions of the HASP do not replace or supersede any regulatory requirements of the USEPA, NYSDEC, OSHA or other regulatory bodies.

## 2.0 RESPONSIBILITIES

---

This HASP presents guidelines to minimize the risk of injury to project personnel, and to provide rapid response in the event of injury. The HASP is applicable only to activities of approved LaBella personnel and their authorized visitors. The Project Manager shall implement the provisions of this HASP for the duration of the project. It is the responsibility of LaBella employees to follow the requirements of this HASP, and all applicable company safety procedures.

## 3.0 ACTIVITIES COVERED

---

The activities covered under this HASP are limited to the following:

- ❑ Management of environmental investigation and remediation activities
- ❑ Environmental Monitoring
- ❑ Collection of samples
- ❑ Management of excavated soil and liquid waste (groundwater)

## 4.0 WORK AREA ACCESS AND SITE CONTROL

---

The contractor(s) will have primary responsibility for work area access and Site control.

## 5.0 POTENTIAL HEALTH AND SAFETY HAZARDS

---

This section lists some potential health and safety hazards that project personnel may encounter at the project Site and some actions to be implemented by approved personnel to control and reduce the associated risk to health and safety. This is not intended to be a complete listing of any and all potential health and safety hazards. New or different hazards may be encountered as Site environmental and Site work conditions change. The suggested actions to be taken under this plan are not to be substituted for good judgment on the part of project personnel. At all times, the Site Safety Officer has responsibility for Site safety and his instructions must be followed.



### **5.1 Hazards Due to Heavy Machinery**

#### **Potential Hazard:**

Heavy machinery including drilling rigs, excavators, trailers, etc. will be in operation at the Site. The presence of such equipment presents the danger of being struck or crushed and can also create noise pollution. Use caution when working near heavy machinery.

#### **Protective Action:**

Make sure that operators are aware of your activities, and heed operator's instructions and warnings. Wear bright colored clothing and walk safe distances from heavy equipment. A hard hat, safety glasses, steel toe shoes and ear protection are required.

### **5.2 Excavation Hazards**

#### **Potential Hazard:**

Excavations and trenches can collapse, causing injury or death. Edges of excavations can be unstable and collapse. Toxic and asphyxiant gases can accumulate in confined spaces and trenches. Excavations that require working within the excavation will require air monitoring in the breathing zone (refer to Section 9.0).

Excavations left open create a fall hazard which can cause injury or death.

#### **Protective Action:**

Personnel must receive approval from the Project Manager to enter an excavation for any reason. Subsequently, approved personnel are to receive authorization for entry from the Site Safety Officer. Approved personnel are not to enter excavations over 4 feet in depth unless excavations are adequately sloped. Additional personal protective equipment may be required based on the air monitoring.

While shoring is planned for the proposed excavation, personnel should exercise caution near all excavations at the Site as excavation sidewalls may become unstable. Do not proceed closer than 3 feet to an unsupported or non-sloped excavation side wall. The contractor will be responsible to ensure that all excavations are left in a safe condition.

Excavations shall be backfilled immediately following completion. If this is not possible, fencing and/or barriers accompanied by "no trespassing" signs should be placed around all excavations when left open for any period of time when work is not being conducted.

### **5.3 Cuts, Punctures and Other Injuries**

#### **Potential Hazard:**

In any excavation and construction work Site there is the potential for the presence of sharp or jagged edges on rock, metal materials, and other sharp objects. Serious cuts and punctures can result in loss of blood and infection.

#### **Protective Action:**

The Project Manager is responsible for making First Aid supplies available at the work Site to treat minor injuries. The Site Safety Officer is responsible for arranging the transportation of authorized on-site personnel to medical facilities when First Aid treatment is not sufficient. Do not move seriously injured workers. All injuries requiring treatment are to be reported to



the Project Manager. Serious injuries are to be reported immediately to the Site Safety Officer.

#### **5.4 *Injury Due to Exposure of Chemical Hazards***

##### **Potential Hazards:**

Contaminants identified in testing locations at the Site include various petroleum-related and chlorinated solvent volatile organic compounds (VOCs). Volatile organic vapors, chlorinated solvents or other chemicals may be encountered during subsurface activities at the project work Site. Inhalation of high concentrations of volatile organic vapors can cause headache, stupor, drowsiness, confusion and other health effects. Skin contact can cause irritation, chemical burn, or dermatitis.

##### **Protective Action:**

The use of properly selected Personal Protective Equipment (PPE), adherence to standard health and safety pre-cautions (e.g., no smoking or eating within work area or prior to personal decontamination), and implementation of routine dust suppression methods will effectively minimize exposure to the known contaminants on-site. It should also be noted that Biosolve®Activator™, a high-performance emulsification surfactant, will continuously be applied to the soil within the area of excavation during removal activities in an effort to minimize and/or eliminate the emanation of chlorinated VOCs to the surrounding air.

The presence of organic vapors may be detected by their odor and by monitoring instrumentation. Approved employees will not work in environments where hazardous concentrations of organic vapors are present. Air monitoring (refer to Section 9.0) of the work area will be performed at least every 60 minutes or more often using a Photoionization Detector (PID). Personnel are to leave the work area whenever PID measurements of ambient air exceed 25 parts per million (ppm) consistently for a 5 minute period. In the event that sustained total volatile organic compound (VOC) readings of 25 ppm are encountered personnel should upgrade personal protective equipment to Level C (refer to Section 8.0) and an Exclusion Zone should be established around the work area to limit and monitor access to this area (refer to Section 6.0).

#### **5.5 *Injuries due to extreme hot or cold weather conditions***

##### **Potential Hazards:**

Extreme hot weather conditions can cause heat exhaustion, heat stress and heat stroke or extreme cold weather conditions can cause hypothermia.

##### **Protective Action:**

Precaution measures should be taken such as dress appropriately for the weather conditions and drink plenty of fluid. If personnel should suffer from any of the above conditions, proper techniques should be taken to cool down or heat up the body and taken to the nearest hospital if needed.



## 6.0 WORK ZONES

---

In the event that conditions warrant establishing various work zones (i.e., based on hazards - Section 5.0), the following work zones should be established:

### **Exclusion Zone (EZ):**

The EZ will be established in the immediate vicinity and adjacent downwind direction of Site activities that elevate breathing zone VOC concentrations to unacceptable levels based on field screening. These Site activities include contaminated soil excavation and soil sampling activities. If access to the Site is required to accommodate non-project related personnel then an EZ will be established by constructing a barrier around the work area (yellow caution tape and/or construction fencing). The EZ barrier shall encompass the work area and any equipment staging/soil staging areas necessary to perform the associated work. The contractor(s) will be responsible for establishing the EZ and limiting access to approved personnel. Depending on the condition for establishing the EZ, access to the EZ may require adequate PPE (e.g., Level C).

### **Contaminant Reduction Zone (CRZ):**

The CRZ will be the area where personnel entering the EZ will don proper PPE prior to entering the EZ and the area where PPE may be removed. The CRZ will also be the area where decontamination of equipment and personnel will be conducted as necessary.

## 7.0 DECONTAMINATION PROCEDURES

---

Upon leaving the work area, approved personnel shall decontaminate footwear as needed. Under normal work conditions, detailed personal decontamination procedures will not be necessary. Work clothing may become contaminated in the event of an unexpected splash or spill or contact with a contaminated substance. Minor splashes on clothing and footwear can be rinsed with clean water. Heavily contaminated clothing should be removed if it cannot be rinsed with water. Personnel assigned to this project should be prepared with a change of clothing whenever on Site.

Personnel will use the contractor's disposal container for disposal of PPE.

## 8.0 PERSONAL PROTECTIVE EQUIPMENT

---

Generally, Site conditions at this work Site require level of protection of Level D or modified Level D; however, air monitoring will be conducted to determine if up-grading to Level C PPE is required (refer to Section 9.0). Descriptions of the typical safety equipment associated with Level D and Level C are provided below:



**Level D:**

Hard hat, safety glasses, rubber nitrile sampling gloves, steel toe construction grade boots, etc.

**Level C:**

Level D PPE and full or ½-face respirator and tyvek suit (if necessary). [Note: Organic vapor cartridges are to be changed after each 8-hours of use or more frequently.]

## 9.0 AIR MONITORING

---

According to 29 CFR 1910.120(h), air monitoring shall be used to identify and quantify airborne levels of hazardous substances and health hazards in order to determine the appropriate level of employee protection required for personnel working onsite. Air monitoring will consist at a minimum of the procedure listed below. Air monitoring instruments will be calibrated and maintained in accordance with the manufacturer's specifications.

The Air Monitor will utilize a photo ionization detector (PID) to screen the ambient air in the work areas (drilling, excavation, soil staging, and soil grading areas) for total volatile organic compounds (VOCs) and DustTrak tm Model 8520 aerosol monitors or equivalent for measuring particulates. Work area ambient air will generally be monitored in the work area and downwind of the work area. Air monitoring of the work areas and downwind of the work areas will be performed at least every 60 minutes using a PID and the DustTrak meter.

If sustained PID readings of greater than 25 ppm are recorded in the breathing zone, either personnel are to leave the work area until satisfactory readings are obtained or approved personnel may re-enter the work areas wearing at a minimum a ½ face respirator with organic vapor cartridges for an 8-hour duration (i.e., upgrade to Level C PPE). Organic vapor cartridges are to be changed after each 8-hour use or more frequently, if necessary. If PID readings are sustained, in the work area, at levels above 50 ppm for a 5 minute average, work will be stopped immediately until safe levels of VOCs are encountered or additional PPE will be required (i.e., Level B).

## 10.0 EMERGENCY ACTION PLAN

---

In the event of an emergency, employees are to turn off and shut down all powered equipment and leave the work areas immediately. Employees are to walk or drive out of the Site as quickly as possible, wait at the assigned "safe area" and follow the instructions of the Site Safety Officer.

Employees are not authorized or trained to provide rescue and medical efforts. Rescue and medical efforts will be provided by local authorities.

## 11.0 MEDICAL SURVEILLANCE

---

Medical surveillance will be provided to all employees who are injured due to overexposure from an emergency incident involving hazardous substances at this Site.



## 12.0 EMPLOYEE TRAINING

---

Personnel who are not familiar with this Site plan will receive training on its entire content and organization before working at the Site.

Individuals involved with the remedial investigation must be 40-hour OSHA HAZWOPER trained with current 8-hour refresher certification.

I:\GPATTI ENTERPRISES INC\2180345 - 115-121 W 3RD 200-210 WASHINGTON\REPORTS\RIWP\APPENDIX 6 - HASP\HASP-IRMWP\_JAMESTOWN BREWERY-RIWP.DOC

Table 1  
Exposure Limits and Recognition Qualities

Compound	PEL-TWA (ppm)(b)(d)	TLV-TWA (ppm)(c)(d)	STEL (ppm)(b)	LEL (%) (e)	UEL (%) (f)	IDLH (ppm)(g)(d)	Odor	Odor Threshold (ppm)	Ionization Potential
Acetone	750	500	NA	2.15	13.2	20,000	Sweet	4.58	9.69
Anthracene	.2	.2	NA	NA	NA	NA	Faint aromatic	NA	NA
Benzene	1	0.5	5	1.3	7.9	3000	Pleasant	8.65	9.24
Benzo (a) pyrene (coal tar pitch volatiles)	0.2	0.1	NA	NA	NA	700	NA	NA	NA
Benzo (a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (b) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (g,h,i)perylene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo (k) Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	NA	NA	NA	NA	NA	NA	NA	NA	10.88
Carbon Disulfide	20	1	NA	1.3	50	500	Odorless or strong garlic type	.096	10.07
Chlorobenzene	75	10	NA	1.3	9.6	2,400	Faint almond	0.741	9.07
Chloroform	50	2	NA	NA	NA	1,000	ethereal odor	11.7	11.42
Chrysene	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethylene	200	200	NA	9.7	12.8	400	Acrid	NA	9.65
1,2-Dichlorobenzene	50	25	NA	2.2	9.2		Pleasant		9.07
Ethyl Alcohol	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100	100	NA	1.0	6.7	2,000	Ether	2.3	8.76
Fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropyl Alcohol	400	200	500	2.0	12.7	2,000	Rubbing alcohol	3	10.10
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene Chloride	500	50	NA	12	23	5,000	Chloroform-like	10.2	11.35
Naphthalene	10, Skin	10	NA	0.9	5.9	250	Moth Balls	0.3	8.12
n-propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphoric Acid	1	1	3	NA	NA	10,000	NA	NA	NA
Polychlorinated Biphenyl	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium Hydroxide	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
p-Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethane	NA	NA	NA	NA	NA	NA	Sweet	NA	NA
Toluene	100	100	NA	0.9	9.5	2,000	Sweet	2.1	8.82
Trichloroethylene	100	50	NA	8	12.5	1,000	Chloroform	1.36	9.45
1,2,4-Trimethylbenzene	NA	25	NA	0.9	6.4	NA	Distinct	2.4	NA
1,3,5-Trimethylbenzene	NA	25	NA	NA	NA	NA	Distinct	2.4	NA
Vinyl Chloride	1	1	NA	NA	NA	NA	NA	NA	NA
Xylenes (o,m,p)	100	100	NA	1	7	1,000	Sweet	1.1	8.56
<b>Metals</b>									
Arsenic	0.01	0.2	NA	NA	NA	100, Ca	NA	NA	NA
Cadmium	0.2	0.5	NA	NA	NA	NA	NA	NA	NA
Calcium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	1	0.5	NA	NA	NA	NA	NA	NA	NA
Iron	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.05	0.15	NA	NA	NA	700	NA	NA	NA
Mercury	0.05	0.05	NA	NA	NA	28	NA	NA	NA
Selenium	0.2	0.02	NA	NA	NA	Unknown	NA	NA	NA

(a) Skin = Skin Absorption  
(b) OSHA-PEL Permissible Exposure Limit (flame weighted average, 8-hour): NIOSH Guide, June 1990  
(c) ACGIH – 8 hour time weighted average from Threshold Limit Values and Biological Exposure Indices for 2003.  
(d) Metal compounds in mg/m3  
(e) Lower Exposure Limit (%)  
(f) Upper Exposure Limit (%)  
(g) Immediately Dangerous to Life or Health Level: NIOSH Guide, June 1990.

Notes:  
1. All values are given in parts per million (PPM) unless otherwise indicated.  
2. Ca = Possible Human Carcinogen, no IDLH information.