

Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report

441 Elmwood Avenue Site BCP Site No. C915334

November 2019

0136-018-001

Prepared For:

EC445, LLC



Prepared By:



REMEDIAL INVESTIGATION INTERIM REMEDIAL MEASURES ALTERNATIVES ANALYSIS REPORT

441 ELMWOOD AVENUE SITE
BUFFALO, NEW YORK
BCP SITE No. C915334

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Certification

I, Thomas H. Forbes, certify that I am currently a NYS registered professional engineer as defined in 6NYCRR Part 375 and that this November 2019 Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report (RI/IRM/AAR) for the 441 Elmwood Avenue Site (C915334) was prepared in general accordance with applicable statutes and regulations and in general conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that activities were performed in general accordance with the DER-approved work plan and any DER-approved modifications.

Date

1.0 INTRODUCTION

This Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report (RI/IRM/AAR) has been prepared by Benchmark Environmental Engineering and Science, PLLC (Benchmark), in association with TurnKey Environmental Restoration, LLC (TurnKey), referred to herein as Benchmark-Turnkey, on behalf of EC445, LLC (EC445), for the 441 Elmwood Avenue Site, located in the City of Buffalo, Erie County, New York (Site; see Figures 1 and 2).

EC445 elected to pursue investigation, cleanup, and redevelopment of the Site under the New York State Brownfield Cleanup Program (BCP) and executed a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in October 2018 (Index No. C915334-09-28). The Remedial Investigation/Interim Remedial Measures (RI/IRM) Work Plan was approved by the NYSDEC with concurrence of the New York State Department of Health (NYSDOH) in November 2018. Benchmark-TurnKey performed RI activities at the Site in December 2018, and Interim Remedial Measure (IRM) activities were completed between August and November 2019.

Prior to the start of IRM activities, a BCA Amendment was completed and submitted to the Department to add a volunteer co-applicant to the BCA (441 Environmental Remediation, LLC). The amendment was approved by the Department in October 2019.

1.1 Background

The Site consists of an approximate 0.24-acre portion of a larger parcel, located on the northeastern corner of Elmwood Avenue and Bryant Street in the City of Buffalo, Erie County, New York (see Figures 1 and 2).

The Site is bound by a parking lot and a vacant commercial restaurant to the north, Bryant Street to the south, Elmwood Avenue to the west, and a parking lot for the former Women and Children's Hospital of Buffalo to the east. The surrounding land-use is mixed use, including commercial and residential. Properties adjacent to the Site include primarily commercial use. The Site was previously used as an automobile repair and filling station from the 1930's until the mid-1980's. Based on historic records, multiple underground storage tanks (USTs) and pump islands, and at least two (2) separate service buildings have been located on Site.

The Site was identified in the NYSDEC Petroleum Bulk Storage (PBS) (9-600827) and the NYSDEC Spill database (1708669). The active Spill has been addressed as part of this BCP project.

Previous environmental investigations completed at the Site have identified grossly contaminated petroleum soils (GCPS) and elevated volatile organic compounds (VOCs) at concentrations exceeding 6NYCRR Part 375 Unrestricted Use, Restricted-Residential Use, Commercial Use and Industrial Use Soil Cleanup Objectives (SCOs). Details of the previous investigations are presented in Section 1.2 below.

1.2 Previous Investigations

1.2.1 December 2017 – Phase I Environmental Site Assessment

Stohl Environmental (Stohl) completed a Phase I Environmental Site Assessment (ESA) for the Former Women and Children's Hospital of Buffalo – 187 and 219 Bryant Street, Buffalo, New York in December 2017.

Below is a summary of the Recognized Environmental Concerns (RECs) as they relate to the 441 Elmwood portion of the Site.

- At least two (2) separate automobile service and filling stations were located onsite, including multiple fuel oil, waste oil, and gasoline USTs. Two (2) separate pumps island were also noted in the records.
- Numerous USTs of varying size were identified in connection with the Site.

1.2.2 January 2018 – Geotechnical Engineering Report

Empire Geo-Services, Inc. (Empire) completed a geotechnical subsurface investigation included the advancement of four (4) test borings designated as B-1, B-1A, B-1B, and B-2 between December 14, 2017 and January 5, 2018 on Site. Approximate geotechnical boring locations are included on Figure 3. Empire noted strong petroleum odors in three (3) of the four (4) boring locations. Based on the petroleum contamination discovered during geotechnical drilling, a notice was provided to the NYSDEC and Spill No. 1708669 was issued for the Site.

1.2.3 February 2018 – Limited Phase II Environmental Investigation Report

TurnKey completed a Limited Phase II Environmental Investigation on the Site in January 2018. Five (5) soil borings were completed across the Site (designated SB-1 through SB-5). Findings of the Phase II are detailed below:

- Odors and elevated photoionization detector (PID) readings were detected in 4 of the 5 borings, with highest PID reading of 1,526 ppm.
- Product was identified on the cutting sleeve at SB-4.
- Elevated VOCs were detected on Site exceeding 6NYCRR Part 375 Unrestricted Use, Residential Use, Commercial Use and Industrial Use SCOs.
- Based on the findings of the investigation, additional investigation and remediation is required to address Spill No. 1708669.

A summary of previous investigation analytical results, described above, is provided on Table 1. Previous investigation locations and findings are shown on Figure 3.

1.3 Purpose and Scope

This RI/IRM/AAR has been prepared on behalf of EC445 to describe and present the findings of the RI activities, details of the IRM completed, and evaluates remedial alternatives for the Site.

This report contains the following sections:

- Section 2.0 presents the approach for the RI
- Section 3.0 describes the physical characteristics of the Site as they pertain to the investigation findings
- Section 4.0 presents the investigation results by media
- Section 5.0 describes the Interim Remedial Measures
- Section 6.0 describes the fate and transport of the constituents of primary concern (COPCs)
- Section 7.0 presents the qualitative exposure assessment
- Section 8.0 evaluates remedial alternatives for the Site

- Section 9.0 presents the RI/IRM/AAR summary and conclusions
- Section 10.0 provides a list of references for this report

2.0 REMEDIAL INVESTIGATION APPROACH

The Remedial Investigation scope of work focused on further defining the nature and extent of contamination on the BCP Site and obtaining data of sufficient quantity and quality to perform the remedial alternatives evaluation in accordance with NYSDEC DER-10. Field activities included: excavation of test pits (TPs), advancement of soil borings; groundwater monitoring well installation; subsurface soil/fill sampling; groundwater sampling; and, collection of field and hydrogeologic data. The RI tasks were performed in accordance with the approved RI/IRM Work Plan (October 2018) and RI field activities were completed at the Site in December 2018.

Field team personnel collected environmental samples (i.e., subsurface soil/fill and groundwater) in accordance with the rationale and protocols described in the Sampling and Analysis Plan (SAP) of the Quality Assurance Project Plan (QAPP) (included in the RI/IRM Work Plan). Representative environmental samples were collected during the RI using dedicated sampling devices and were placed in pre-cleaned laboratory provided sample containers, cooled to 4°C in the field, and transported under chain-of-custody command to a NYSDOH Environmental Laboratory Accreditation Program (ELAP) certified analytical laboratory.

Samples for chemical analysis were analyzed in accordance with USEPA SW-846 methodologies to meet the definitive-level data requirements. A Category B deliverable package was provided for each sample delivery group to allow independent third-party data validation and provide defensible data. Analytical results were evaluated by a third-party data validation expert in accordance with provisions described in the QAPP. The investigation activities are described below. Table 2 summarizes the samples collected and analyzed during the RI and Figure 3 presents the previous investigation and RI sample locations. Appendix A contains photographs of field activities.

2.1 RI Soil/Fill Investigation

A soil/fill investigation was completed across the Site to supplement the previous environmental data and to further investigate contamination at the Site. The soil/fill investigation included the excavation of TPs and the advancement of soil borings across the Site. Figure 3 presents the RI sample locations. No surface or near-surface samples were collected as the Site is primarily covered by an existing parking lot and concrete walkways.

2.1.1 Subsurface Soil/Fill Investigation

The subsurface soil/fill investigation included the advancement of four (4) soil borings, identified as MW-1 through MW-4, and the excavation of twelve (12) test pits, identified as TP-1 through TP-12. Soil borings were completed between December 4-5th, 2018 and test pits were excavated between December 13-14th, 2018. It should be noted that additional test pit locations were excavated than planned in the Work Plan to define the extents of the contamination identified during the RI field activities.

Soil borings were advanced using direct-push drilling technique and continuous split spoon sampling to a depth of approximately 20 feet below ground surface (fbgs). Test pits were excavated to target depth of 12-15 fbgs; however unstable soil conditions below 10-12 fbgs limited depth due to surrounding soils caving in. Attempts to widen or extend the TPs did not allow for additional depth to be achieved. Test pits were backfilled after completion with excavated material in reverse order.

Retrieved soil/fill samples allowed for visual, olfactory, and photoionization detector (PID) assessment of subsurface conditions. Subsurface soil/fill samples were collected for laboratory analysis per the approved Work Plan (see Table 2). Test pit and soil boring logs are provided in Appendix B.

2.1.2 Subsurface Soil/Fill Sample Collection and Analyses

A total of (19) nineteen subsurface soil/fill samples were collected during the RI. Soil/fill samples were collected using dedicated stainless steel sampling tools and were placed in pre-cleaned laboratory provided sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to a NYSDOH Environmental Laboratory Accreditation Program (ELAP)-certified analytical laboratory.

Representative soil/fill samples were analyzed in accordance with the NYSDEC-approved work plan, for Target Compound List (TCL) plus Commissioner Policy (CP-51) volatile organic compounds (VOCs), VOC Tentatively Identified Compounds (TICs), TCL semi-volatile organic compounds (SVOCs), SVOC TICs, Target Analyte List (TAL) metals, polychlorinated biphenyls (PCBs), pesticides and herbicides selectively as detailed on Table 2.

All RI samples were collected and analyzed in accordance with USEPA SW-846 methodology with equivalent NYSDEC Category B deliverables to allow for independent third-party data usability assessment.

2.2 Groundwater Investigation

Benchmark-TurnKey personnel provided oversight for the installation of four (4) groundwater monitoring wells, identified as MW-1 through MW-4, to investigate on-Site groundwater flow direction and quality. Details of the well installation, well development, and groundwater sampling are provided below. Figure 4 presents the location of the monitoring well network.

2.2.1 RI Monitoring Well Installation

As described in the approved RI Work Plan, RI groundwater monitoring wells were installed after completion of soil boring advancement, with a drill rig capable of advancing hollow-stem augers to install the groundwater monitoring wells with target depths of 20 fbs. Monitoring wells were installed between December 4-5th, 2018. Well installation cuttings were containerized in 55-gallon drums, labeled and stored on-Site in accordance with the Investigation Derived Waste (IDW) section of the approved Work Plan.

Monitoring well construction details are presented in Appendix B. Location of the monitoring wells is presented on Figure 4.

2.2.2 Monitoring Well Development

After installation, the monitoring wells were developed on December 7th, 2018 in accordance with the approved work plan, Benchmark-TurnKey and NYSDEC protocols. Development of the monitoring wells was completed with polyethylene bailers via surge and purge methodology. Field parameters including pH, temperature, turbidity, dissolved oxygen and specific conductance were measured during development until they became relatively stable. Stability was defined as variation between measurements of approximately 10 percent or less with no overall upward or downward trend in the measurements; or a minimum of three well volumes. Monitoring well development waters were containerized in 55-gallon

drums, labeled and stored on-site in accordance with the Investigation Derived Waste section of the approved Work Plan.

2.2.3 Groundwater Sample Collection and Analyses

Groundwater samples were collected on December 10th, 2018 from the four (4) monitoring wells in accordance with the NYSDEC-approved RI/IRM Work Plan. Groundwater samples were collected by using low-flow sampling technique in accordance with the approved Work Plan. Field measurements for pH, specific conductance, temperature, turbidity, dissolved oxygen (DO), redox potential (ORP), and water levels, as well as visual and olfactory field observations, were periodically recorded and monitored for stabilization. All collected groundwater samples were placed in pre-cleaned, pre-preserved laboratory provided sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to a NYSDOH ELAP-certified analytical laboratory.

Groundwater samples were collected and analyzed for TCL plus CP-51 list VOCs, TCL SVOCs, TAL metals, PCBs, pesticides, herbicides, 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS) in accordance with the approved Work Plan and detailed on Table 2. All sampling was performed in accordance with USEPA SW-846 methodology with equivalent NYSDEC Category B deliverables to allow for independent third-party data usability assessment.

2.3 Field Specific Quality Assurance/Quality Control Sampling

In addition to the subsurface soil/fill and groundwater samples described above, field-specific QA/QC samples were collected and analyzed to ensure the reliability of the generated data as described in the QAPP and to support the required third-party data usability assessment effort. Site-specific QA/QC samples included matrix spikes, matrix spike duplicates, blind duplicates, equipment and trip/field blanks.

2.4 Site Mapping

A Site map was developed for the RI field investigation. Benchmark-TurnKey personnel used existing site features to identify the locations of the test pits and monitoring well locations. All elevations are feet relative to the north rim elevation 640.50 feet of the

storm MH located on the north east corner of Elmwood Avenue and Bryant Street, established by Carmina Wood Morris, D.P.C. (see Figure 4).

2.5 Decontamination & Investigation-Derived Waste Management

Every attempt was made to utilize dedicated sampling equipment during the RI, however, if non-dedicated equipment was required and/or used (e.g., spilt spoons) and was decontaminated with a non-phosphate detergent (i.e., Alconox®) and potable water mixture, rinsed with distilled water, and air-dried before each use in accordance with the field operating procedure (FOP).

Soil cuttings and development waters were containerized in 55-gallon drums, labeled and temporarily stored on-Site in accordance with the approved Work Plan.

3.0 SITE PHYSICAL CHARACTERISTICS

The physical characteristics of the Site observed during the RI are described in the following sections.

3.1 General Site Features and Site Topography

The Site consists of an approximate 0.24-acre portion of a larger parcel, located on the northeastern corner of Elmwood Avenue and Bryant Street in the City of Buffalo, Erie County, New York. The Site is bound by mixed use (restaurant/residential) to the north, a parking lot to the east (former Women's and Children's Hospital), and Elmwood Avenue to the west and Bryant Street to the south. The Site is generally flat lying with little distinguishing features beyond the parking lot and concrete retaining wall along the eastern boundary (see Figure 2).

3.2 Geology and Hydrogeology

3.2.1 Overburden

According to the U.S. Department of Agriculture (USDA) Web soil survey site soils are generally characterized as Urban Land-Galen complex (Up). This complex consists of nearly level land with at least 60 percent urban land that is covered by concrete, asphalt, buildings, or other impervious structures typical of an urban environment. The presence of overburden fill material is widespread and common throughout the City of Buffalo.

The geology at the Site was investigated during the RI and geotechnical assessment. The shallow overburden is generally described as fill with varying amounts of asphalt/subbase, brick, concrete, metal debris, ash, and wood ranging in depth from surface to 8 fbs. Underlying native soils were described as brown to dark grey fine to coarse sands with varying silt and clay present to depths of approximately 60 fbs in the geotechnical assessment.

RI borehole logs are provided in Appendix B, and the geotechnical report was previously provided in the Work Plan.

3.2.2 Bedrock

Based on the bedrock geologic map of Erie County, the Site is situated over Onondaga Limestone of the Middle Devonian Series. The Onondaga Limestone is a dark gray micro crystalline limestone containing large amounts of fossils and chert.

Based on the 2018 geotechnical report auger refusal was encountered at 59.8 fbgs and is assumed top of bedrock. A copy of the geotechnical report was provided in the Work Plan.

3.2.3 Hydrogeology

Based on the findings of the RI, perched overburden waters were encountered ranging from 4-8 fbgs, with monitoring well water levels ranging from 9-11 fbgs. The geotechnical report indicated free standing water levels ranging from 14 to 19 fbgs.

The Site hydrogeology is complicated by the presence of municipal subgrade utilities along Elmwood Avenue and Bryant Street, and significant historic development cycles upgradient (former hospital). In general, localized groundwater flow was estimated to flow south west. Figure 4 depicts the estimated groundwater isopotential map based on the water level measurements collected during the RI.

3.2.4 Hydraulic Gradients

Using well installation and water level measurements collected during the RI, the estimated hydraulic gradient was calculated to range from 0.0094 ft/ft (MW-1 to MW-3) to 0.0083 ft/ft (MW-2 to MW-3) to 0.12 ft/ft (MW-4 to MW-3). The RI data indicates a flat gradient across the majority of the Site, with the exception of the southern property boundary likely related to the presence of subgrade utilities along Bryant Street.

4.0 INVESTIGATION RESULTS BY MEDIA

The nature and extent of contamination at the Site was further characterized using soil/fill and groundwater samples collected and analyzed as part of the RI. As described above, samples collected during the Phase II investigations were used to supplement this RI.

Appendix C contains laboratory analytical data packages for samples analyzed from the RI. Analytical data discussed in this section includes results from the Phase II as well as the RI data collected by Benchmark-TurnKey personnel. Tabulated analytical results are shown only for those parameters for which a value greater than the method detection limit and was detected at a minimum of one (1) sample location.

Table 1 summarizes the previous investigation soil/fill sample analytical results and Table 2 summarizes the sampling and analytical program employed under RI. The subsurface soil/fill results are summarized on Table 3A and 3B and the groundwater sample results are summarized on Tables 4A, 4B, and 5.

4.1 Historic Soil/Fill Investigation Results

Five (5) soil/fill samples were collected as part of the previous investigation completed on-Site. Elevated PID readings were noted in four (4) of the five (5) SB locations. Product was identified on the cutting sleeve of SB-4. Table 1 summarizes the historic soil/fill analytical results with comparison to applicable 6NYCRR Part 375 Soil Cleanup Objectives (SCOs). Historic sample locations are identified on Figure 3.

Elevated VOCs (primarily petroleum related) were detected above their respective Unrestricted Use SCOs (USCOs), Restricted Residential Use SCOs (RRSCOs), Commercial Use SCOs (CSCOs), and Industrial Use SCOs (ISCOs) from samples collected at the Site.

4.2 RI Soil/Fill Investigation Results

Benchmark-Turnkey completed subsurface soil sampling across the Site to further assess on-Site subsurface conditions. Table 3 summarizes the RI subsurface soil/fill sample analytical results with comparison to applicable 6NYCRR Part 375 SCOs. Sample locations are shown on Figure 3. Boring and test pit logs are provided in Appendix B.

4.2.1 Qualitative Soil/Fill Screening Results

During the RI field activities, fill material was identified across the Site to varying depths, ranging from surface to approximately 4 fbgs. The shallow overburden fill is generally described as asphalt/subbase, brick, concrete, metal debris, ash, and wood with underlying native soils identified as brown to dark grey fine to coarse sands with varying silt and clay. Former building foundation was identified in TP-10.

Petroleum odors and elevated PID readings were detected in 15 of 16 RI investigation locations, with suspect product and/or sheen noted at nine (9) locations. Elevated PID readings and odors were highest between the 8-15 fbgs range, which corresponds to the on-Site water elevation. Highest PID readings were detected at TP-2 (3' – 1020 ppm; 8' – 1320 ppm; 14.5' – 1525 ppm), TP-6 (10' – 1203 ppm), TP-7 (6' – 100 ppm; 9' – 1051 ppm, 15' – 647 ppm) and TP-12 (6'-957 ppm). RI soil boring and test pit logs are provided in Appendix B.

4.2.2 Subsurface Soil/Fill Results

4.2.2.1 Volatile Organic Compounds

Elevated VOCs were detected above USCO, RRSCO, and CSCOs, respectively. 1,2,4-trimethylbenzene was detected exceeding CSCOs in TP-2 and TP-8, and xylene was detected exceeding its CSCO at TP-2. Additional petroleum related VOCs, including ethylbenzene and toluene were detected exceeding their USCO and RRSCO, selectively (see Table 3A).

4.2.2.2 Semi-Volatile Organic Compounds

No SVOCs were detected above USCOS, with the one minor exception of naphthalene at TP-1 (6.5'-11'). All SVOCs results were below Residential Use SCOs (see Table 3A).

4.2.2.3 Inorganic Compounds

No metals were detected above USCOS with the exception of lead at TP-3 (1-2.5') and TP-5 (1-2.5') in the shallow fill. All metals results were below RRSCOs.

4.2.2.4 Polychlorinated Biphenyls

No PCBs were detected above USCOs, with the vast majority of results being reported as non-detect by the laboratory.

4.2.2.5 Pesticides and Herbicides

No pesticides or herbicides were detected above USCOs, with the vast majority of results being reported as non-detect by the laboratory.

4.2.2.6 Tentatively Identified Compounds - Soil

VOC and SVOC tentatively identified compounds (TICs) were reported by the laboratory, and are primarily identified as petroleum-hydrocarbons as evidenced by the presence of alkane degradation compounds including propane-, hexane-, octane- and benzene- associated constituents (see Table 3B). The detected TICs are primarily located at RI sample locations also noted with elevated PID readings and soil concentrations, including TP-2 (1380 ppm total TICs) and TP-8 (780 ppm total TICs).

4.2.2.7 Subsurface Soil/Fill Summary

As described above, no SVOCs, PCBs, pesticides or herbicides were detected above USCOs. Lead was the only metal detected exceeding USCOs, with no metal detected above RSCOs.

Shallow fill material, including brick, concrete, metal debris, ash, and wood was identified in the upper 0-4 fbgs. The only elevated metals detections above USCOs were from the 1-2.5 fbgs range.

Elevated PID readings, odors, sheen, and product were identified in 15 of 16 investigation locations, with staining and/or product identified at nine (9) locations. Elevated PID readings were identified across the site, with multiple locations to depth of 13-15 fbgs. Elevated VOCs exceeding USCOs were detected in seven (7) of the twelve (12) sampled locations.

Analytical results for deeper native sands sampled during the RI ranging from 16-20 fbgs showed no elevated VOCs above USCOs.

4.3 Groundwater Investigation

Benchmark-TurnKey personnel provided oversight for the installation of four (4) RI groundwater monitoring wells, MW-1 through MW-4, to investigate on-Site groundwater quality and flow. Table 4A presents a comparison of the detected groundwater parameters to the applicable SCGs. Groundwater samples were collected in accordance with the work plan and analyzed in accordance with Table 2. Figure 6 presents the RI groundwater analytical results. Laboratory analytical data packages are provided in Appendix C.

4.3.1 Volatile Organic Compounds

Elevated VOCs were detected exceeding GWQS in on-Site groundwater. No elevated VOCs were detected in MW-1, with only minor exceedances of select constituents in MW-2 and MW-4. The majority of elevated VOC detection were in MW-3, including benzene, toluene, ethylbenzene and xylene (BTEX-compounds), 1,2,4- and 1,3,5 - trimethylbenzene. Trichloroethene was detected slightly exceeding its GWQS of 5 ug/L in MW-3 (5.5 ug/L).

4.3.2 Semi-volatile Organic Compounds

The vast majority of analytes were reported as non-detectable or trace (estimated) concentrations below the laboratory quantitation limit. Only naphthalene was detected exceeding its GWQS at MW-3.

4.3.3 Inorganic Compounds

Metals detected at concentrations above GWQS were limited to naturally occurring minerals, including iron, magnesium and sodium. No other metals were detected above GWQS.

4.3.4 Polychlorinated Biphenyls

No PCBs were detected above GWQS, with all results reported as non-detect by the laboratory.

4.3.5 Pesticides and Herbicides

No pesticides or herbicides were detected above GWQS.

4.3.6 Emergent Contaminants

Emergent contaminant sampling consisted of groundwater analysis for 1,4-dioxane (via EPA Method 8270 Selective Ion Monitoring (SIM)) and per- and polyfluoroalkyl substances (PFAS, via Method EPA 537) from one (1) upgradient groundwater location (MW-2) and one (1) downgradient groundwater location (MW-3). No elevated detections above NYSDEC emerging contaminants guidance values were reported (see Table 5).

4.3.7 Tentatively Identified Compounds - Groundwater

VOC and SVOC TICs were provided by the laboratory and identified as mainly petroleum-related hydrocarbons. Elevated TICs were primarily identified at sample locations that also had elevated petroleum-related VOCs, as noted above (see Table 4B), and correspond to soil sample locations with elevated TICs and PID readings, including MW-3 (2,900 ppm total TICs).

4.3.8 Groundwater Summary

As described above, no PCBs, pesticides, or herbicides were detected above their respective GWQS. Naphthalene was the only SVOC detected exceeding its GWQS at one location. Dissolved metals detected above GWQS are naturally occurring minerals. Emerging contaminant constituents were all detected below the Department's guidance values.

Elevated VOC concentrations above GWQS were detected primarily in MW-3, with minor exceedances in MW-2 and MW-4. No elevated concentrations were detected in MW-1. Petroleum-hydrocarbon related TICs were reported by the laboratory, with detections identified primarily at sample locations with elevated VOC detections.

4.4 RI Data Usability Summary

In accordance with the RI Work Plan, the laboratory analytical data from this investigation was assessed and, as required, submitted for independent review. Data

Validation Services located in North Creek, New York performed the data usability summary assessment, which involved a review of the summary form information and sample raw data, and a limited review of associated QC raw data. Specifically, the following items were reviewed:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Recoveries
- Field Duplicate Correlation
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental IDLs
- Calibration/CRI/CRA Standards
- ICP Interference Check Standards
- ICP Serial Dilution Correlations
- Sample Results Verification

The Data Usability Summary Report (DUSR) was conducted using guidance from the USEPA Region 2 validation Standard Operating Procedures, the USEPA National Functional Guidelines for Data Review, as well as professional judgment.

In summary, results are usable either as reported or with minor qualification. Additional qualifications of the data have been incorporated to the summary data tables. Appendix D includes the DUSR.

4.5 Constituents of Concern (COCs)

Based on the findings of the RI and previous investigations, and the planned redevelopment of the Site, the Constituents of Primary (COPCs) to be are presented below:

Soil/Fill: petroleum-related VOCs

Groundwater: petroleum-related VOCs

5.0 INTERIM REMEDIAL MEASURES

Interim Remedial Measures (IRMs) were completed on-Site in accordance with the approved RI-IRM Work Plan. Based on the findings of the RI, as described above, which indicated that petroleum contamination was identified across the entire Site, the area original proposed in the Work Plan was expanded to incorporate the additional identified contaminated areas, in consultation with the Department. The IRM excavation area removed petroleum contamination completely to the BCP boundaries.

Details of the completed IRM is presented below and will be fully documented in the Final Engineering Report (FER). Figures 5 and 6 present the extents of the excavation, field screening results, and post-excavation confirmatory sample locations.

5.1 Site Preparation Activities

In preparation of the Site for the IRM excavation activities, the following activities were completed in addition to contractor mobilization.

5.1.1 Site Security & Safety Fencing/Jersey Barriers

A chain link fence was installed around the perimeter for the Site for safety and security. Concrete jersey barriers were also installed along Elmwood Avenue to provide for pedestrian travel.

The installation of roadway and sidewalk obstructions were done under City of Buffalo permits (Permit Nos. SO 2019-1296 and UTIL-19-9486070). Copies of the permits will be provided in the Final Engineering Report.

5.1.2 Disposal Facility Applications and Approvals

Prior to the start of remedial excavation, disposal facility waste disposal documents were completed and submitted for facility review and approval. Disposal application packages included the required waste characterization sample to the disposal facilities. All waste characterization results were non-hazardous soils.

The two (2) disposal facilities used for the IRM remedial activities were Waste Managements (WM's) Chaffee landfill, located in Chaffee, New York; and, Tonawanda Terminals Biotreatment facility, located in Tonawanda New York.

Copies of the disposal facility applications, approvals and disposal manifests will be provided in the FER.

5.2 Property Boundary Shoring

Due to the unstable soils on-Site, and the presence of contamination to at least 15 fbg, shoring was installed at the property boundary along Elmwood Avenue and Bryant Street to protect offsite subgrade utilities and onsite safety for workers to be able to excavate contaminated soils to the required depths.

Shoring was installed by HF Darling, including installation of H-pile steel soldier timber lagging between the H-pile between August and October 2019. Shoring lagging was installed in 4-ft depth intervals due to concerns of unstable soils behind the shoring.

5.3 Recyclable Asphalt and Concrete

A total of 23 loads of recyclable concrete and asphalt from the parking lot, sidewalks, curbs and retaining wall were removed and loaded for offsite transportation by Serafini Construction, Inc. (9A-737). Recyclable materials were transported to NYSDEC registered recycling facilities – E&R General Construction, (15W61) located in Blasdel, New York; and, Michael Serafini, Inc. (15W59) located in Cheektowaga, New York. Copies of the recyclable material load tickets will be provided in the FER.

5.4 IRM Excavation Activities

Based on the findings of the RI described above, petroleum contamination was identified across the site ranging in depths from 2 to 15 fbg. The additional excavation beyond the area estimated to require remediation in the RI-IRM Work Plan was discussed and acknowledged by the Department.

Between Oct 10th and November 13th, 2019, 16,033 tons of petroleum impacted soil/fill was excavated and transported off-site by Serafini Construction, Inc (9A-737) for off-site disposal.

A total of 2,475 tons of petroleum impacted soil/fill was disposed at WM's Chaffee Landfill, located in Chaffee New York.

A total of 13,558 tons of petroleum impacted soil was disposed for treatment at Tonawanda Terminal Biotreatment facility located in Tonawanda New York. Copies of disposal manifests are provided in the FER.

The lateral extents of the excavation were completed to the BCP site boundaries and ranged in depth from 14-18 fbg (see Figure 5). A total of 31 end-point confirmatory samples were collected, including 16 sidewall samples, and 15 bottom samples (see Figure 6). Post excavation confirmatory bottom samples were all below USCOs (see Table 6).

5.5 Excavation Water Management

Based on the IRM excavation activities, waters encountered in the excavation were pumped into temporary holding tanks and pre-treated with bag filtration followed by granular activated carbon prior to approved discharge to the City of Buffalo sanitary sewers. A copy of the Buffalo Sewer Authority temporary discharge permit was provided to the Department. Copies of the temporary permit application and approval will be included in the FER.

Approximately 300,000 gallons were pre-treated and discharged from October 24th through November 13th, 2019 when excavation activities were complete.

Residual contents of the holding tanks were cleaned and disposed off-site by Environmental Services Group (9A-324) in association with Allied Industrial Services (9A-920) with tank cleaning residuals being transported and disposed at American Recyclers, Inc located in Tonawanda New York. Spent GAC was recovered by Carbon Activated, located in Blasdell New York. Copies of disposal documents are included in the FER.

5.6 Backfill

After the remedial excavation was complete by achieving USCOs, approximately 4,800 tons of NYSDEC pre-approved stone from virgin-source quarry, in accordance with DER-10 requirements, was used to backfill the site to redevelopment subgrade depths. Backfill documents will be provided in the FER.

6.0 FATE AND TRANSPORT OF COCS

The IRM excavation activities removed the impacted soil and achieved USCOs across the BCP Site. The findings of the RI and IRM post-excavation samples were used to evaluate the fate and transport of COCs in Site media. The mechanisms by which the COCs can migrate to other areas or media are briefly outlined below. In all instances, the potential pathways are evaluated in the context of post-IRM conditions.

6.1 Fugitive Dust Generation

Volatile and non-volatile chemicals present in soil can be released to ambient air as a result of fugitive dust generation.

As described above, petroleum impacted soil and fill was excavated and disposed off-site during the IRM activities and achieved USCOs. As the IRM excavation activities have completely removed the impacted soil/fill material from the Site, fugitive dust is not considered a pathway of concern for contaminant transport.

6.2 Volatilization

Volatile chemicals present in soil/fill and groundwater may be released to ambient or indoor air. Volatile chemicals typically have a low organic-carbon partition coefficient (K_{oc}), low molecular weight, and a high Henry's Law constant. Historic operations on-Site had impacted on-Site soil/fill and groundwater with VOCs. Grossly contaminated petroleum soils (GCPS) were identified on-Site during the RI.

The IRM activities removed the GCPS source material and achieved USCOs. Groundwater management during IRM activities removed impacted groundwater, and the collected waters were pretreated prior to approved discharge to the municipal sanitary sewer.

As the IRM completely removed the source of volatile chemicals on-Site, volatilization is not considered a migration pathway.

6.3 Surface Water Runoff

Pre-remedial conditions at the Site have very low potential for surface runoff, as the site is covered by parking lot.

During intrusive activities, the potential for surface runoff is low, as the surface parking lot would be removed, thereby having a lower elevation on-Site than the surrounding offsite elevation.

The IRM excavation has removed impacted soil from the Site and achieved USCO, with Site grades generally lower than the surrounding properties, and as such, surface water runoff is not considered a likely migration pathway.

6.4 Leaching

Leaching refers to chemicals present in soil/fill migrating downward to groundwater because of infiltration of precipitation. Prior to remedial activities, the Site was primarily covered by parking lot, limiting infiltration. Planned redevelopment will cover the entire site with impervious cover (building), limiting potential future infiltration.

The completed IRM activities removed impacted soils (source material) from the Site and achieved USCOs. Based on the RI samples of native soils and the IRM post-excavation sample results, no contaminants remain at the Site above USCOs; and, therefore leaching is not considered a migration pathway.

6.5 Groundwater Transport

Overburden groundwater underlying the Site flows in a southwesterly direction and likely influenced by the presence of subgrade utilities along the southern and western BCP boundaries. The IRM achieved USCOs and removed the source of groundwater impacts. Groundwater management during IRM activities removed impacted groundwater, during excavation and pretreating the collected waters prior to approved discharge to the municipal sanitary sewer.

Based on the complete removal of on-Site source material, groundwater transport is not considered a migration pathway.

6.6 Exposure Pathways

Based on the fate and transport analysis above, and the completed IRMs that achieved USCOs, there are no migration pathways remaining on-Site that could create an exposure scenario.

The achieved Unrestricted Use cleanup is fully protective of human health and the environment.

7.0 QUALITATIVE EXPOSURE ASSESSMENT

The completed IRM activities on the 441 Elmwood Avenue BCP Site have achieved Unrestricted Use SCOs, and as such have rendered the Site fully protective of human health and the environment.

7.1 Potential Off-Site Exposure

The Site is located in a highly developed area of the City of Buffalo. Soils in the vicinity of the Site are classified as Urban Lands, and are expected to be comprised of fill material overlying native soils, similar to that which was found on-Site. The Site is generally bound by Elmwood Avenue and Bryant Street (municipal streets), commercial use building, and asphalt covered parking.

The planned redevelopment will cover the site with hardscape (building, concrete sidewalks), consistent with surrounding property. Based on the results of the IRM, off-site migration is not considered a potential exposure pathway. Exposure to residual impacted off-site fill materials via direct contact would therefore be limited to pathways involving subsurface construction work (e.g. utility work). NYSDEC's Technical Support Document conservatively addressed this scenario in developing the Industrial SCOs, which assume an adult worker will have exposure to contaminated soil on two of five days per week during activities such as groundskeeping.

Based on the sidewall (offsite) post-excavation results, only one (1) sidewall sample location exhibited concentrations of constituents of concern above ISCOs (i.e., South Sidewall #3, 8-10' fbgs), which is adjacent to Bryant Street. Remaining sidewall sample results generally fall well below ISCOs. Moreover, utility worker exposure would be limited to focused repair/replacement events and would not be expected to occur as frequently as weekly, which is assumed under the industrial worker scenario. Accordingly, offsite concentrations are substantially protective under the construction or utility worker scenario.

Concerning groundwater, the IRM removed the on-Site source material, so leaching and off-site migration are not considered relevant, and any offsite downgradient concentrations would be expected to decrease naturally over time. Based on the depth to groundwater, human contact can be expected to be limited to only one receptor type: construction workers during deep (greater than 9-10 ft) intrusive activities. Furthermore,

within the City of Buffalo, connection to the municipal potable water is required, and groundwater use is not planned.

No off-site ecological exposure is considered relevant based on the surrounding urban surface cover.

8.0 REMEDIAL ALTERNATIVES ANALYSIS EVALUATION

This section provides an analysis of the potential remedial approach(s) by using the Remedy Selection Evaluation Criteria identified in Section 4.2 of Guidance Document DER-10: Technical Guidance for Site Investigation and Remediation. In accordance with DER-10 Section 4.4(d)2, in addition to a “no action” baseline alternative, the following alternatives are developed and assessed for each BCP Site based on NYSDEC-defined cleanup tracks as follows:

Track 1, 6 New York Codes, Rules and Regulations (6NYCRR) Part 375-3.8(e)(1) requires site media to meet Part 375 SCOs that will allow the site to be used for any purpose without restrictions on the use of the site (i.e., unrestricted use). The soil cleanup must achieve the unrestricted use criteria at any depth above bedrock. Details and evaluation of the Track 1 alternative are described below.

Track 2, 6NYCRR Part 375-3.8(e)(2) requires site media to meet Part 375 restricted use SCOs that are consistent with the end use. For the Site, the Track 2 cleanup must achieve the Restricted Residential Use SCOs to a depth of 15 fbgs. For Track 2 remedies, restrictions can be placed on the use of the property in the form of institutional and engineering controls, and future use and development will be completed in accordance with the environmental easement and site management plan. Details and evaluation of the of the Track 2 cleanup are described below.

Track 4, 6NYCRR Part 375-3.8(e)(4) soil cleanups uses site-specific information to identify site-specific SCOs (or SSALs) that are protective of public health and the environment under a restricted use scenario. For Track 4 remedies, restrictions can be placed on the use of the property in the form of institutional and engineering controls if they can be realistically implemented and maintained in a reliable and enforceable manner. As set forth in 6 NYCRR Part 375-3.8(e)(4)(iii)(a)(1), the top two (2) foot of all exposed surface soils, not otherwise covered by the components of the development of the site (e.g., buildings, pavement), shall not exceed the restricted use (Restricted Residential Use) SCOs. Areas that exceed these SCOs must be covered by material meeting the requirements of the generic soil cleanup table contained in Part 375-6.7(d) for the applicable future site uses (i.e., Restricted Residential).

8.1 Remedial Action Objectives

The final remedial measures for the 441 Elmwood Avenue Site must satisfy Remedial Action Objectives (RAOs). Remedial Action Objectives are site-specific statements that convey the goals for minimizing or eliminating substantial risks to public health and the environment. Appropriate RAOs for the Site, per DER-10s generic RAOs include:

8.1.1 Soil/Fill RAOs

- Prevent ingestion of and/or direct contact with contaminated soil/fill.
- Prevent migration of contaminants that would result in groundwater and/or surface water contamination.

8.1.2 Groundwater RAOs

- Remove the source of ground or surface water contamination
- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent ingestion of and/or direct contact with groundwater containing contaminant levels exceeding SCGs.

8.2 General Response Actions

General Response Actions (GRAs) are broad classes of actions that are developed to achieve the RAOs and form the foundation for the identification and screening of remedial technologies and alternatives.

8.2.1 Soil/Fill

The GRAs available to address the RAOs for soil/fill include:

- Institutional controls (e.g., Environmental Easement, Site Management Plan)
- Engineering controls (e.g., cover system)
- Treatment/Stabilization
- Excavation and off-site disposal or treatment

8.2.2 Groundwater

The GRAs available to address the RAOs for groundwater include:

- Monitored natural attenuation
- Treatment
- Engineering Controls
- Institutional Controls

8.3 Standards, Criteria, and Guidance

According to DER-10 Section 1.3(b)71, *SCGs mean “standards and criteria that are generally applicable, consistently applied, and officially promulgated, that are either directly applicable or not directly applicable but are relevant and appropriate, unless good cause exists why conformity should be dispensed with, and with consideration being given to guidance determined, after the exercise of scientific and engineering judgment, to be applicable. This term incorporates both the CERCLA concept of ‘applicable or relevant and appropriate requirements’ (ARARs) and the USEPA’s ‘to be considered’ (TBCs) category of non-enforceable criteria or guidance. For purposes of this Guidance, ‘soil SCGs’ means the soil cleanup objectives and supplemental soil cleanup objectives identified in 6NYCRR 375-6.8 and the Commissioner Policy on Soil Cleanup Guidance (CP-Soil).”*

Soil/Fill:

Soil Cleanup Objectives (SCOs) per 6 New York Code Rules and Regulation (6 NYCRR) Part 375 Environmental Remediation Programs, Subparts 375-12 to 375-4 & 375-6, effective December 14, 2006.

Groundwater

Class GA Groundwater Quality Standards and Guidance Values (GWQS/GVs) per NYSDEC’s Division of Water, Technical and Operational Guidance Series (TOGS 1.1.1), June 1998, amended April 2000.

8.4 Evaluation of Alternatives

In addition to achieving RAOs, NYSDEC’s Brownfield Cleanup Program calls for remedy evaluation in accordance with DER-10 Technical Guidance for Site Investigation and Remediation. Specifically, the guidance states “When proposing an appropriate remedy,

the person responsible for conducting the investigation and/or remediation should identify and develop a remedial action that is based on the following criteria...:"

- **Overall Protection of Public Health and the Environment.** This criterion is an evaluation of the remedy's ability to protect public health and the environment, assessing how risks posed through each existing or potential pathway of exposure are eliminated, reduced, or controlled through removal, treatment, engineering controls, or institutional controls.
- **Compliance with Standards, Criteria, and Guidance (SCGs).** Compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards, and guidance.
- **Long-Term Effectiveness and Permanence.** This criterion evaluates the long-term effectiveness of the remedy after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: (i) the magnitude of the remaining risks (i.e., will there be any significant threats, exposure pathways, or risks to the community and environment from the remaining wastes or treated residuals), (ii) the adequacy of the engineering and institutional controls intended to limit the risk, (iii) the reliability of these controls, and (iv) the ability of the remedy to continue to meet RAOs in the future.
- **Reduction of Toxicity, Mobility or Volume with Treatment.** This criterion evaluates the remedy's ability to reduce the toxicity, mobility, or volume of Site contamination. Preference is given to remedies that permanently and significantly reduce the toxicity, mobility, or volume of the wastes at the Site.
- **Short-Term Effectiveness.** Short-term effectiveness is an evaluation of the potential short-term adverse impacts and risks of the remedy upon the community, the workers, and the environment during construction and/or implementation. This includes a discussion of how the identified adverse impacts and health risks to the community or workers at the Site will be controlled, and the effectiveness of the controls. This criterion also includes a discussion of engineering controls that will be used to mitigate short term impacts (i.e., dust

control measures), and an estimate of the length of time needed to achieve the remedial objectives.

- **Implementation.** The implementation criterion evaluates the technical and administrative feasibility of implementing the remedy. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.
- **Cost.** Capital, operation, maintenance, and monitoring costs are estimated for the remedy and presented on a present worth basis.
- **Community Acceptance.** This criterion evaluates the public's comments, concerns, and overall perception of the remedy.

8.5 Future Land Use Evaluation

In developing and screening remedial alternatives, NYSDEC's Part 375 regulations require that the reasonableness of the anticipated future land be factored into the evaluation. The regulations identify 16 criteria that must be considered. These criteria and the resultant outcome for the Site are presented below.

1. Current use and historical and/or recent development patterns: The Site was historically used as a commercial gasoline and automotive service station in a highly developed urban mixed-use area of the City of Buffalo. The planned redevelopment includes the construction of a mixed-use residential/commercial space improved with residential units and commercial retail use on the ground floor. **Accordingly, planned redevelopment is consistent with the historical and/or recent development patterns (Buffalo Green Code) and was approved by the City of Buffalo.**
2. Applicable zoning laws and maps: The Site is located in an area of the City of Buffalo identified as a Neighborhood Center which is a mixed-use according to the Land Use Plan of the Buffalo Green Code. A Neighborhood Center is defined as mixed-use commercial areas at neighborhood scale and has zoning codes of N-2C, N-2E, N-3C or N-3E. The Site has a zoning code of N-3C. **Residential/commercial mixed use is consistent with current zoning (Buffalo Green Code).**

3. Brownfield opportunity areas as designated set forth in GML 970-r: The Brownfield Opportunity Area (BOA) Program provides municipalities and community-based organizations with assistance to complete revitalization plans and implementation strategies for areas or communities affected by the presence of brownfield sites, and site assessments for strategic sites. **The Site does not lie within a BOA.**
4. Applicable comprehensive community master plans, local waterfront revitalization plans as provided for in EL article 42, or any other applicable land use plan formally adopted by a municipality: The Site is within an area zoned N-3C, which is a mixed-use commercial residential area at neighborhood scale. **Redevelopment is consistent with the Buffalo Green Code and will not require rezoning or change in use.**
5. Proximity to real property currently used for residential use, and to urban, commercial, industrial, agricultural and recreational areas: Commercial and residential properties are located to the north, south, east and west surrounding the Site. **Nearby and adjacent properties are mixed use, including residential and commercial. The proposed redevelopment does not change the previous land use for the Site and is consistent with local zoning and development plans.**
6. Any written and oral comments submitted by members of the public on the proposed use as part of the activities performed pursuant to the citizen participation plan: **No comments have been received from the public to date pursuant to the citizen participation plan.**
7. Environmental justice concerns, which include the extent to which the proposed use may reasonably be expected to cause or increase a disproportionate burden on the community in which the site is located, including low-income minority communities, or to result in a disproportionate concentration of commercial or industrial uses in what has historically been a mixed use or residential community: **The Site does not fall within the boundaries of the NYSDEC designated potential environmental justice area for the City of Buffalo (north detail). Remediation of the Site under the BCP and redevelopment of the site for mixed commercial and residential use capacity does not pose environmental justice issues.**
8. Federal or State land use designations: There are no known federal or state land use designations. The Site was remediated in the BCP to an unrestricted use cleanup level. The property is designated by the City of Buffalo Green Code as mixed-use land use. **Redevelopment is consistent with the current land use designation.**
9. Population growth patterns and projections: The City of Buffalo, encompassing approximately 40.38 square miles, has a population of 256,902 (2016 estimate - US Census Bureau), a decrease of 1.7 percent from the 2010 census. **Redevelopment is**

consistent with the past use and would not have impact on residential capacity.

10. Accessibility to existing infrastructure: Access to the Site is from Hertel and Parkside Avenues. Utilities (sewer, water, electric, and gas) are present around the Site along Hertel and Parkside Avenues. **Existing infrastructure supports planned reuse.**
11. Proximity of the site to important cultural resources, including federal or State historic or heritage sites or Native American religious sites. Per the New York State Historical Preservation Office, there are two (2) historic districts located within 0.5 miles of the subject Site: North Park Historic District and Parkside Subdivision (East) Historic District. **The presence of these historical sites does not affect the future land use of the Site.**
12. Natural resources, including proximity of the site to important federal, State or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species: No State or Federal wetlands exist on the Site, nor is the Site located within a rare plant and/or animal habitat. The Site and adjacent properties are in a highly developed urbanized area that does provide a setting suitable for rare plant and/or animal habitats. **The absence of a suitable setting for ecological resources on or adjacent to the Site indicates that the remediated Site will not pose an ecological threat.**
13. Potential vulnerability of groundwater to contamination that might emanate from the site, including proximity to wellhead protection and groundwater recharge areas and other areas identified by the Department and the State's comprehensive groundwater remediation and protection program established set forth in ECL article 15 title 31: There are no groundwater supply well(s) present on the Site or noted in the vicinity of the Site. Regionally, groundwater has not been extracted for industrial, commercial, agriculture, or public supply purposes. Potable water service is provided by the local municipal water authority. The completed IRM removed all source material on-Site. **The absence of potable wells and wellhead protection, and cleanup to unrestricted use conditions precludes threats to drinking water.**
14. Proximity to flood plains: The Erie County Internet Mapping System indicates that the Scajaquada Creek is located approximately 1.4-miles southwest of the Site, which is a designated flood zone. No flood zones are present on the property, and therefore there is a low risk of erosion due to flooding. **The IRM achieved unrestricted use cleanup levels and redevelopment of the Site does not pose a threat to surface water.**

15. Geography and geology: The Site is located within the Lake Erie-Niagara River major drainage basin, which is typified by little topographic relief, except in the immediate vicinity of major drainage ways. According to the United States Department of Agriculture soil survey, Site soils are generally characterized as Urban Land (Uh) Churchville complex. This complex consists of nearly level areas of urban land and deep somewhat poorly drained Churchville soils, formed in clayey deposits underlain by glacial till. **The redevelopment plan is consistent with the geography and geology of the Site.**
16. Current institutional controls applicable to the site: **No institutional controls are currently present that would affect the proposed redevelopment.**

Based on the above analysis, planned reuse of the Site is consistent with past, current and contemplated development and zoning on and around the Site, and does not pose additional environmental or human health risk.

8.6 Comparison of Remedial Alternatives

In addition to the evaluation of the alternatives to remediate the Site to the likely end use, NYSDEC regulations and policy calls for evaluation of more restrictive end-use scenarios. These include an Unrestricted Use scenario (considered under 6NYCRR Part 375 to be representative of cleanup to pre-disposal conditions), and a scenario less restrictive than the reasonably anticipated future use. Per NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, evaluation of a “no action” alternative is also required to provide a baseline for comparison against other alternatives. The alternatives evaluated below in greater detail include:

- Alternative 1 - No Action;
- Alternative 2 – Unrestricted Use Cleanup (Track 1)

Based on the findings of the RI, specifically that petroleum contamination including elevated SCOs, PID readings, and field evidence of grossly contaminated petroleum soils (GCPS) were identified across the entire site to depths of 15 fbs. The BCP requires the removal of source material regardless of the cleanup track and future land use; therefore, the Track 4 Restricted Residential Use and Track 2 Residential Use would have required the same removal activities as evaluated in the Track 1 Unrestricted Cleanup alternative. It should be noted that during IRM excavation activities, petroleum impacts (elevated PID

readings above 50 ppm and odors) were identified at 15 fbgs in some instances and required additional excavation below the 15-foot depth requirement for Track 2 cleanups. The IRM excavation was completed to 18 fbgs in portions of the Site.

8.6.1 Alternative 1 - No Action

This alternative is being evaluated based on the results of the RI, prior to completion of the IRM, as the IRM removed the petroleum source material and achieved Unrestricted Use SCOs.

Overall Protection of Public Health and the Environment – This alternative does not reduce the risk or exposure for human health and the environment. The Site is contaminated with elevated petroleum VOCs in on-Site soil/fill and groundwater. Uncontrolled access to the Site could lead to potential exposure to impacted soil or if intrusive work were performed at the Site and workers are unaware or untrained regarding the contaminants. Accordingly, the no action alternative is not protective of public health and does not satisfy any of the RAOs.

Compliance with SCGs – The no action alternative would not make the Site compliant with SCGs. Based on the results of the RI, grossly contaminated petroleum soil/fill (GCPS) is present on-Site and groundwater contamination exceeds the applicable GWQS.

Long-Term Effectiveness and Permanence – Based on the findings of the RI, the no further action alternative involves no remediation, engineering or institutional controls, and provides no long-term effectiveness toward achieving the soil and/or groundwater RAOs.

Reduction of Toxicity, Mobility, or Volume with Treatment – The no action alternative does nothing to reduce toxicity, mobility, or volume of contamination beyond natural degradation/attenuation, and therefore this alternative is not protective of public health and does not satisfy any of the RAOs.

Short-Term Effectiveness – There would be no short-term effectiveness to the remedy, and contamination would remain on-Site. Adverse impacts and risks to the community, potential workers, or the environment would be attributable to implementation of the no action alternative.

Implementation – No technical or administrative implementation issues are associated with this alternative.

Cost – The capital cost of the no action alternative is \$0. There would be no capital or long-term operation, maintenance, or monitoring costs associated with the no action alternative.

Community Acceptance – Community acceptance will be evaluated based on comments received from the public in response to a Fact Sheets and other planned Citizen Participation activities. However, it is expected that recent development patterns in the vicinity of the Site would likely make this alternative not acceptable to the community.

8.6.2 Alternative 2 - Unrestricted Use Cleanup – Completed IRMs

An Unrestricted Use alternative necessitates remediation of all soil/fill where concentrations exceed the Unrestricted Use SCOs per 6NYCRR Part 375. For Unrestricted Use scenario, excavation and off-site disposal of impacted soil/fill is generally regarded as the most applicable remedial measure, because institutional controls cannot be used to supplement the remedy. As such, the Unrestricted Use alternative assumes that those areas on-Site which exceed Unrestricted Use SCOs, and exhibit GCPS, would be excavated and disposed at an off-Site commercial solid waste facility.

Based on the RI, exceedances of the USCOS, and presence of GCPS was detected to approximately 15-16 fbgs, however confirmatory sampling results and field observations ultimately determine the need for more or less excavation as the limits of the Site are reached.

On-Site groundwater impacts are attributable to the presence of GCPS. After removal of the petroleum source area, including proper handling and pre-treatment of

excavation waters, it is expected that no additional groundwater monitoring would be required.

Overall Protection of Public Health and the Environment – The IRMs removed the GCPS source material to the property boundary and achieved USCOs on-Site. The completed IRMs are fully protective of human health and the environment. Accordingly, the Unrestricted Use alternative satisfies the RAOs.

Compliance with SCGs – The IRM post-excavation samples achieved USCO and complies with applicable, relevant, and appropriate SCGs. Imported backfill material would need to meet backfill quality criteria per DER-10.

Long-Term Effectiveness and Permanence – The completed IRMs achieved USCOs, removed the GCPS source material from the Site, and removed and pre-treated impacted waters; therefore the completed IRMs do provide long-term and permanent effectiveness. The completed remedial actions are fully protective of public health and the environment and achieve the RAOs for the Site.

Reduction of Toxicity, Mobility, or Volume with Treatment – The IRM completed at the Site has reduced the toxicity, mobility and volume of contaminants. The IRMs were successful in achieving USCOs, and therefore this alternative is protective of public health and satisfies the RAOs.

Short-Term Effectiveness – The principal advantage of a large-scale excavation to achieve USCOs is reliability of effectiveness in the long-term. The short-term adverse impacts and risks to the community, workers, and environment during implementation of this alternative are manageable. Site workers would be required to wear personal protective equipment (PPE) during excavation to prevent direct contact with soil/fill. CAMP monitoring and dust control methods would be required to limit the release of particulates during intrusive activities, as needed.

This alternative does have adverse short-term impacts, however, the RAOs would be achieved once the soil/fill is removed from the Site and backfill soils are in place (estimated at approximately 4-5 weeks to achieve).

Implementation – Technical or administrative implementation issues are associated with this alternative, but are considered manageable.

Based on the RI and geotechnical results, that indicate unstable soils on-Site, shoring will be required along the property boundary with Elmwood Avenue and Bryant Street to protect off-site subgrade utilities and roadways, located within 5-10 feet of the property boundary, and to be protective of on-Site workers to achieve the required remedial depths (greater than 15 fbg). Significant soil benching into offsite property was required along the northern and eastern boundaries in order to achieve removal to the full BCP boundary.

Given the urban setting of the Site, the additional truck traffic would require efforts related to work hour scheduling, noise, odor control, traffic restrictions, truck staging areas, and increased work duration.

Cost – The capital cost of implementing the IRM was approximately \$1,500,000 (see Table 7). There would be no additional capital or long-term operation, maintenance, or monitoring costs associated with the Unrestricted Use alternative.

Community Acceptance – The RI/IRM Work Plan was made available for public review and comment from July 25, 2018 through September 8, 2018. No comments were received.

8.7 Recommended Remedial Measure

Based on the Alternatives Analysis evaluation, the completed IRMs achieved USCOs, satisfies the RAOs and is fully protective of human health and the environment.

9.0 RI/IRM/AAR SUMMARY AND CONCLUSIONS

Based on the data and analyses presented in the preceding sections, we offer the following summary and conclusions:

- Based on the RI subsurface soil/fill findings, grossly contaminated petroleum soils (GCPS) were identified across the Site to depths of at least 15 fbg, with elevated PID readings greater than 1,500 ppm. Elevated VOCs above CSCOs were detected at two (2) RI locations associated with the former pump islands.
- Based on the RI groundwater findings, elevated VOCs, primarily petroleum related constituents, were detected at 3 of 4 sample locations prior to IRM activities. No PCB, pesticide and/or herbicides were detected above their respective GWQS. One SVOC and certain naturally occurring metals (iron, magnesium, and sodium) were detected above their GWQS. Emerging contaminant results were all below the Department's guidelines.
- Completed IRMs have achieved 6NYCRR Part 375 Unrestricted Use cleanup requirements. The IRMs included: installation of shoring; excavation and offsite disposal of grossly contaminated petroleum soil/fill; collection and pre-treatment for approved discharge of excavation waters to the municipal sanitary sewer; collection of post-excavation confirmatory samples; and, backfilling with approved structural stone.
- Based on the Alternatives Analysis evaluation, the completed IRM achieved USCOs, satisfies the remedial action objectives, and is fully protective of human health and the environment. Accordingly, the completed IRM Unrestricted Use alternative is the recommended final remedy for the Site.

10.0 REFERENCES

1. New York State Department of Environmental Conservation. *DER-10; Technical Guidance for Site Investigation and Remediation*. May 2010.
2. New York State Department of Environmental Conservation. *Development of Soil Cleanup Objectives Technical Support Document*. Prepared by NYSDEC and NYSDOH. June 2006.
3. United States Department of Agriculture (USDA), Soil Conservation Service. *Soil Survey of Erie County, New York*. December 1986.
4. Benchmark Environmental Engineering and Science, PLLC and TurnKey Environmental Restoration, LLC. *Remedial Investigation/Interim Remedial Measures Work Plan. 441 Elmwood Avenue Buffalo New York*. Rev October 2018.
5. TurnKey Environmental Restoration, LLC. *Limited Phase II Environmental Investigation Report, 441 Elmwood Avenue, Buffalo New York*. March 2018.
6. Empire Geo Services, Inc. *Geotechnical Engineering Report for Proposed Retail and Apartment Building, Northeast Corner Elmwood Avenue and Bryant Street, Buffalo, New York*. January 2018.
7. City of Buffalo NY. Unified Development Ordinance (UDO) – Buffalo Green Code. January 2017.

TABLES

TABLE 1

SUMMARY OF PREVIOUS INVESTIGATION SOIL/FILL SAMPLE ANALYTICAL RESULTS
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ALTERNATIVES ANALYSIS REPORT

441 ELMWOOD AVENUE SITE

BCP SITE NO. C915334

BUFFALO, NEW YORK

PARAMETER ¹	Unrestricted Use SCOs ²	Restricted Residential Use SCOs ²	Commercial Use SCOs ²	Industrial Use SCOs ²	Sample Location (Depth - ft)				
					SB-2 (10-12)	SB-4 (1-2)	SB-4 (10-12)	SB-5 (0.25-1.5)	SB-5 (6-8)
					1/23/2018				
Volatile Organic Compounds (VOCs) - mg/Kg ³									
1,2,4-Trimethylbenzene	3.6	52	190	380	660 DL	--	260	--	360
1,3,5-Trimethylbenzene	8.4	52	190	380	180	--	81	--	110
Cyclohexane	--	--	--	--	120	--	ND	--	ND
Ethylbenzene	1	41	390	780	190 F2	--	79	--	33
Isopropylbenzene (Cumene)	--	--	--	--	27	--	8.2	--	10
Methylcyclohexane	--	--	--	--	200 F2	--	44	--	15
Methylene chloride	0.05	100	500	1000	ND	--	4 J, B	--	2.2 J, B
n-Butylbenzene	12	100	500	1000	63	--	29	--	44
n-Propylbenzene	3.9	100	500	1000	110 F2	--	38	--	46
p-Isopropyltoluene	--	--	--	--	5.7 J, F1, F2	--	ND	--	ND
sec-Butylbenzene	11	100	500	1000	12	--	5 J	--	7.4
Toluene	0.7	100	500	1000	ND	--	30	--	ND
Trichloroethene	0.47	21	200	1000	13	--	3 J	--	ND
Total Xylenes	0.26	100	500	1000	280 F2	--	480	--	250
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg ³									
Benzo(a)anthracene	1	1	5.6	11	--	ND	--	0.2 J	--
Benzo(b)fluoranthene	1	1	5.6	11	--	ND	--	0.31 J	--
Benzo(ghi)perylene	100	100	500	1000	--	0.032 J	--	0.33 J	--
Fluoranthene	100	100	500	1000	--	0.026 J	--	0.41 J	--
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	11	--	0.037 J	--	0.37 J	--
Naphthalene	12	100	500	1000	--	0.53	--	0.82 J	--
Phenanthrene	100	100	500	1000	--	0.029 J	--	0.43 J	--
Pyrene	100	100	500	1000	--	ND	--	0.27 J	--
Metals - mg/Kg									
Arsenic	13	16	16	16	--	ND	--	3.2	--
Barium	350	400	400	10000	--	26	--	19.2	--
Cadmium	2.5	4.3	9.3	60	--	ND	--	0.24	--
Chromium	30	180	1500	6800	--	6.7	--	5	--
Lead	63	400	1000	3900	--	29.5	--	57.8	--
Mercury	0.18	0.81	2.8	5.7	--	ND	--	0.051	--

Notes:

- Only those parameters detected at a minimum of one sample location are presented in this table; other compounds were reported as non-detect.
- Values per NYSDEC Part 375 Restricted Soil Cleanup Objectives (SCOs).
- Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs.

Definitions:

ND = Parameter not detected above laboratory detection limit.
 "--" = No value available for the parameter; Parameter not analysed for.
 J = Estimated value; result is less than the sample quantitation limit but greater than zero.
 F1 = MS and/or MSD recovery is outside acceptance limits
 F2 = MS/MSD RPD exceeds control limits
 B = Compound was found in the blank and sample.

Bold	= Result exceeds Unrestricted Use SCOs.
Bold	= Result exceeds Restricted Residential Use SCOs.
Bold	= Result exceeds Commercial Use SCOs.
Bold	= Result exceeds Industrial use SCOs.



TABLE 2A

SUMMARY OF REMEDIAL INVESTIGATION SAMPLING & ANALYTICAL PROGRAM
 REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES ALTERNATIVES/ ANALYSIS REPORT

441 ELMWOOD AVENUE SITE
 BCP SITE NO. C915334
 BUFFALO, NEW YORK



Date Sampled	Remedial Investigation Location	Sample Interval (feet)	Project Phase	Full List VOCs ¹	VOC TICs	CP-51 SVOCs	TCL SVOCs	SVOC TICs	RCRA Metals	TAL Metals	TCL PCBs	TCL Pesticides	TCL Herbicides	PFAS and 1,4-dioxane	Notes
Subsurface Soil/Fill															
1/23/2018	SB-2	10-12	Limited Phase II	X											
1/23/2018	SB-4	1-2	Limited Phase II			X			X						
		10-12	Limited Phase II	X											
1/23/2018	SB-5	0.25-1.5	Limited Phase II			X			X						
		6-8	Limited Phase II	X											
12/4/2018	MW-1	16-18	Remedial Investigation				X	X		X					
		16-18	Remedial Investigation	X	X										
12/5/2018	MW-2	16-20	Remedial Investigation				X	X		X	X	X	X		
12/6/2018	MW-3	18-20	Remedial Investigation	X	X		X	X		X					
12/4/2018	MW-4	16-18	Remedial Investigation	X	X		X	X		X					
12/13/2018	TP-1	2.5-6.5	Remedial Investigation	X	X		X	X		X					
		6.5-11	Remedial Investigation				X	X		X	X				
12/13/2018	TP-2	2.5-8	Remedial Investigation	X	X		X	X		X	X	X	X		BLIND DUP
12/13/2018	TP-3	1-2.5	Remedial Investigation				X	X		X	X				
		2.5-5.5	Remedial Investigation				X	X		X					
12/13/2018	TP-4	7-11	Remedial Investigation	X	X		X	X		X	X				
12/15/2018	TP-5	1-2.5	Remedial Investigation				X	X		X	X				
12/15/2018		5-13	Remedial Investigation	X	X										
12/13/2018	TP-6	9-11	Remedial Investigation	X	X		X	X		X	X	X	X		MS/MSD
12/15/2018		1-3	Remedial Investigation				X	X		X	X				
12/15/2018	TP-7	5-9.5	Remedial Investigation	X	X										
12/13/2018	TP-8	7-9.3	Remedial Investigation	X	X		X	X		X	X				
12/15/2018	TP-10	6-10.5	Remedial Investigation	X	X										
12/15/2018	TP-12	5.5-8	Remedial Investigation	X	X		X	X							
Groundwater															
12/10/2018	MW-1	NA	Remedial Investigation	X	X		X	X		X	X	X	X		BLIND DUP
12/10/2018	MW-2	NA	Remedial Investigation	X	X		X	X		X	X	X	X	X	MS/MSD
12/10/2018	MW-3	NA	Remedial Investigation	X	X		X	X		X	X	X	X	X	EB ² , TB ³ , FB ⁴
12/10/2018	MW-4	NA	Remedial Investigation	X	X		X	X		X	X	X	X		

Notes:

1. Full List VOCs = TCL plus CP-51 List VOCs via Method 8260
2. One EB using analyte free water (provided by the lab) was submitted with RI groundwater samples and analyzed for full list VOCs (+TICS), TCL SVOCs (+TICs), TAL Metals, TCL PCBs, TCL Herbicides, & TCL Pesticides.
3. One TB (provided by the lab) was submitted with RI groundwater samples and analyzed for full list VOCs (+TICS).
4. One FB using deionized/PFAS free water (provided by the lab) was submitted with RI groundwater samples and analyzed for PFAS via EPA Method 537.

Acronyms

VOCs = Volatile Organic Compounds
 TIC = Tentatively Identified Compound
 CP-51 = Commissioner Policy-51
 TCL = Target Compound List
 SVOCs = Semi-Volatile Organic Compounds
 RCRA = Resource Conservation and Recovery Act
 TAL = Target Analyte List
 PCBs = Polychlorinated Biphenyls
 PFAS = per- and polyfluoroalkyl substances
 MS/MSD = Matrix Spike/Matrix Spike Duplicate
 MW = Monitoring Well
 TP = Test Pit
 NA = Not Applicable
 EB = Equipment Blank
 TB = Trip Blank
 FB = Field Blank
 RI = Remedial Investigation



TABLE 2B

**SUMMARY OF INTERIM REMEDIAL MEASURE SAMPLING & ANALYTICAL PROGRAM
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES ALTERNATIVES/ ANALYSIS REPORT
441 ELMWOOD AVENUE SITE**



BCP SITE NO. C915334

BUFFALO, NEW YORK

Date Sampled	Interim Remedial Measure Location	Sample Depth/Interval (feet)	Project Phase	TCL plus CP-51 List VOCs	TCL plus CP-51 List SVOCs	Notes
POST-EXCAVATION SOIL/FILL						
11/1/2019	BOTTOM #1	18	Interim Remedial Measure	X	X	
10/28/2019	BOTTOM #2	16	Interim Remedial Measure	X	X	
11/1/2019	BOTTOM #3	17	Interim Remedial Measure	X	X	
10/28/2019	BOTTOM #4	14	Interim Remedial Measure	X	X	
10/28/2019	BOTTOM #5	14	Interim Remedial Measure	X	X	
10/28/2019	BOTTOM #6	14	Interim Remedial Measure	X	X	
10/28/2019	BOTTOM #7	14	Interim Remedial Measure	X	X	
10/29/2019	BOTTOM #8	14	Interim Remedial Measure	X	X	
10/29/2019	BOTTOM #9	14	Interim Remedial Measure	X	X	
10/31/2019	BOTTOM #10	16	Interim Remedial Measure	X	X	
10/31/2019	BOTTOM #11	16	Interim Remedial Measure	X	X	
10/31/2019	BOTTOM #12	16	Interim Remedial Measure	X	X	
11/7/2019	BOTTOM #13	16	Interim Remedial Measure	X	X	
11/8/2019	BOTTOM #14	17	Interim Remedial Measure	X	X	
11/11/2019	BOTTOM #15	17	Interim Remedial Measure	X	X	
10/23/2019	NORTH SIDEWALL #1	10-12	Interim Remedial Measure	X	X	
10/11/2019	NORTH SIDEWALL #2	10-11	Interim Remedial Measure	X	X	BLIND DUP #1
10/28/2019	NORTH SIDEWALL #3	11-13	Interim Remedial Measure	X	X	
10/10/2019	NORTH SIDEWALL #4	11-13	Interim Remedial Measure	X	X	
10/21/2019	SOUTH SIDEWALL #1	8-10	Interim Remedial Measure	X	X	
11/4/2019	SOUTH SIDEWALL #2	9-11	Interim Remedial Measure	X	X	
11/5/2019	SOUTH SIDEWALL #3	8-10	Interim Remedial Measure	X	X	
11/5/2019	SOUTH SIDEWALL #4	8-10	Interim Remedial Measure	X	X	
11/6/2019	EAST SIDEWALL #1	11-13	Interim Remedial Measure	X	X	BLIND DUP #2
11/6/2019	EAST SIDEWALL #2	10-12	Interim Remedial Measure	X	X	MS/MSD
11/13/2019	EAST SIDEWALL #3	11-13	Interim Remedial Measure	X	X	
11/13/2019	EAST SIDEWALL #4	10-12	Interim Remedial Measure	X	X	
10/21/2019	WEST SIDEWALL #1	7-9	Interim Remedial Measure	X	X	MS/MSD
10/21/2019	WEST SIDEWALL #2	7-9	Interim Remedial Measure	X	X	
10/21/2019	WEST SIDEWALL #3	6-8	Interim Remedial Measure	X	X	
10/21/2019	WEST SIDEWALL #4	7-9	Interim Remedial Measure	X	X	

Acronyms

VOCs = Volatile Organic Compounds
 CP-51 = Commissioner Policy-51
 TCL = Target Compound List
 SVOCs = Semi-Volatile Organic Compounds
 MS/MSD = Matrix Spike/Matrix Spike Duplicate

TABLE 3A

SUMMARY OF SUBSURFACE SOIL/FILL SAMPLE ANALYTICAL RESULTS
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT

441 ELMWOOD AVENUE SITE

BCP SITE NO. C915334

BUFFALO, NEW YORK

PARAMETER ¹	Unrestricted Use SCOs ²	Restricted Residential Use SCOs ²	Commercial Use SCOs ²	Remedial Investigation Sample Location (Depth - ft)																			
				MW-1 (16-18)	MW-2 (16-18)	MW-2 (16-20)	MW-3 (18-20)	MW-4 (16-18)	TP-1 (2.5-6.5)	TP-1 (6.5-11)	TP-2 (2.5-8.0)	TP-3 (1-2.5)	TP-3 (2.5-5.5)	TP-4 (7-11)	TP-5 (1-2.5)	TP-5 (5-13)	TP-6 (9-11)	TP-7 (1-3)	TP-7 (5-9.5)	TP-8 (7-9.3)	TP-10 (6-10.5)	TP-12 (5.5-8)	
				12/4/2018	12/5/2018		12/6/2018	12/4/2018	12/13/2018					12/15/2018		12/13/2018	12/15/2018		12/13/2018	12/15/2018			
Volatile Organic Compounds (VOCs) - mg/Kg ³																							
1,1,1-Trichloroethane	0.68	100	500	--	0.0019	--	ND	ND	ND	--	ND	--	--	ND	--	ND	ND	--	ND	ND	ND	ND	
1,2,4-Trimethylbenzene	3.6	52	190	--	ND	--	0.012	ND	0.0017 J	--	450	--	--	150	--	18	120 J	--	15	330	0.12 J	16	
1,3,5-Trimethylbenzene	8.4	52	190	--	ND	--	0.0036	ND	0.00064 J	--	140	--	--	45	--	5.2	37	--	4.3	97	0.034 J	5.2	
Acetone	0.05	100	500	--	ND	--	0.02	ND	0.021	--	ND	--	--	ND	--	ND	ND	--	ND	ND	ND	ND	
Benzene	0.06	4.8	44	--	ND	--	0.0011	ND	ND	--	ND	--	--	ND	--	ND	ND	--	ND	ND	ND	0.034 J	
Chloroform	0.37	49	350	--	0.00019 J	--	ND	ND	ND	--	ND	--	--	ND	--	0.021 J	ND	--	ND	ND	ND	ND	
Cyclohexane	--	--	--	--	--	--	0.0048 J	ND	ND	--	11 J	--	--	11	--	0.93 J	33	--	5.5	46	ND	0.87 J	
Ethylbenzene	1	41	390	--	ND	--	0.0043	ND	ND	--	46	--	--	10	--	3.9	34	--	4.6	46	ND	1.1	
Isopropylbenzene (Cumene)	--	--	--	--	ND	--	0.00058 J	ND	ND	--	11	--	--	1.4	--	0.49	3.5	--	0.41	8	ND	0.18	
Methylcyclohexane	--	--	--	--	ND	--	0.0061	ND	ND	--	35	--	--	32	--	ND	48	--	6.8	85	ND	2.5	
Naphthalene	12	100	500	--	ND	--	0.0016 J	ND	ND	--	ND	--	--	ND	--	ND	ND	--	ND	ND	ND	ND	
n-Butylbenzene	12	100	500	--	ND	--	0.0011 J	ND	ND	--	22	--	--	4.6	--	1	6.9	--	0.62	16	0.021 J	0.53	
n-Propylbenzene	3.9	100	500	--	ND	--	0.0016	ND	ND	--	43	--	--	7.1	--	2.2	17	--	1.9	39	ND	0.8	
p-Isopropyltoluene	--	--	--	--	ND	--	ND	ND	ND	--	5	--	--	1.2	--	0.24	1.1	--	0.1	2.6	0.013 J	0.13	
sec-Butylbenzene	11	100	500	--	ND	--	0.0011 J	ND	ND	--	8	--	--	1.7	--	0.33	2.1	--	0.21	5	0.016 J	0.2	
Toluene	0.7	100	500	--	ND	--	0.0096	ND	ND	--	17	--	--	1.9	--	0.2	4.2	--	0.27	ND	ND	0.08 J	
Total Xylenes	0.26	100	500	--	ND	--	0.0254	ND	ND	--	540	--	--	166	--	23.2	167	--	24.6	285	ND	10	
Total TICs	--	--	--	--	0.00343 J	--	0.0839 J	ND	0.00488 J	--	1380 J	--	--	319 J	--	70.6 J	328 J	--	64.8 J	780 J	6.76 J	54.9 J	
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg ³																							
2-Methylnaphthalene	--	--	--	ND	--	ND	ND	ND	ND	17	8.8 DJ	ND	ND	ND	ND	--	13 D	ND	--	16	--	3.2	
Acenaphthene	20	100	500	ND	--	ND	ND	ND	ND	0.1 J	0.033 J	ND	ND	ND	ND	--	ND	ND	--	0.056 J	--	0.019 J	
Benzo(a)anthracene	1	1	5.6	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.03 J	--	ND	0.071 J	--	0.032 J	--	ND	
Benzo(a)pyrene	1	1	1	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	0.11 J	--	ND	--	ND	
Benzo(b)fluoranthene	1	1	5.6	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.038 J	--	ND	0.13	--	0.036 J	--	ND	
Benzo(ghi)perylene	100	100	500	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.029 J	--	ND	0.096 J	--	ND	--	ND	
Benzo(k)fluoranthene	0.8	3.9	56	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	0.044 J	--	ND	--	ND	
Biphenyl	--	--	--	ND	--	ND	ND	ND	ND	0.41 J	0.18 J	ND	ND	ND	0.12 J	ND	--	0.21 J	ND	--	0.27 J	0.054	
Chrysene	1	3.9	56	ND	--	ND	ND	ND	ND	0.1 J	ND	ND	ND	ND	0.023 J	0.031 J	--	ND	0.074 J	--	0.034 J	ND	
Dibenzo(a,h)anthracene	0.33	0.33	0.56	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	0.025 J	--	ND	--	ND	
Fluoranthene	100	100	500	ND	--	ND	ND	ND	ND	ND	0.02 J	ND	ND	ND	0.039 J	--	ND	0.1 J	--	0.09 J	--	0.041 J	
Fluorene	30	100	500	ND	--	ND	ND	ND	ND	0.36 J	0.055 J	ND	ND	ND	0.083 J	ND	--	0.039 J	ND	--	0.077 J	0.019 J	
Indeno(1,2,3-cd)pyrene	0.5	0.5	5.6	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.028 J	--	ND	0.1 J	--	ND	--	ND	
Naphthalene	12	100	500	ND	--	ND	ND	ND	ND	13	6.4 J	ND	ND	3.5	ND	--	11 D	0.034 J	--	12	--	2.1	
Phenanthrene	100	100	500	ND	--	ND	ND	ND	ND	0.94	0.068 J	0.056 J	ND	0.22	0.053 J	--	0.041 J	0.058 J	--	0.14	--	0.046 J	
Pyrene	100	100	500	ND	--	ND	ND	ND	ND	ND	0.022 J	ND	ND	ND	0.035 J	--	ND	0.093 J	--	0.076 J	--	0.037	
Total TICs	--	--	--	ND	--	ND	ND	ND	ND	481 J	231 J	0.17 J	0.406 J	88.7 J	0.175 J	--	211 J	ND	--	271 J	--	45.3 J	
Metals - mg/Kg																							
Aluminum	--	--	--	7880	--	1650	1620	3460	1970	1,820	2,100	34,060	2450	1,900	4160	--	1920	4190	--	2240	--	--	
Antimony	--	--	--	ND	--	ND	0.342 J	ND	0.38 J	ND	ND	0.475 J	0.472 J	ND	0.403 J	--	ND	0.428 J	--	ND	--	--	
Arsenic	13	16	16	1.48	--	1.31	1.05	1.67	1.46	0.923	1.78	2.46	1.48	0.94	4.51	--	0.95	5.25	--	1.04	--	--	
Barium	350	400	400	44.7	--	11.7	12	34.8	12.6	7.8	11.4	26.8	14.4	8.17	33.6	--	11.1	23.7	--	13.9	--	--	
Beryllium	7.2	72	590	0.305 J	--	0.038 J	0.081 J	0.095 J	0.095 J	ND	ND	0.085 J	0.112 J	ND	0.188 J	--	ND	0.209 J	--	ND	--	--	
Cadmium	2.5	4.3	9.3	0.379 J	--	0.325 J	0.3 J	0.31 J	0.216 J	ND	ND	0.275 J	ND	ND	0.242 J	--	ND	0.182 J	--	ND	--	--	
Calcium	--	--	--	69500	--	56400	43900	66600	46100	61,200	60300 J	28,100	53000	60,300	41200	--	58700	21800	--	61900	--	--	
Chromium	30	180	1500	12.2	--	4.22	3.53	6.82	3.75	3.45	3.74	6.08	4.17	3.31	6.45	--	3.61	5.75	--	3.82	--	--	
Cobalt	--	--	--	6.86	--	2.25	1.62	3.29	2.11	1.89	2.19	3.13	2.53	2.28	3.37	--	2.01	3.03	--	2.21	--	--	
Copper	50	270	270	14.2	--	6.12	5.93	8.26	7.15	7.7	7.43	13.1	8.98	6.96	18	--	7.28	13.2	--	7.66	--	--	
Iron	--	--	--	15200	--	6350	5520	8740	5520	5,530	6,540	8,510	6020	5,670	8360 J-	--	6140	8660	--	6210	--	--	
Lead	63	400	1000	9.56	--	9.13	8.16	9.49	9.32	15	29.6 J	358	9.33	16.9	99.6 J	--	12.3	43.6	--	23.3	--	--	
Magnesium	--	--	--	21200	--	22600	19700	24400	21600	22,700	21,900	19,500	25100	23,600	14400 J-	--	22800	4910	--	21700	--	--	
Manganese	1600	2000	10000	363	--	209	186	269	216	203	210	276	220	200	232 J-	--	222	184	--	228	--	--	
Mercury	0.18	0.81	2.8	ND	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	ND	0.052 J	--	ND	--	--	
Nickel	30	310	310	14.9	--	3.01	3.28	6.52	3.85	2.96	3.65	6.16	4.89	3.05	6.83	--	3.17	5.96	--	4.03	--	--	
Potassium	--	--	--	1410	--	321	367	752	361	328	331	516	456	352	488	--	317	319	--	323	--	--	
Selenium	3.9	180	1500	0.296 J	--	0.335 J	0.185 J	0.284 J	ND	0.246 J	0.291 J	0.543 J	ND	0.272 J	ND	--	0.24 J	ND	--	0.425 J	--	--	
Sodium	--	--	--	401	--	422	489	334	330	430	177	500	353	497	555	--	506	185	--	318	--	--	
Vanadium	--	--	--	17.4	--	10	8.74	11.9	8.16	8.41	8.73	12.6	8.58	7.46	12.8	--	8.43	11.8	--	8.76	--	--	
Zinc	109	10000	10000	59.7	--	76.3	57.9	61.6	53.8	63	58.3	78.5	68.2	54.6	103 J	--	62.1	72.7	--	77.2	--	--	
Polychlorinated biphenyls (PCBs) - mg/Kg ³																							
Aroclor 1254	--	--	--	--	--	ND	--	--															

Notes:

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TABLE 3B

SUMMARY OF SUBSURFACE SOIL/FILL TICs ANALYTICAL RESULTS

REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT

441 ELMWOOD AVENUE SITE

BCP SITE NO. C915334

BUFFALO, NEW YORK

PARAMETER ¹	Remedial Investigation Sample Location (Depth - ft)																				
	MW-1 (16-18)	MW-2 (16-18)	MW-2 (16-20)	MW-3 (18-20)	MW-4 (16-18)	TP-1 (2.5-6.5)	TP-1 (6.5-11)	TP-2 (2.5-8.0) ³	TP-3 (1-2.5)	TP-3 (2.5-5.5)	TP-4 (7-11)	TP-5 (1-2.5)	TP-5 (5-13)	TP-6 (9-11)	TP-7 (1-3)	TP-7 (5-9.5)	TP-8 (7-9.3)	TP-9 (1-8)	TP-10 (6-10.5)	TP-11 (10-11)	TP-12 (5.5-8)
	12/4/2018		12/5/2018		12/6/2018	12/4/2018			12/13/2018				12/15/2018		12/13/2018		12/15/2018		12/13/2018		12/15/2018
VOC Tentatively Identified Compounds (TICs) - mg/Kg ²																					
Benzene, (1-methyl-1-butenyl)-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.576 NJ	--	--
Heptane	--	--	--	--	--	--	--	--	--	--	--	--	--	--	39.2 NJ	--	5.54 NJ	71.5 NJ	--	--	--
Heptane, 3-methyl-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	29.1 NJ	--	4.06 NJ	101 NJ	--	--	3.13 NJ
Hexane, 3-methyl-	--	--	--	--	0.00562 NJ	--	--	--	--	--	--	--	--	--	30.5 NJ	--	4.85 NJ	63.8 NJ	--	--	--
n-Hexane	--	--	--	--	0.00786 NJ	--	--	--	--	--	--	--	--	--	--	--	5.94 NJ	--	--	--	--
Nonane (C9)	--	--	--	--	--	--	--	88.6 NJ	--	--	--	--	--	--	--	--	--	--	--	--	--
Octane	--	--	--	--	--	--	--	91.5 NJ	--	--	--	--	--	--	29 NJ	--	3.31 NJ	75.4 NJ	--	--	--
Pentane	--	--	--	--	0.0152 NJ	--	--	--	--	--	--	--	--	--	--	--	3.78 NJ	--	--	--	--
Pentane, 2-methyl-	--	--	--	--	0.015 NJ	--	--	--	--	--	--	--	--	--	30 NJ	--	7.88 NJ	--	--	--	--
Pentane, 2,3-dimethyl-	--	--	--	--	0.00792 NJ	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pentane, 2,3,4-trimethyl-	--	--	--	--	--	--	--	--	--	--	--	--	6.85 NJ	--	--	--	--	--	--	--	--
Unknown Alkane (sum)	--	0.00343 J	--	--	0.00816 J	--	--	238.2 J	--	--	25.4 J	--	29.12 J	--	--	--	--	--	0.774 J	--	2.26 J
Unknown Alkene (sum)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.56 J
Unknown Aromatic (sum)	--	--	--	--	--	--	--	413 J	--	--	51.2 J	--	14.65 J	69.4 J	--	--	143 J	--	1.983 J	--	19.06 J
Unknown Benzene (sum)	--	--	--	--	--	--	--	551 J	--	--	180 J	--	19.97 J	100.3 J	--	--	16.26 J	325.2 J	--	1.478 J	17.84 J
Unknown (sum)	--	--	--	--	0.02415 J	--	0.00488 J	--	--	--	62.2 J	--	--	--	--	--	13.13 J	--	--	1.951 J	10.02 J
Total TICs	--	0.00343 J	--	--	0.0839 J	ND	0.00488 J	--	--	--	319 J	--	70.6 J	328 J	--	--	64.8 J	780 J	--	6.76 J	54.9 J
SVOC Tentatively Identified Compounds (TICs) - mg/Kg ²																					
Benzene, Propyl-	--	--	--	--	--	--	--	6.9 NJ	--	--	--	--	--	10.1 NJ	--	--	--	14.4 NJ	--	--	1.33 NJ
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--	--	--	12.6 NJ	--	--	--	12.4 NJ	--	--	--
Indane	--	--	--	--	--	--	--	16.6 NJ	9.61 NJ	--	3.54 NJ	--	--	9.11 NJ	--	--	--	11.3 NJ	--	--	1.72 NJ
Unknown Alkane (sum)	--	--	--	--	--	--	--	24.9 J	16.5 J	--	3.66 J	--	--	6.88 J	--	--	--	8.12 J	--	--	--
Unknown Amide (sum)	--	--	--	--	--	--	--	--	--	0.222 J	--	--	--	--	--	--	--	--	--	--	--
Unknown Benzene (sum)	--	--	--	--	--	--	--	337.4 J	163.59 J	--	68.77 J	--	--	155.06 J	--	--	--	187.82 J	--	--	33.47 J
Unknown (sum)	--	--	--	--	--	--	--	102.5 J	34.7 J	0.17 J	0.184 J	12.73 J	0.175 J	--	17.16 J	--	--	37.19 J	--	--	8.82 J
Total TICs	ND	--	ND	ND	ND	ND	--	481 J	231 J	0.17 J	0.406 J	88.7 J	0.175 J	--	211 J	ND	--	271 J	--	--	45.3 J

- Notes:
- Only those parameters detected at a minimum of one sample location are presented in this table; other compounds were reported as non-detect.
 - Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs.
 - Blind Duplicate taken at sample location TP-2 (2.5-8.0).

Definitions:

ND = Not detected at the Method Detection Limit (MDL) for the sample, or Estimated Detection Limit (EDL) for SPME-related analyses.

"--" = No value available for the parameter. Or parameter not analysed for.

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).

NJ = Presumptive evidence of compound. This represents an estimated concentration for TICs, where the identification is based on mass spectral library search.

TABLE 4A

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT

441 ELMWOOD AVENUE SITE

BCP SITE NO. C915334

BUFFALO, NEW YORK

Parameters ¹	Class GA GWQS ²	12/10/18			
		MW-1	MW-2	MW-3	MW-4
Volatile Organic Compounds (VOCs) - ug/L					
1,1,1-Trichloroethane	5	ND	7.3	ND	ND
1,1-Dichloroethene	5	ND	0.22 J	ND	ND
1,2,4-Trimethylbenzene	5	ND	ND	2000 D	6.9
1,3,5-Trimethylbenzene	5	ND	ND	550	32
Acetone	50	8.9	4.1 J	ND	3.4 J
Benzene	1	0.4 J	0.38 J	210	0.2 J
Bromodichloromethane	50	0.6	ND	ND	0.44 J
Chloroform	7	3.4	1.9 J	ND	1.6 J
Cyclohexane	--	0.37 J	1 J	630	4.8 J
Dibromochloromethane	50	0.17 J	ND	ND	ND
Ethylbenzene	5	ND	ND	1600	ND
Isopropylbenzene (Cumene)	5	ND	ND	59	ND
Methylcyclohexane	--	ND J	1.2 J-	240 J-	13 J-
n-Butylbenzene	5	ND	ND	14 J	ND
n-Propylbenzene	5	ND	ND	210	1.4 J
Toluene	5	ND	0.77 J	4100 D	ND
Trichloroethene	5	ND	0.27 J	5.5	ND
Total Xylenes	5	ND	ND	6400 D	ND
VOC TICs	--	3.8	14 J	2900 J	105 J
Semi-Volatile Organic Compounds (SVOCs) - ug/L					
2,4-Dimethylphenol	50	ND	ND	8.1	ND
2-Methylnaphthalene	--	ND	ND	120 D	ND
3-Methylphenol/4-Methylphenol	--	ND	ND	9.6	ND
Acenaphthene	20	0.23	0.04 J	0.3	ND
Acenaphthylene	--	ND	ND	0.1 J	ND
Anthracene	50	0.02 J	0.03 J	0.03 J	ND
Biphenyl	5	ND	ND	1.8 J	ND
Bis(2-ethylhexyl) phthalate	5	ND	ND	1.6 J	ND
Caprolactam	--	ND	ND	ND	ND
Fluoranthene	50	0.06 J	0.1	0.05 J	ND
Fluorene	50	0.19	0.05 J	0.22	ND
Naphthalene	10	ND	0.06 J	310 D	0.06 J
Phenanthrene	50	0.17	0.27	0.23	ND
Pyrene	50	0.05 J	0.07 J	0.04 J	ND
Total PAHs	--	0.72 J	0.62 J	310.97 J	0.06 J
SVOC TICs	--	--	13 J	357 J	104 J
Total Metals - mg/L					
Aluminum	--	1.01	0.098 J	0.396	0.049 J
Antimony	0.003	0.019 J	ND	ND	ND
Arsenic	0.025	0.006	ND	0.007	0.003 J
Barium	1	0.037	0.116	0.453	0.192
Calcium	--	57.4	188	197	184
Chromium	0.05	0.003 J	ND	ND	ND
Cobalt	--	0.002 J	0.002 J	ND	0.002 J
Copper	0.2	0.009 J	0.004 J	0.005 J	0.004 J
Iron	0.3	1.76	0.248	3.45	0.104
Lead	0.025	0.006 J	ND	0.023	ND
Magnesium	35	14.3	60.6	82.2	56.1
Manganese	0.5	0.073	0.17	0.374	0.125
Nickel	0.1	0.003 J	0.007 J	ND	0.003 J
Potassium	--	4.75	18.4	15.4	10.9
Sodium	20	356	874 J	1100	1190
Thallium	--	ND	ND	ND	0.003 J
Vanadium	--	0.005 J	ND	ND	ND
Zinc	2	0.048 J	0.008 J	0.023 J	0.023 J
Polychlorinated biphenyls- ug/L					
Total PCBs	0.09	ND	ND	ND	ND
Pesticides and Herbicides - ug/L					
4,4'-DDT	0.2	ND	ND	ND	ND
Heptachlor epoxide	--	ND	ND IP	ND	ND
trans-Chlordane	--	ND	ND	ND	ND
Total Pesticides and Herbicides	--	ND	ND	ND	ND

Notes:

- Only those parameters detected at a min. of one sample location are presented; all other compounds were reported as non-detect.
- Regulatory limits are NYSDEC Class "GA" Groundwater Quality Standards (GWQS).

Definitions:

TICs = tentatively identified compounds

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

J- = The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.

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

ND = Parameter not detected above laboratory detection limit.

P = The relative percent difference (RPD) between the results for the two columns exceeds the method-specific criteria.

-- = No SCO for parameter.

Bold = Result exceeds GWQS.

TABLE 4B

SUMMARY OF GROUNDWATER TICs ANALYTICAL RESULTS
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT
441 ELMWOOD AVENUE SITE
BCP SITE NO. C915334
BUFFALO, NEW YORK

Parameters ¹							
	MW-1	BLIND DUP	MW-2	MW-3	MW-4	EQUIPMENT BLANK	TRIP BLANK
	12/10/18						
VOC Tentatively Identified Compounds (TICs) - ug/L							
Butane, 2-Methyl-	--	--	--	502 NJ	--	--	--
Cyclopentane	--	--	--	454 NJ	--	--	--
Cyclopentane, Methyl-	--	--	--	358 NJ	--	--	--
n-Hexane	--	--	--	125 NJ	--	--	--
Pentane	--	--	1.1 NJ	465 NJ	--	--	--
Pentane, 2-methyl-	--	--	--	--	6.23 NJ	--	--
Sulfur Dioxide	--	--	--	--	--	--	1.37 NJ
Unknown Alkane (sum)	--	--	3.11 J	483 J	--	--	--
Unknown Alkene (sum)	2.6 J	2.38 J	6.13 J	135 J	--	--	--
Unknown Aromatic (sum)	--	1.03 J	--	--	27.65 J	--	--
Unknown Benzene (sum)	--	1.12 J	--	--	71.5 J	--	--
Unknown (sum)	1.2 J	1.16 J	3.64 J	380 J	--	--	--
Total TICs	3.8 J	5.69 J	14 J	2900 J	105 J	--	1.37 J
SVOC Tentatively Identified Compounds (TICs) - ug/L							
Aldol Condensates	--	--	--	--	--	--	--
Benzene, Propyl-	--	--	--	4.94 NJ	--	--	--
Butyl Citrate	--	--	4.69 NJ	--	--	--	--
Ethylbenzene	--	--	--	28.8 NJ	--	--	--
Naphthalene, 1-methyl-	--	--	--	4 NJ	--	--	--
Naphthalene, 2-methyl-	--	--	--	5.6 NJ	--	--	--
Tetrachloroethene	--	--	4.33 NJ	--	--	--	--
Toluene	--	--	--	46 NJ	--	--	--
Tributyl acetylcitrate	--	--	3.85 NJ	--	--	--	--
Unknown Alkene (sum)	--	1.96 J	--	--	--	--	--
Unknown Benzene (sum)	--	--	--	114.6 J	70.71 J	--	--
Unknown Indene (sum)	--	--	--	--	4.22 J	--	--
Unknown Organic Acid (sum)	--	--	--	--	15.82 J	6.79 J	--
Unknown (sum)	--	2.29 J	--	173.4 J	16.11 J	--	--
Total TICs	--	4 J	13 J	357 J	104 J	14 J	--

Notes:

- Only those parameters detected at a minimum of one sample location are presented in this table; other compounds were reported as non-detect.
- Blind Duplicate taken at sample location MW-1.

Definitions:

ND = Not detected at the Method Detection Limit (MDL) for the sample, or Estimated Detection Limit (EDL) for SPME-related analyses.

"--" = No value available for the parameter. Or parameter not analysed for.

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.

NJ = Presumptive evidence of compound. This represents an estimated concentration for TICs, where the identification is based on mass spectral library search.

TABLE 5

SUMMARY OF EMERGING CONTAMINANT GROUNDWATER ANALYTICAL RESULTS
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT
441 ELMWOOD AVENUE SITE
BCP SITE NO. C915334
BUFFALO, NEW YORK

Parameters ¹	Class GA GWQS ²	MONITORING WELL		
		MW-2	MW-3	FIELD BLANK
		12/12/18		
Semivolatile Organic Compounds (Method 8270D SIM ID) - ng/L				
1,4-Dioxane	350	ND	ND	--
Perfluorinated Alkyl Acids by Method 537 - ng/L ^{3,4}				
Perfluorobutanoic acid (PFBA)	--	18.9	12.4	ND
Perfluoropentanoic acid (PFPeA)	--	40.8	14.5	ND
Perfluorobutanesulfonic acid (PFBS)	--	4.1	4.23	ND
Perfluorohexanoic acid (PFHxA)	--	22.4	10.5	ND
Perfluoroheptanoic acid (PFHpA)	--	9	5.38	ND
Perfluorohexanesulfonic acid (PFHxS)	--	1.73 J	2.03	ND
Perfluorooctanoic acid (PFOA)	--	8.5	9.34	ND
Perfluorononanoic acid (PFNA)	--	ND	0.758 J	ND
Perfluorooctanesulfonic acid (PFOS)	--	ND	5.99	ND
N-Methyl Perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	--	ND	ND	0.619 J
N-Ethyl Perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	--	ND	ND	0.692 J
Perfluorododecanoic Acid (PFDoA)	--	ND	ND	ND
Perfluorotridecanoic Acid (PFTrDA)	--	ND	ND	ND
Perfluorotetradecanoic acid (PFTA)	--	ND	ND	ND
Total PFOA + PFOS	70	8.5	15.330	ND
Total PFAS	500	105.43	65.13	1.31

Notes:

- Only those parameters detected at a min. of one sample location are presented; all other compounds were reported as non-detect.
- Regulatory limits are NYSDEC Class "GA" Groundwater Quality Standards (GWQS).
- Sample results were reported by the laboratory in ng/L and converted to ug/L for comparisons to guidance values.
- Emerging Contaminant Action Levels per the NYSDEC.

Definitions:

SIM = selective ion method

ng/L = nanograms per liter; parts per trillion

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

ND = Parameter not detected above laboratory detection limit.

"--" = Parameter not analyzed.

TABLE 6A

SUMMARY OF IRM POST-EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS
 REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT
 441 ELMWOOD AVENUE SITE
 BCP SITE NO. C915334
 BUFFALO, NEW YORK

PARAMETER ¹	Unrestricted Use SCOs ²	BOTTOM SAMPLE LOCATION (DEPTH IN FEET)														
		BOTTOM #1	BOTTOM #2	BOTTOM #3 R	BOTTOM #4	BOTTOM #5	BOTTOM #6	BOTTOM #7	BOTTOM #8	BOTTOM #9	BOTTOM #10	BOTTOM #11	BOTTOM #12	BOTTOM #13	BOTTOM #14	BOTTOM #15
		(18.0') ⁴	(16.0')	(17.0')	(14.0')	(14.0')	(14.0')	(14.0')	(14.0')	(14.0')	(16.0')	(16.0')	(16.0')	(16.0')	(17.0')	(17.0')
		11/1/2019	10/28/2019	11/1/2019		10/28/2019		10/29/2019		10/31/2019		10/31/2019		11/7/2019	11/8/2019	11/11/2019
Volatile Organic Compounds (VOCs) - mg/kg³																
1,1,1-Trichloroethane	0.68	ND	ND	ND	ND	ND	0.0004 J R	0.0032	ND	0.00093	0.00055 J	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.27	ND	ND	0.00023 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	3.6	0.057	0.04	0.00084 J	0.14	0.13	ND	ND	ND	ND	ND	0.089	ND	0.0081	ND	ND
1,2-Dichloroethane (EDC)	0.02	0.0014	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	8.4	ND	0.00024 J	ND	0.094	0.042	ND	ND	ND	0.00032 J	ND	0.002 J	ND	0.0013 J	ND	ND
Benzene	0.06	0.04	0.0014	0.0053	ND	ND	ND	ND	ND	ND	0.0002 J	ND	ND	0.0017	ND	ND
Bromomethane (Methyl bromide)	--	0.00073 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.37	0.00019 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00025 J	ND	ND	ND	ND
Cyclohexane	--	0.003 J	0.001 J	0.0095 J	0.0023 J	0.0025 J	ND	ND	ND	ND	ND	0.0066 J	ND	0.015	ND	ND
Ethylbenzene	1	0.025	0.079	0.025	ND	0.0037	ND	ND	ND	ND	0.00088 J	ND	ND	0.029	ND	ND
Isopropylbenzene (Cumene)	--	0.0022	0.0027	0.001	0.0006 J	0.0012	ND	ND	ND	ND	0.0028	ND	ND	0.007	ND	ND
Methylcyclohexane	--	0.0026 J	0.00092 J	0.0026 J	0.01	0.0071	ND	ND	ND	ND	0.0077	ND	0.0042 J	ND	ND	ND
n-Butylbenzene	12	0.00092 J	0.00081 J	ND	0.0026	0.0046	ND	ND	ND	ND	0.0023	ND	0.0026	ND	ND	ND
n-Propylbenzene	3.9	0.0076	0.012	0.0021	0.00066 J	0.0048	ND	ND	ND	ND	0.013	ND	0.023	ND	ND	ND
p-Isopropyltoluene	--	0.0002 J	0.00038 J	ND	0.0033	0.0015	ND	ND	ND	ND	0.00036 J	ND	0.0005 J	ND	ND	ND
sec-Butylbenzene	11	0.00057 J	0.00067 J	0.00036 J	0.0023	0.0038	ND	ND	ND	ND	0.001 J	ND	0.0013	ND	ND	ND
Toluene	0.7	0.00077 J	ND	0.003	ND	0.0017	ND	ND	ND	ND	ND	ND	ND	0.0023	ND	ND
Total Xylenes	0.26	0.0572	0.00456 J	0.00771 J	0.119	0.079	ND	ND	ND	ND	0.0099	ND	0.0106	ND	ND	ND
Semi-Volatile Organic Compounds (SVOCs) - mg/kg³																
2-Methylnaphthalene	--	ND	ND	ND	ND	0.027 J	ND	ND	ND	ND	ND	0.064 J	0.081 J	0.024 J	ND	ND
Benzo(a)anthracene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.044 J	ND	ND	ND	ND	ND
Bis(2-ethylhexyl) phthalate	--	ND	ND	0.11 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.036 J	ND	ND	ND	ND	ND
Fluoranthene	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.092 J	ND	ND	ND	ND	ND
Naphthalene	12	0.12 J	ND	0.027 J	ND	ND	ND	ND	ND	ND	0.028 J	0.035 J	ND	ND	ND	ND
Phenanthrene	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11 J	ND	ND	ND	ND	ND
Pyrene	100	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.083 J	ND	ND	ND	ND	ND

Notes:

- Only those parameters detected at a minimum of one sample location are presented in this table; other compounds were reported as non-detected.
- Values per NYSDEC Part 375 Restricted Soil Cleanup Objectives (SCOs).
- Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs.
- Bottom #1 - all SVOC analytical results achieved USCOCs at sample depth 17.0 feet and all VOC analytical results achieved USCOCs at sample depth 18.0 feet.

Definitions:

ND = Not detected at the Method Detection Limit (MDL) for the sample, or Estimated Detection Limit (EDL) for SPME-related analyses.

-- = No value available for the parameter. Or parameter not analysed for.

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).

Bold = Result exceeds Unrestricted Use SCOs.

TABLE 6B

SUMMARY OF IRM POST-EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES/ ALTERNATIVES ANALYSIS REPORT

441 ELMWOOD AVENUE SITE

BCP SITE NO. C915334

BUFFALO, NEW YORK

PARAMETER ¹	Unrestricted Use SCOs ²	Industrial Use SCOs ²	SIDEWALL SAMPLE LOCATION (DEPTH IN FEET)															
			NORTH SIDEWALL #1 (10-12)	NORTH SIDEWALL #2 (10-11)	NORTH SIDEWALL #3 (11-13)	NORTH SIDEWALL #4 (11-13)	SOUTH SIDEWALL #1 (8-10)	SOUTH SIDEWALL #2 (9-11)	SOUTH SIDEWALL #3 (8-10)	SOUTH SIDEWALL #4 (8-10)	EAST SIDEWALL #1 (11-13)	EAST SIDEWALL #2 (10-12)	EAST SIDEWALL #3 (11-13)	EAST SIDEWALL #4 (10-12)	WEST SIDEWALL #1 (7-9)	WEST SIDEWALL #2 (7-9)	WEST SIDEWALL #3 (6-8)	WEST SIDEWALL #4 (7-9)
			10/23/2019	10/11/2019	10/28/2019	10/10/2019	10/21/2019	11/4/2019	11/5/2019	11/5/2019	11/6/2019	11/6/2019	11/13/2019	11/13/2019	10/21/2019			
Volatile Organic Compounds (VOCs) - mg/Kg ³																		
1,2,4-Trimethylbenzene	3.6	380	ND	ND	ND	ND	1.9	10	1600	3.5	ND	ND	ND	ND	120 D	0.00055 J	21 D	ND
1,3,5-Trimethylbenzene	8.4	380	ND	ND	ND	ND	0.52	3.1	560	0.13	ND	ND	ND	0.0054	34 D	ND	6.6 D	ND
Acetone	0.05	1000	ND	ND	ND	ND	ND	5.4	ND	0.85	ND	ND	ND	ND	ND	ND	ND	0.0066 J
Benzene	0.06	88	ND	ND	ND	ND	ND	0.21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroform	0.37	700	ND	ND	ND	ND	ND	ND	ND	ND	0.00015 J	ND	ND	ND	ND	0.0002 J	ND	0.00015 J
Cyclohexane	--	--	ND	ND	ND	ND	0.061 J	0.32 J	160	4	ND	ND	ND	ND	9.7 D	ND	0.76 DJ	ND
Ethylbenzene	1	780	ND	ND	ND	ND	0.15	1.8	13	ND	ND	ND	ND	ND	15 D	0.00057 J	2.9 D	ND
Isopropylbenzene (Cumene)	--	--	ND	ND	ND	ND	0.048 J	0.23	5.8 J	0.16	ND	ND	ND	ND	2.5 D	ND	0.74 D	ND
Methyl acetate	--	--	ND	0.014	ND	ND	ND	27 D	10 J	10	ND	ND	ND	ND	ND	ND	ND	ND
Methylcyclohexane	--	--	ND	ND	ND	ND	0.072 J	0.56	380	9.9	ND	ND	ND	ND	21 D	ND	2.5 D	ND
n-Butylbenzene	12	1000	ND	ND	ND	ND	0.15	0.58	23	1.4	ND	ND	ND	ND	6.4 D	ND	1.4 D	ND
n-Propylbenzene	3.9	1000	ND	ND	ND	ND	0.23	1.3	17	0.68	ND	ND	ND	ND	13 D	ND	2.8 D	ND
p-Isopropyltoluene	--	--	ND	ND	ND	ND	0.024 J	0.084	13	0.18	ND	ND	ND	0.00013 J	1 D	ND	0.52 D	ND
sec-Butylbenzene	11	1000	ND	ND	ND	ND	0.05 J	0.16	15	0.36	ND	ND	ND	ND	2 D	ND	0.5 D	ND
Toluene	0.7	1000	ND	ND	ND	ND	ND	2	6.4	ND	ND	ND	ND	ND	3.6 D	ND	ND	ND
Total Xylenes	0.26	1000	ND	ND	ND	ND	1.05	11.9	1330	0.196 J	ND	ND	ND	0.013	93 D	0.00275 J	17.12 D	ND
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg ³																		
1,2,4,5-Tetrachlorobenzene	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.042 DJ	ND
2-Chloronaphthalene	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.049 DJ	ND
2-Methylnaphthalene	--	--	ND	ND	ND	ND	ND	15	22 D	9.6	ND	ND	ND	ND	17 D	ND	0.93 D	ND
4-Chlorophenyl phenyl ether	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032 DJ	ND
Acenaphthene	20	1000	ND	ND	ND	ND	ND	0.046 J	0.088 J	0.05 J	ND	ND	ND	ND	ND	ND	ND	ND
Biphenyl	7	--	ND	ND	ND	ND	ND	0.25 J	0.26 J	0.19 J	ND	ND	ND	ND	0.31 DJ	ND	0.055 DJ	ND
Dibenzofuran	--	1000	ND	ND	ND	ND	ND	ND	0.05 J	0.025 J	ND	ND	ND	ND	ND	ND	0.027 DJ	ND
Fluoranthene	100	1000	ND	0.025 J	ND	ND	ND	ND	0.024 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	30	1000	ND	ND	ND	ND	ND	0.062 J	0.085 J	0.05 J	ND	ND	ND	ND	ND	ND	ND	ND
Hexachlorobenzene	0.33	12	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.038 DJ	ND
Naphthalene	12	1000	ND	ND	ND	ND	ND	10	12 D	1.4	ND	ND	ND	ND	10 D	ND	1.7 D	ND
Phenanthrene	100	1000	ND	0.023 J	ND	ND	ND	0.067 J	0.1 J	0.076 J	ND	ND	ND	ND	ND	ND	0.036 DJ	ND
Pyrene	100	1000	ND	0.023 J	ND	ND	ND	0.02 J	0.034 J	0.027 J	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

- Only those parameters detected at a minimum of one sample location are presented in this table; other compounds were reported as non-detected.
- Values per NYSDEC Part 375 Restricted Soil Cleanup Objectives (SCOs).
- Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs.

Definitions:

ND = Not detected at the Method Detection Limit (MDL) for the sample, or Estimated Detection Limit (EDL) for SPME-related analyses.

-- = No value available for the parameter. Or parameter not analysed for.

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).

D = Compounds were identified in an analysis at the secondary dilution factor.

Bold	= Result exceeds Unrestricted Use SCOs.
Bold	= Result exceeds Industrial use SCOs.

TABLE 7

**COST ESTIMATE FOR UNRESTRICTED USE (TRACK 1) ALTERNATIVE
REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES / ALTERNATIVES ANALYSIS REPORT**

441 ELMWOOD AVENUE SITE

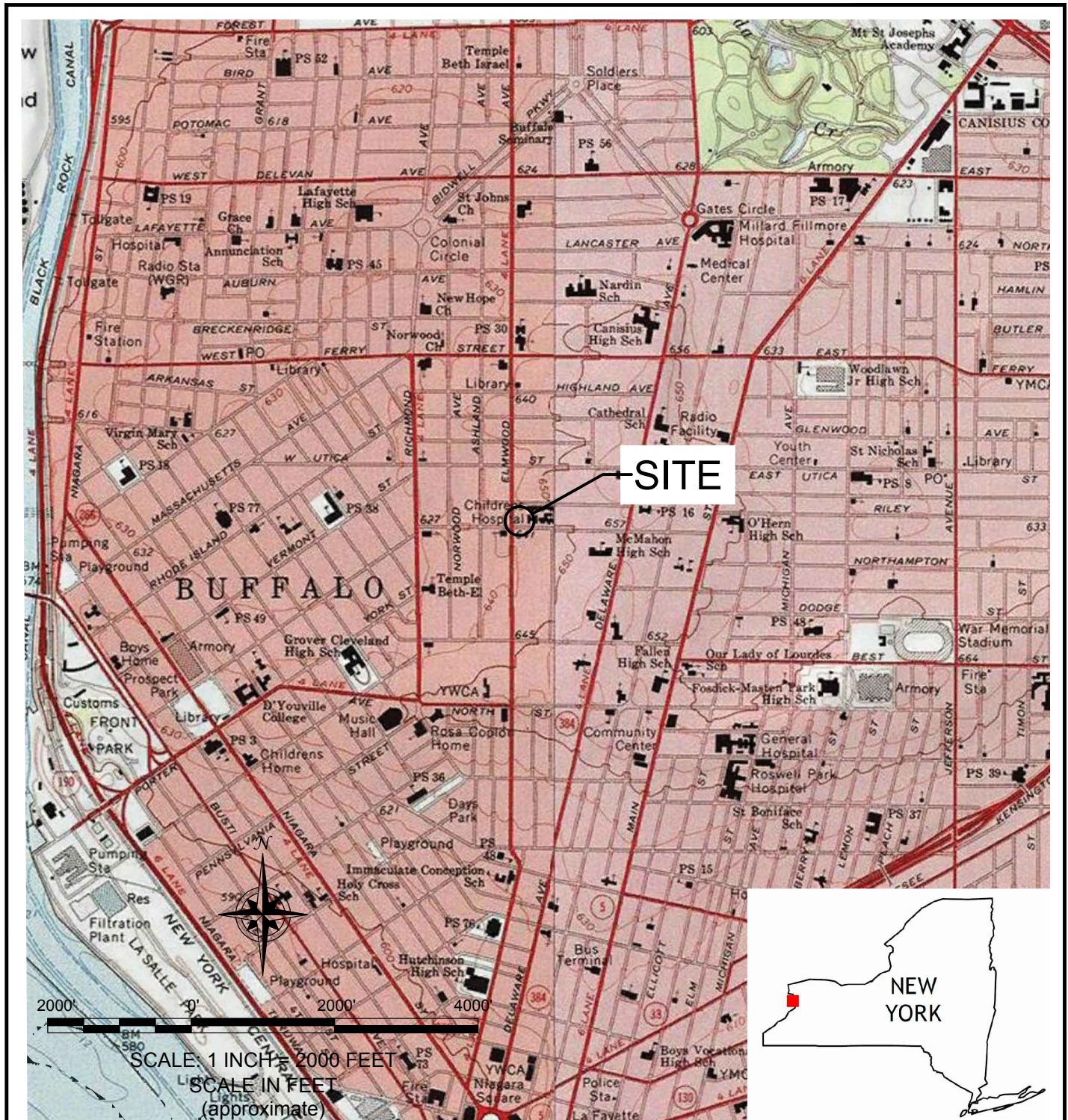
BCP SITE NO. C915334

BUFFALO, NEW YORK

Item	Quantity	Units	Unit Cost	Total Cost
<u>Shoring</u>				
Shoring Installation	1	LS	\$ 300,000	\$ 300,000
Subtotal:				\$ 300,000
<u>Impacted Soil/Fill Removal</u>				
Soil/Fill Excavation, Hauling & Disposal	12000	TON	\$ 52	\$ 624,000
Waste Characterization Analytical	12	EA	\$ 500	\$ 6,000
Post-Excavation Confirmatory Sampling	30	EA	\$ 500	\$ 15,000
Subtotal:				\$ 645,000
<u>Backfill Excavation with Approved Import Material</u>				
Purchase, Haul, Place & Compact	3000	CY	\$ 30	\$ 90,000
Subtotal:				\$ 90,000
<u>Excavation Water Handling and Treatment</u>				
Discharge Permit, Analytical, Pre-treatment GAC System	1	LS	\$ 50,000	\$ 50,000
Subtotal:				\$ 50,000
Subtotal Capital Cost				\$ 1,085,000
Contractor Mobilization/Demobilization (3%)				\$ 32,550
Health and Safety (3%)				\$ 32,550
Engineering/Contingency (30%)				\$ 325,500
Total Cost				\$ 1,476,000

FIGURES

FIGURE 1



2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599



SITE LOCATION AND VICINITY MAP

RI/IRM/AA REPORT

441 ELMWOOD AVENUE SITE

BCP SITE NO. C915334

BUFFALO, NEW YORK

PREPARED FOR

EC445, LLC

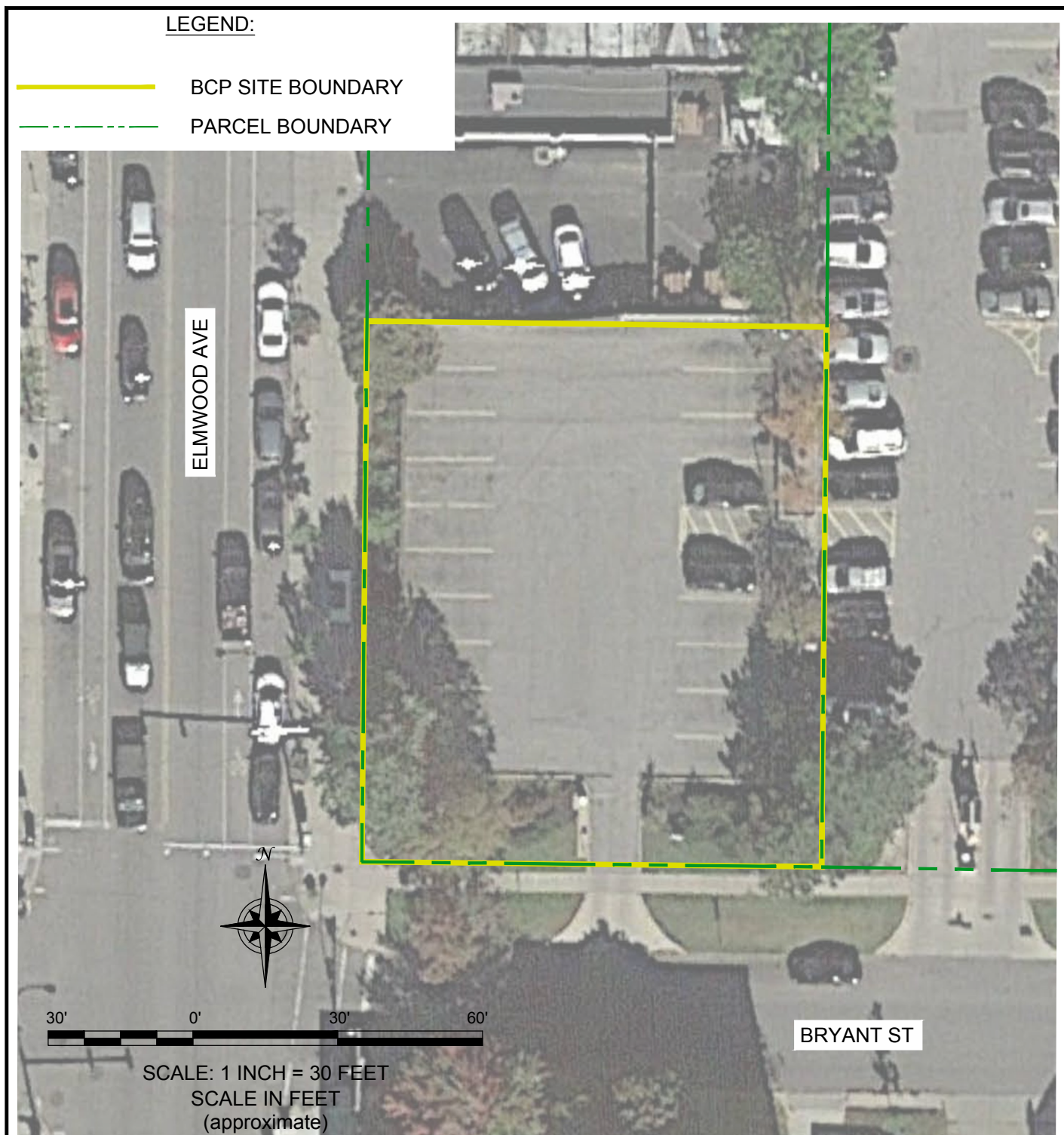
PROJECT NO.: 0136-018-001

DATE: JANUARY 2019

DRAFTED BY: CCB

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FIGURE 2



2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599



PROJECT NO.: 0136-018-001

DATE: JANUARY 2019

DRAFTED BY: CCB

SITE PLAN (AERIAL)

RI/IRM/AA REPORT

441 ELMWOOD AVENUE SITE

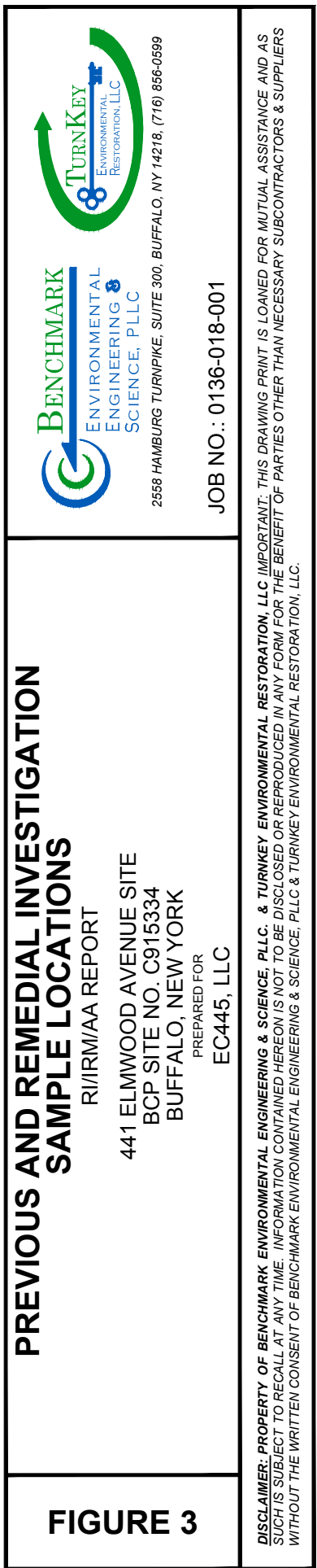
BCP SITE NO. C915334

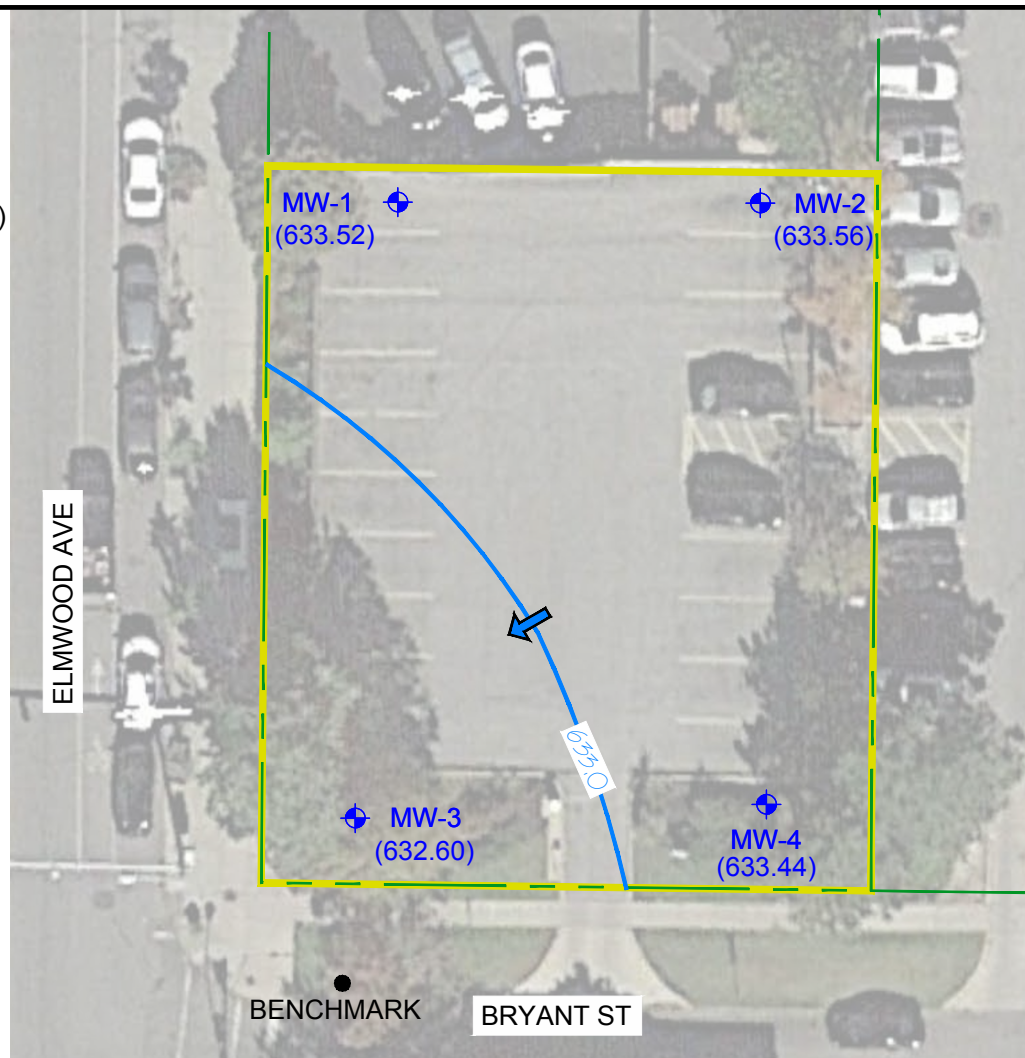
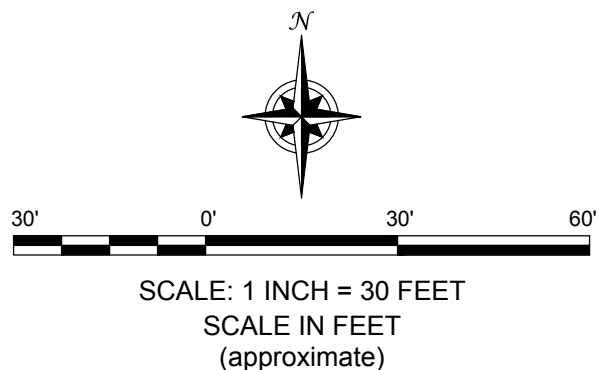
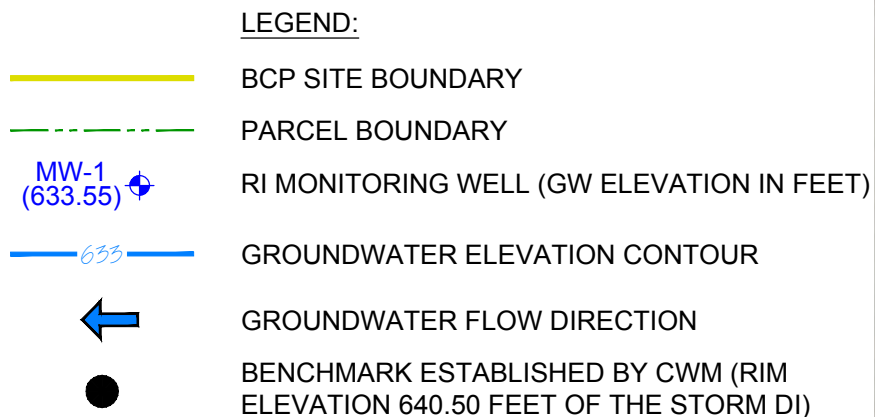
BUFFALO, NEW YORK

PREPARED FOR

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BENCHMARK
ENVIRONMENTAL
ENGINEERING &
SCIENCE, PLLC

2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

TURNKEY
ENVIRONMENTAL
RESTORATION, LLC

PROJECT NO.: 0136-018-001
DATE: NOVEMBER 2019
DRAFTED BY: CCB

GROUNDWATER ISOPOTENTIAL MAP

RI/IRM/AA REPORT

441 ELMWOOD AVENUE SITE
BCP SITE NO. C915334
BUFFALO, NEW YORK
PREPARED FOR
EC445, LLC

FIGURE 4

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BCP SITE BOUNDARY

PARCEL BOUNDARY

B-1 X

BOTTOM POST-EXCAVATION SAMPLE

LEGEND:

20'

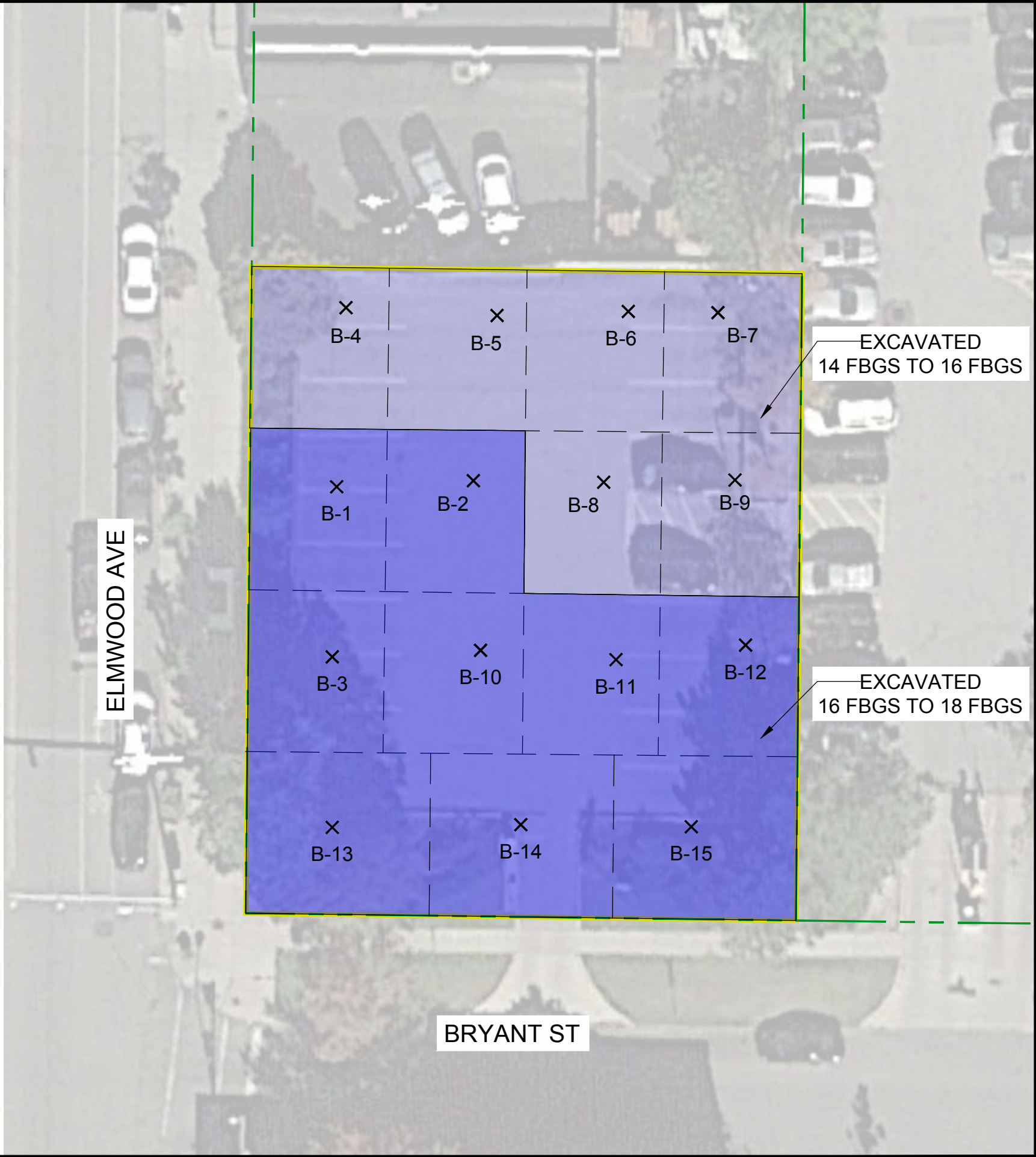
0'

20'

40'

SCALE: 1 INCH = 20 FEET
SCALE IN FEET
(approximate)

N



TURNKEY

ENVIRONMENTAL
RESTORATION, LLC

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ENGINEERING &
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INTERIM REMEDIAL MEASURE EXCAVATION
EXTENTS AND DEPTH

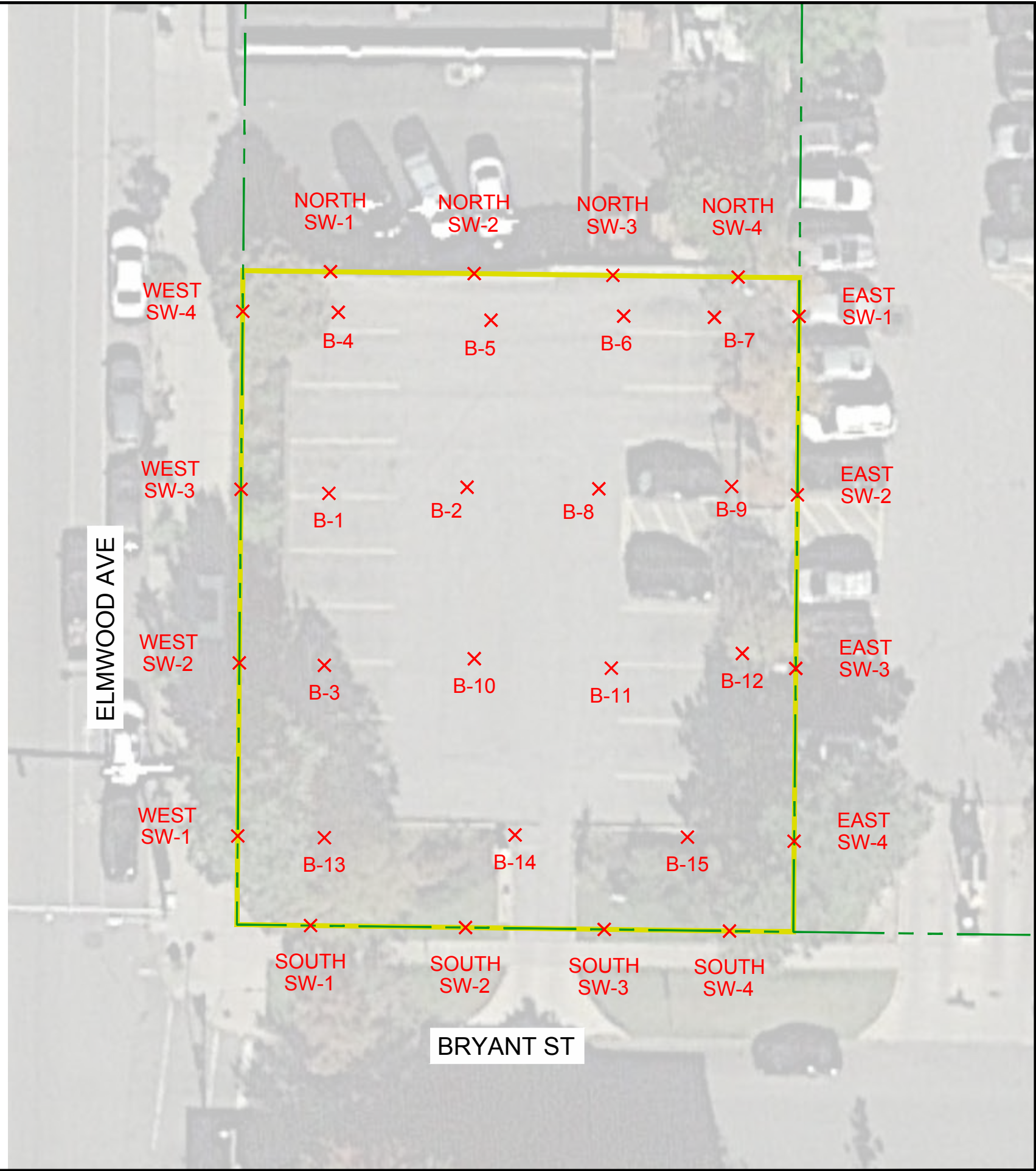
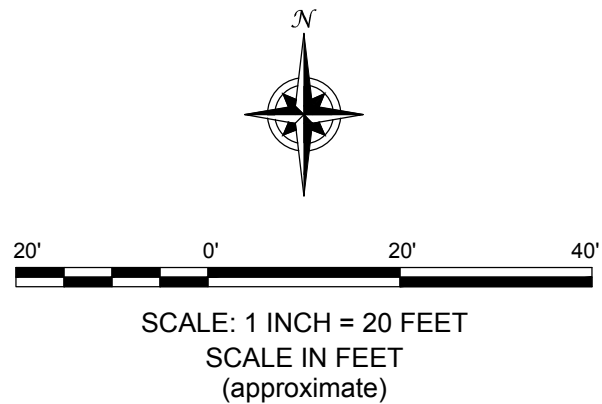
RI/IRM/AA REPORT
441 ELMWOOD AVENUE SITE
BCP SITE NO. C915334
BUFFALO, NEW YORK
PREPARED FOR
EC445, LLC

FIGURE 5

DISCLAIMER: PROPERTY OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC. & TURNKEY ENVIRONMENTAL RESTORATION, LLC. IMPORTANT: THIS DRAWING PRINT IS LOANED FOR MUTUAL ASSISTANCE AND AS SUCH IS SUBJECT TO RECALL AT ANY TIME. INFORMATION CONTAINED HEREON IS NOT TO BE DISCLOSED OR REPRODUCED IN ANY FORM FOR THE BENEFIT OF PARTIES OTHER THAN NECESSARY SUBCONTRACTORS & SUPPLIERS WITHOUT THE WRITTEN CONSENT OF BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC & TURNKEY ENVIRONMENTAL RESTORATION, LLC.

JOB NO.: 0136-018-001

- LEGEND:**
- BCP SITE BOUNDARY
 - PARCEL BOUNDARY
 - B-1 X BOTTOM POST-EXCAVATION SAMPLE
 - NORTH SW-1 X SIDEWALL POST-EXCAVATION SAMPLE



**INTERIM REMEDIAL MEASURE EXCAVATION
END-POINT SAMPLE LOCATIONS**

RI/IRM/AA REPORT
441 ELMWOOD AVENUE SITE
BCP SITE NO. C915334
BUFFALO, NEW YORK
PREPARED FOR
EC445, LLC



2558 HAMBURG TURNPIKE, SUITE 300, BUFFALO, NY 14218, (716) 856-0599

JOB NO.: 0136-018-001

FIGURE 6

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APPENDIX A

PROJECT PHOTOLOG

SITE PHOTOGRAPHS

Photo 1:



Photo 2:



Photo 3:



Photo 4:



Photo 1: Pre-existing Site Conditions (looking North).

Photo 2: RI soil boring and well installation (MW-3 – looking Southeast)

Photo 3: Example of soil staining (MW-4 location). .

Photo 4: RI soil boring and well installation (MW-1 – looking northwest).

SITE PHOTOGRAPHS

Photo 5:



Photo 6:



Photo 7:



Photo 8:



Photo 5: RI soil boring and well installation (MW-2 – looking east).

Photo 6: Example of underlying native soil (sand) 16-20 ft depth (MW-2).

Photo 7: RI soil boring and well installation (MW-3 = looking southwest)

Photo 8: Example of soil staining and fill material (MW-3).

SITE PHOTOGRAPHS

Photo 5:



Photo 6:

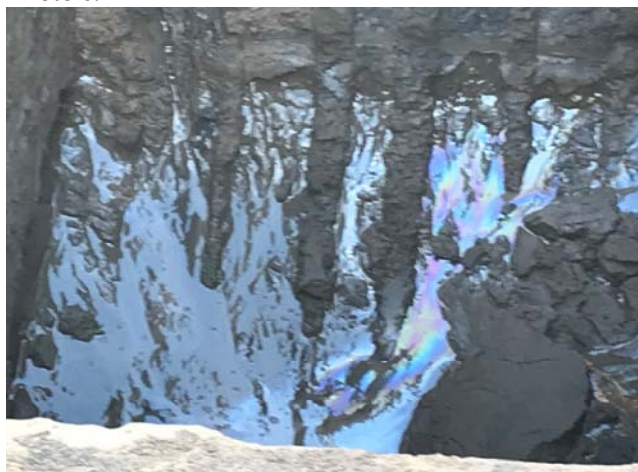


Photo 7:



Photo 8:



Photo 5: Example of RI test pit – TP-1. Stained fill material.

Photo 6: Visual product sheen at TP-1.

Photo 7: RI TP – TP-2 – fill material (looking south).

Photo 8: RI TP - TP=2 – shallow fill and grey stained sands. Note unstable sands on TP wall

Photo 9:



Photo 10:



Photo 11:



Photo 12:



Photo 9: RI TP – TP-6. Note unstable soils – sidewall collapsing.

Photo 10: TP-6 fill material and grey stained soils.

Photo 11: RI TP – TP-7 shallow fill material (looking east)

Photo 12: RI TP – TP-9. Shallow fill material and stained soils.

Photo 13:



Photo 14:



Photo 15:



Photo 16:



Photo 13: Example of unstable soils at TP-9.

Photo 14: RI TP – TP-10 – note former foundation wall.

Photo 15: RI TP – TP-12 (looking north from Bryant).

Photo 16: RI TP – TP-12.

Photo 17:



Photo 18:



Photo 19:



Photo 20:



Photo 17: IRM - Removal of concrete wall and fill layer.

Photo 18: IRM - Excavating perimeter soil for installation of shoring (looking north).

Photo 19: IRM - Excavating activities.

Photo 20: IRM - Installation of shoring.

REMEDIAL INVESTIGATION/ INTERIM REMEDIAL MEASURES/ ALTERNATIVE ANALYSIS REPORT
441 ELMWOOD AVENUE SITE
BCP SITE No. C915334

Photo 21:



Photo 22:



Photo 23:



Photo 24:



Photo 21: IRM – IRM - CAMP monitoring.

Photo 22: IRM – IRM - Excavation activities (looking west).

Photo 23: IRM – IRM - Excavation and shoring activities – corner of Elmwood and Bryant.

Photo 24: IRM – IRM – Backfilling excavation.

Photo 25:



Photo 26:



Photo 27:



Photo 28:



Photo 25: IRM – Example of stone and fabric being placed.

Photo 26: IRM – Excavation bottom in prep form fabric and stone (looking east).

Photo 27: IRM – Backfilling with approved stone to subgrade.

Photo 28: IRM – Vacuum cleanout of residual from holding tanks.

APPENDIX B

RI TEST PIT AND BORING LOGS

Project No: 0136-018-001

Borehole Number: MW-1

Project: 441 Elmwood Remedial Investigation

A.K.A.:

Client: EC445, LLC

Logged By: TAB

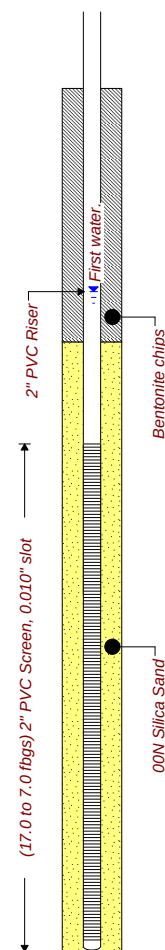
Site Location: Buffalo, New York

Checked By:



TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE				PID VOCs ppm 12.5 25	Lab Sample	Well Completion Details or Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol			
-2.0		Ground Surface							
	640.7 0.0	Asphalt							
	639.9 0.8	Sub-base	S1	17	0.9		0.0		
	638.7 2.0	Grey, moist, mostly limestone with few fine sands,							
		Poorly Graded Fine Sand	S2	40	2.0		0.0		
3.0		Brown, moist, mostly fine sand, few non-plastic fines, medium dense, loose when disturbed.							
	636.7 4.0	As above.	S3	49	2.0		0.0		
		As above, wet at 4.5 fbgs, trace (sub-rounded) fine gravel.							
	634.7 6.0	As above.	S4	54	1.7		0.0		
8.0	632.7 8.0	As above.	S5	59	1.5		0.0		
	630.7 10.0	As above, no fine gravel. slight petroleum odors on soil cuttings.	S6	97	1.7		0.3		
	628.7 12.0	As above.	S7	39	1.8		0.0		
13.0									
	626.7 14.0	As above.	S8	91	1.6		0.0		
	625.2 15.5	Lean Clay with Sand							
		Reddish brown, wet, mostly low plasticity fines, some fine sand, massive, hard.	S9	100 5	1.1		0.0		
	623.2 17.5								
	622.7 18.0	Poorly Graded Fine Sand							
18.0		As 14.0 to 15.5 above.							
		As above.	S10	100 3	1.2		0.0		
	620.7 20.0	End of bore hole 20.0 fbgs.							
		End of Borehole							



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Dierich D-120
Drill Method: Continuous split spoon.
Comments:
Drill Date(s): 12/4/18 through 12/5/18

Hole Size: 8 1/4-inch
Stick-up: 2.08 - feet
Datum: Assumed datum of 640.50
Sheet: 1 of 1

Project No: 0136-018-001

Borehole Number: MW-2

Project: 441 Elmwood Remedial Investigation

A.K.A.:

Client: EC445, LLC

Logged By: TAB

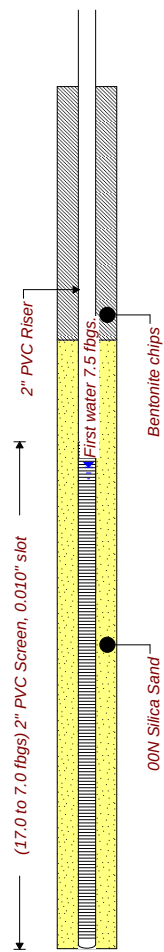
Site Location: Buffalo, New York

Checked By:



TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE				PID VOCs ppm 12.5 25	Lab Sample	Well Completion Details or Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol			
-1.0		Ground Surface							
	643.8 0.0	Asphalt							
	643.0 0.8	Sub-base	S1	28	0.9		0.0		
	641.8 2.0	Grey, moist, mostly limestone mixed with slag, with few fine sands,							
		Poorly Graded Fine Sand	S2	37	2.0		0.0		
		Brown, moist, mostly fine sand, few non-plastic fines, medium dense, loose when disturbed.							
4.0	639.8 4.0	As above.	S3	70	2.0		0.0		
		As above.							
	637.8 6.0	As above, wet at 7.5 fbgs.	S4	88	2.0		0.0		
	636.3 7.5	Silt with Sand							
	635.8 8.0	Reddish brown, wet, mostly non-plastic fines, some fine sand, very dense.	S5	94	2.0		0.0		
9.0		Poorly Graded Fine Sand							
		As above, 6.0 to 7.5 fbgs.	S6	84	2.0		0.0		
		As above.							
	631.8 12.0	As above, trace fine gravel, sub-rounded.	S7	51	2.0		0.0		
14.0		As above.							
	629.8 14.0		S8	85	2.0		0.0		
		As above.							
	627.8 16.0		S9	33	2.0		0.0		
		As above.							
	625.8 18.0		S10	75	1.3		0.0		
19.0		End of borehole 20.0 fbgs.						Sample Location	
	623.8 20.0	End of Borehole							



Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Dierich D-120
Drill Method: Continuous split spoon.
Comments:
Drill Date(s): 12/4/18 through 12/5/18

Hole Size: 8 1/4-inch
Stick-up: 1.93 - feet
Datum: Assumed datum of 640.50
Sheet: 1 of 1

Project No: 0136-018-001

Borehole Number: MW-3

Project: 441 Elmwood Remedial Investigation

A.K.A.:

Client: EC445, LLC

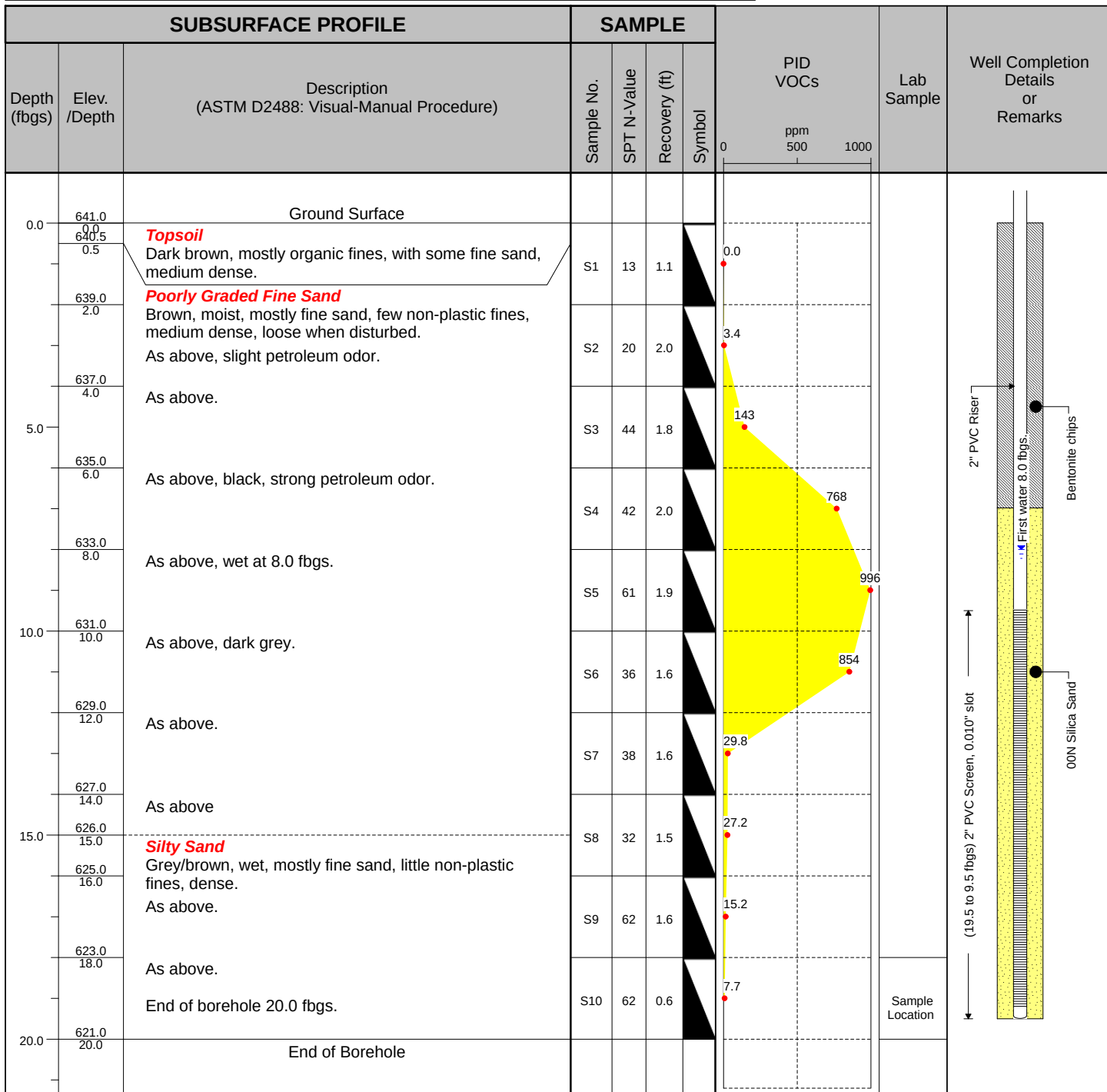
Logged By: TAB

Site Location: Buffalo, New York

Checked By:



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Buffalo, NY 14218
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Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Dierich D-120
Drill Method: Continuous split spoon.
Comments:
Drill Date(s): 12/4/18

Hole Size: 8 1/4-inch
Stick-up: 0.80 - feet
Datum: Assumed datum of 640.50
Sheet: 1 of 1

Project No: 0136-018-001

Borehole Number: MW-4

Project: 441 Elmwood Remedial Investigation

A.K.A.:

Client: EC445, LLC

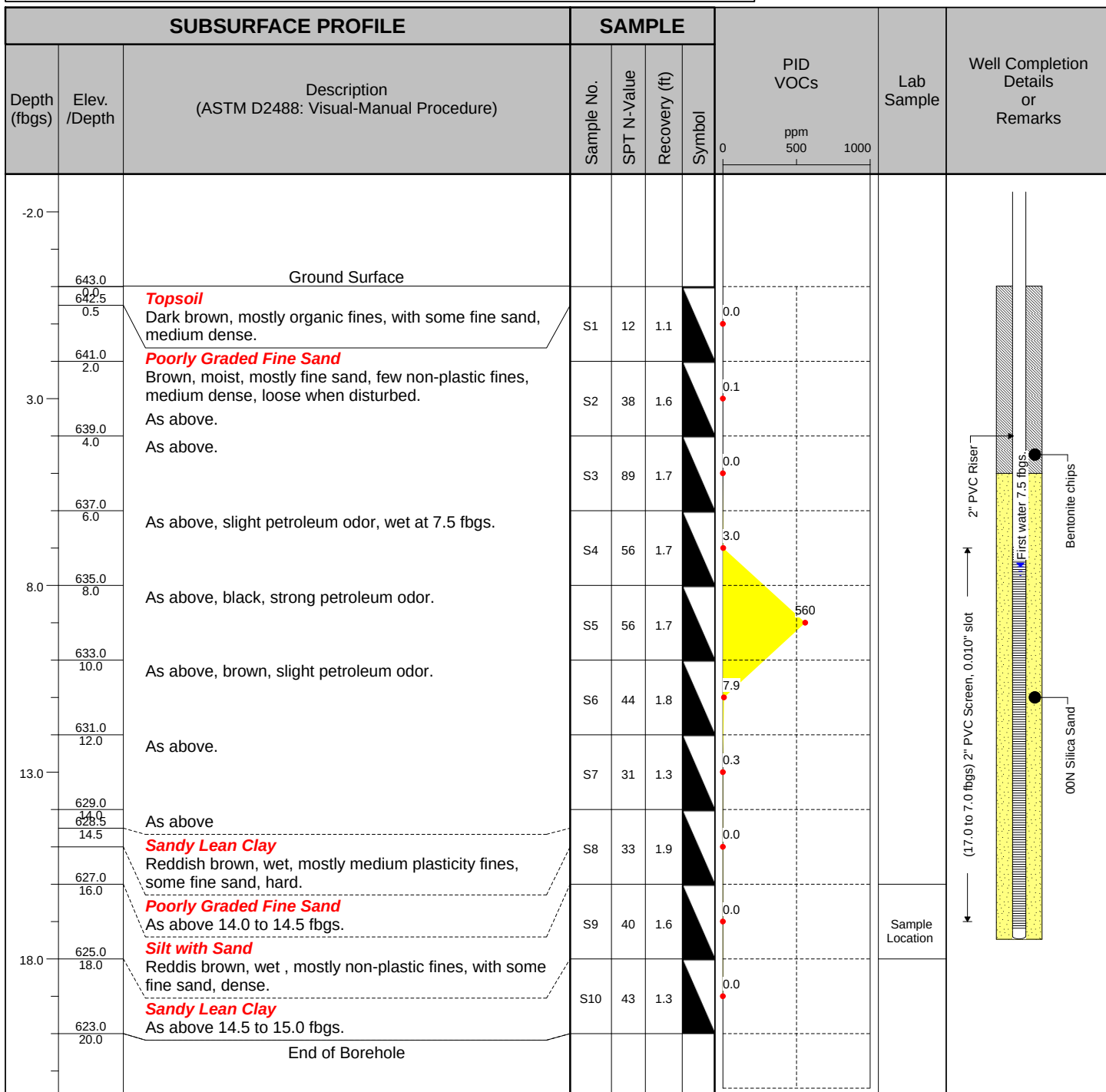
Logged By: TAB

Site Location: Buffalo, New York

Checked By:



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Drilled By: Earth Dimensions, Inc.
Drill Rig Type: Dierich D-120
Drill Method: Continuous split spoon.
Comments:
Drill Date(s): 12/4/18

Hole Size: 8 1/4-inch
Stick-up: 2.54 - feet
Datum: Assumed datum of 640.50
Sheet: 1 of 1

TEST PIT EXCAVATION LOG



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Project No: 0136-018-001

Test Pit I.D.: TP-1

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY

SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0	Ground Surface		0		
	0.0	Asphalt and sub-base Asphalt underlying by a crushed limestone and slag sub-base, weathered concrete.				
	-1.0					
	1.0	Poorly Graded Fine Sand with Silt Brown, moist, mostly fine sand, few non-plastic fines, few fine gravels, sub-rounded, loose when disturbed, slight petroleum odor from 1.0 to 6.5 fbgs.				
5.0						
	-6.5					
	6.5	Poorly Graded Fine Sand with Silt As above, black/dark grey, wet (9.0 fbgs), strong petroleum odor, sheening on groundwater.				
10.0						
	-11.0					
	11.0	Poorly Graded Fine Sand with Silt As above light grey/brown, slight petroleum odor.				
	-12.5					
	12.5	End of Test Pit				

Excavated By: Turnkey Environmental Restoration, LLCgth: 17.0 - feet
Excavator Type: Komatsu PC 170LC
Excavation Date(s): 12/13/18
Comments:

Depth to Water: ~9.5 fbgs.
Visual Impacts: Dark grey, sheening on groundwater..
Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-2

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
				010002000 ppm		
0.0	0.0	Ground Surface				
	0.0	Asphalt and sub-base Asphalt underlying by a crushed lime stone sub-base.				
	-1.0					
	1.0	Poorly Graded Fine Sand with Silt Brown/grey, moist, mostly fine sand, few non-plastic fines, few fine gravels, sub-rounded, loose when disturbed, strong petroleum odor.				
	-2.5					
	2.5					
5.0						

Excavated By: Turnkey Environmental Restoration, LLC gth: 20.0 - feet

Excavator Type: Komatsu PC 170LC

Width: 5.0 - feet

Excavation Date(s): 12/13/18

Depth: 14.5 -feet

Comments:

Depth to Water: ~ 11.0fbgs.

Visual Impacts: Black/Dark grey, sheen on groundwater.

Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-3

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs ppm 0 1000 2000	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0	Ground Surface				
	0.0	Asphalt and sub-base Asphalt underlying by a crushed limestone sub-base.				
	-1.0 1.0	Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), loose when disturbed, concrete, metal debris, orange brick, ash, 1 1/2 inch steel piping running north south.			Sample location	
	-2.5 2.5	Poorly Graded Fine Sand with Silt Brown, moist, mostly fine sand, few non-plastic fines, few fine gravels, sub-rounded, loose when disturbed.		0.0		
5.0						
	-6.0 6.0	As above, grey/dark grey, wet (10.0 fbgs), strong petroluem odor.		75		
					Sample location	
10.0				546		
	-12.5 12.5	As above, reddish brown.		248		
15.0	-15.0 15.0	End of Test Pit				

Excavated By: Turnkey Environmental Restoration, LLC gth: 12.0 - feet

Excavator Type: Komatsu PC 170LC

Width: 4.0 - feet

Excavation Date(s): 12/13/18

Depth: 15.0 - feet

Comments:

Depth to Water: ~ 10.0

Visual Impacts: Black staining.

Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-4

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0	Ground Surface		0 ppm		
	0.0	Asphalt and sub-base Asphalt underlying by a crushed limestone and slag sub-base, weathered concrete, concrete foundation at north end of test pit.				
	-1.0	Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), loose when disturbed, concrete, metal debris, orange brick.				
	-2.5	Poorly Graded Fine Sand with Silt Brown, moist, mostly fine sand, few non-plastic fines, few fine gravels, sub-rounded, loose when disturbed, slight petroleum odor from 5.0 to 7.0 fbgs.		0.0		
5.0	2.5					
	-7.0	As above, black/dark grey, wet (9.5 fbgs), strong petroleum odor.		111		
	7.0					
				1052	Sample Location	
10.0						
	-11.0	As above light grey, slight petroleum odor.				
	11.0					
	-12.5	End of Test Pit		3.8		
	12.5					

First Water

Excavated By: Turnkey Environmental Restoration, LLC **Cgth:** 15.0 - feet
Excavator Type: Komatsu PC 170LC **Width:** 4.0 - feet
Excavation Date(s): 12/13/18 **Depth:** 12.5 - feet
Comments:

Depth to Water: ~ 7.0 fbgs.
Visual Impacts: Black staining.
Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-5

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0 0.0	Ground Surface		0 ppm 1000 2000		
		Asphalt and sub-base Asphalt underlying by a crushed limestone.				
	-1.0 1.0	Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), loose when disturbed, concrete, metal debris, orange brick, ash, 1 1/2 inch steel piping running east west			Sample location	
	-2.5 2.5	Poorly Graded Fine Sand with Silt Brown, moist, mostly fine sand, few non-plastic fines, few fine gravels, sub-rounded, loose when disturbed.				
5.0	-5.0 5.0			341		
		Poorly Graded Fine Sand with Silt As above, grey//dark grey, wet (11.0 fbgs), strong petroleum odor.			Sample location	
10.0				1151		
						First Water.
	-13.0 13.0	End of Test Pit		188		

Excavated By: Turnkey Environmental Restoration, LLCgth: 17.0 - feet
Excavator Type: Komatsu PC 170LC
Excavation Date(s): 12/14/18
Comments:

Depth to Water: ~ 10.0
Visual Impacts: Black staining.
Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-6

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0 0.0	Ground Surface		0 ppm 1000 2000		
		Asphalt and sub-base Asphalt underlying by a crushed limestone.				
	-1.0 1.0	Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), very loose, concrete, and metal debris, slight petroleum odors between 8.0 and 9.0 fbgs.				
5.0				0.0		
				0.0		
				0.0		
	-9.0 9.0	Poorly Graded Fine Sand with Silt Black, wet at 9.0 fbgs, strong petroleum odor, mostly fines sand, few non-plastic fines, very loose, sheen on groundwater.		1203	Sample Location	First Water
10.0						
	-11.0 11.0	End of Test Pit				

Excavated By: Turnkey Environmental Restoration, LLCgth: 15.0 - feet
Excavator Type: Komatsu PC 170LC
Excavation Date(s): 12/13/18
Comments:

Width: 6.0 - feet
Depth: 9.5 -feet

Depth to Water: ~ 7.0 fbgs.
Visual Impacts: Black staining, sheen on groundwater.
Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-7

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0	Ground Surface		0 1000 2000		
	0.0	Asphalt and sub-base Asphalt underlying by a crushed limestone.				
	-1.0	Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), loose when disturbed, metal debris, orange brick, concrete floor (3.0 fbgs).			Sample location	
	-3.0	Poorly Graded Fine Sand with Silt Brown, moist, mostly fine sand, few non-plastic fines, few fine gravels, sub-rounded, loose when disturbed.		0.0		
5.0	-5.5	As above, grey/dark grey, wet (10.0 fbgs), strong petroleum odor.		100	Sample location	
	5.5					
				1051		
10.0						
				647		
15.0	-15.0	End of Test Pit				
	15.0					

Excavated By: Turnkey Environmental Restoration, LLC gth: 17.0 - feet

Excavator Type: Komatsu PC 170LC

Width: 4.0 - feet

Excavation Date(s): 12/14/18

Depth: 15.0 - feet

Comments:

Depth to Water: ~ 10.0

Visual Impacts: Black staining.

Olfactory Observations: Strong petroleum odors.

Sheet: 1 of 1

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-8

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0	Ground Surface		0 ppm 1000 2000		
		Asphalt and sub-base Asphalt underlying by a crushed limestone and slag sub-base, slag down to 3.0 feet at north end of test pit.				
	-1.0					
	1.0	Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), very loose, concrete, and metal debris, slight petroleum odors between 6.0 and 7.0 fbgs.				
				0.0		
				0.0		
5.0						
				0.0		
	-7.0					
	7.0	Poorly Graded Fine Sand with Silt Black, wet strong petroleum odor, mostly fines sand, few non-plastic fines, very loose, sheen on groundwater.				
				500		
					Sample Location	
	-9.3					
	9.3	End of Test Pit				
10.0						

First Water.

Excavated By: Turnkey Environmental Restoration, LLCgth: 15.0 - feet
Excavator Type: Komatsu PC 170LC
Excavation Date(s): 12/13/18
Comments:

Width: 6.0 - feet
Depth: 9.5 -feet

Depth to Water: ~ 7.0 fbgs.
Visual Impacts: Black staining, sheen on groundwater.
Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-9

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0 0.0	Ground Surface		0 ppm 1000 2000		
		Asphalt and sub-base Asphalt underlying by a crushed limestone sub-base.				
	-1.0 1.0	Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), very loose, concrete, and metal debris, cast iron piping, clay tile, roots.				
5.0				0.0		
				0.0		
				0.0		
	-8.5 8.5	Poorly Graded Fine Sand with Silt Black, wet strong petroluem odor, mostly fines sand, few non-plastic fines, very loose, sheen on groundwater.		540		
10.0						
	-10.5 10.5	End of Test Pit				

First Water.

Excavated By: Turnkey Environmental Restoration, LLCgth: 15.0 - feet
Excavator Type: Komatsu PC 170LC
Excavation Date(s): 12/14/18
Comments:

Depth to Water: ~ 7.0 fbgs.
Visual Impacts: Black staining, sheen on groundwater.
Olfactory Observations: Strong petroleum odors.

TEST PIT EXCAVATION LOG

Project No: 0136-018-001

Test Pit I.D.: TP-10

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY



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(716) 856-0635

SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (ft/gs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0	Ground Surface		0 25 50 75 100		
	0.0	Asphalt and sub-base Asphalt underlying by a crushed limestone, weathered concrete, concrete foundation at eastside of test pit.				
	-1.0					
	1.0					
5.0						

Excavated By: Turnkey Environmental Restoration, LLCgth: 12.0 - feet

Excavator Type: Komatsu PC 170LC

Width: 4.0 - feet

Excavation Date(s): 12/14/18

Depth: 13.0 -feet

Depth to Water: ~9.5 fbgs.

Visual Impacts: Dark grey.

Olfactory Observations: Strong petroleum odors.

Comments:

Sheet: 1 of 1

TEST PIT EXCAVATION LOG



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Project No: 0136-018-001

Test Pit I.D.: TP-11

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY

SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
				0 25 50 75 100 ppm		
0.0	0.0	Ground Surface				
		Asphalt and sub-base Asphalt underlying by a crushed limestone and slag sub-base.				
	-1.0					
	1.0	Weathered Concrete				
	-1.5					
	1.5	Poorly Graded Fine Sand with Silt Brown, moist, mostly fine sand, few non-plastic fines, few fine gravels, sub-rounded, loose when disturbed.				
				0.0		
5.0						
				0.0		
10.0						
	-10.5					
	10.5	Poorly Graded Fine Sand with Silt As above, dark grey/black, wet at 10.5 fbgs, slight petroleum odor, sheen on groundwater.		0.7		
	-11.0					
	11.0	End of Test Pit				

First Water.

Excavated By: Turnkey Environmental Restoration, LLCgth: 15.0 - feet
Excavator Type: Komatsu PC 170LC
Excavation Date(s): 12/14/18
Comments:

Depth to Water: ~10.5 fbgs.
Visual Impacts: Dark grey, sheen on groundwater..
Olfactory Observations: Slight petroleum odors.

TEST PIT EXCAVATION LOG



TurnKey Environmental Restoration, LLC
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Project No: 0136-018-001

Test Pit I.D.: TP-12

Project: 441 Elmwood Avenue Remedial Investigation

Logged By: TAB

Client: EC445, LLC

Checked By:

Site Location: Buffalo, NY

SUBSURFACE PROFILE				PID VOCs	Lab Sample	Remarks
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Lithologic Symbol			
0.0	0.0 0.0	Ground Surface		0 ppm 1000 2000		
		Poorly Graded Fine Sand with Silt and Fill Brown, moist, mostly fine sand, few non-plastic fines, few fine gravel (sub-rounded), very loose, concrete, and metal debris.				
5.0						
	-5.5 5.5	Poorly Graded Fine Sand with Silt Black/dark grey, wet strong petroleum odor, mostly fines sand, few non-plastic fines, loose when disturbed, sheen on groundwater.		0.0 957	Sample Location	
	-8.5 8.5	End of Test Pit				

Excavated By: Turnkey Environmental Restoration, LLCgth: 10.0 - feet
Excavator Type: Komatsu PC 170LC
Excavation Date(s): 12/14/18
Comments:

Width: 5.0 - feet
Depth: 8.5 -feet

Depth to Water: none
Visual Impacts: Black staining, sheen on groundwater.
Olfactory Observations: Strong petroleum odors.

APPENDIX C

LABORATORY ANALYTICAL DATA
(PROVIDED ELECTRONICALLY ON ENCLOSED CD)



ANALYTICAL REPORT

Lab Number:	L1849531
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD AVE.
Project Number:	0136-018-001
Report Date:	12/11/18

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

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



Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1849531
Report Date: 12/11/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1849531-01	MW-4 (16-18)	SOIL	BUFFALO	12/04/18 12:47	12/04/18
L1849531-02	MW-1 (16-18)	SOIL	BUFFALO	12/04/18 15:40	12/04/18

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1849531
Report Date: 12/11/18

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: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1849531
Report Date: 12/11/18

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.

Total Metals

L1849531-01 and -02: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

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

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 12/11/18

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS**

Lab ID: L1849531-01

Date Collected: 12/04/18 12:47

Client ID: MW-4 (16-18)

Date Received: 12/04/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/10/18 11:57

Analyst: AD

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	4.1	1.9	1
1,1-Dichloroethane	ND		ug/kg	0.83	0.12	1
Chloroform	ND		ug/kg	1.2	0.12	1
Carbon tetrachloride	ND		ug/kg	0.83	0.19	1
1,2-Dichloropropane	ND		ug/kg	0.83	0.10	1
Dibromochloromethane	ND		ug/kg	0.83	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	0.83	0.22	1
Tetrachloroethene	ND		ug/kg	0.41	0.16	1
Chlorobenzene	ND		ug/kg	0.41	0.10	1
Trichlorofluoromethane	ND		ug/kg	3.3	0.58	1
1,2-Dichloroethane	ND		ug/kg	0.83	0.21	1
1,1,1-Trichloroethane	ND		ug/kg	0.41	0.14	1
Bromodichloromethane	ND		ug/kg	0.41	0.09	1
trans-1,3-Dichloropropene	ND		ug/kg	0.83	0.23	1
cis-1,3-Dichloropropene	ND		ug/kg	0.41	0.13	1
Bromoform	ND		ug/kg	3.3	0.20	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.41	0.14	1
Benzene	ND		ug/kg	0.41	0.14	1
Toluene	ND		ug/kg	0.83	0.45	1
Ethylbenzene	ND		ug/kg	0.83	0.12	1
Chloromethane	ND		ug/kg	3.3	0.77	1
Bromomethane	ND		ug/kg	1.6	0.48	1
Vinyl chloride	ND		ug/kg	0.83	0.28	1
Chloroethane	ND		ug/kg	1.6	0.37	1
1,1-Dichloroethene	ND		ug/kg	0.83	0.20	1
trans-1,2-Dichloroethene	ND		ug/kg	1.2	0.11	1
Trichloroethene	ND		ug/kg	0.41	0.11	1
1,2-Dichlorobenzene	ND		ug/kg	1.6	0.12	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS****Lab ID:** L1849531-01**Date Collected:** 12/04/18 12:47**Client ID:** MW-4 (16-18)**Date Received:** 12/04/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1.6	0.12	1
1,4-Dichlorobenzene	ND		ug/kg	1.6	0.14	1
Methyl tert butyl ether	ND		ug/kg	1.6	0.17	1
p/m-Xylene	ND		ug/kg	1.6	0.46	1
o-Xylene	ND		ug/kg	0.83	0.24	1
cis-1,2-Dichloroethene	ND		ug/kg	0.83	0.14	1
Styrene	ND		ug/kg	0.83	0.16	1
Dichlorodifluoromethane	ND		ug/kg	8.3	0.76	1
Acetone	ND		ug/kg	8.3	4.0	1
Carbon disulfide	ND		ug/kg	8.3	3.8	1
2-Butanone	ND		ug/kg	8.3	1.8	1
4-Methyl-2-pentanone	ND		ug/kg	8.3	1.1	1
2-Hexanone	ND		ug/kg	8.3	0.98	1
Bromochloromethane	ND		ug/kg	1.6	0.17	1
1,2-Dibromoethane	ND		ug/kg	0.83	0.23	1
n-Butylbenzene	ND		ug/kg	0.83	0.14	1
sec-Butylbenzene	ND		ug/kg	0.83	0.12	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.5	0.83	1
Isopropylbenzene	ND		ug/kg	0.83	0.09	1
p-Isopropyltoluene	ND		ug/kg	0.83	0.09	1
n-Propylbenzene	ND		ug/kg	0.83	0.14	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.6	0.27	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.6	0.22	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.6	0.16	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.6	0.28	1
Methyl Acetate	ND		ug/kg	3.3	0.79	1
Cyclohexane	ND		ug/kg	8.3	0.45	1
1,4-Dioxane	ND		ug/kg	83	29.	1
Freon-113	ND		ug/kg	3.3	0.57	1
Methyl cyclohexane	ND		ug/kg	3.3	0.50	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS**

Lab ID: L1849531-01

Date Collected: 12/04/18 12:47

Client ID: MW-4 (16-18)

Date Received: 12/04/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	110		70-130

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/10/18 08:55

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1187527-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/10/18 08:55
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1187527-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	100	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/10/18 08:55

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1187527-5					

Tentatively Identified Compounds

Total TIC Compounds	11.2	J	ug/kg
Unknown	11.2	J	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	105		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1849531

Report Date: 12/11/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1187527-3 WG1187527-4								
Methylene chloride	90		93		70-130	3		30
1,1-Dichloroethane	95		96		70-130	1		30
Chloroform	103		105		70-130	2		30
Carbon tetrachloride	126		135	Q	70-130	7		30
1,2-Dichloropropane	84		87		70-130	4		30
Dibromochloromethane	106		110		70-130	4		30
1,1,2-Trichloroethane	91		91		70-130	0		30
Tetrachloroethene	114		120		70-130	5		30
Chlorobenzene	97		102		70-130	5		30
Trichlorofluoromethane	124		130		70-139	5		30
1,2-Dichloroethane	108		108		70-130	0		30
1,1,1-Trichloroethane	118		124		70-130	5		30
Bromodichloromethane	106		109		70-130	3		30
trans-1,3-Dichloropropene	101		104		70-130	3		30
cis-1,3-Dichloropropene	96		95		70-130	1		30
Bromoform	108		112		70-130	4		30
1,1,2,2-Tetrachloroethane	91		87		70-130	4		30
Benzene	92		95		70-130	3		30
Toluene	96		102		70-130	6		30
Ethylbenzene	98		103		70-130	5		30
Chloromethane	95		97		52-130	2		30
Bromomethane	120		117		57-147	3		30
Vinyl chloride	109		111		67-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1849531

Report Date: 12/11/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1187527-3 WG1187527-4								
Chloroethane	114		119		50-151	4		30
1,1-Dichloroethene	101		106		65-135	5		30
trans-1,2-Dichloroethene	102		104		70-130	2		30
Trichloroethene	101		104		70-130	3		30
1,2-Dichlorobenzene	102		104		70-130	2		30
1,3-Dichlorobenzene	102		106		70-130	4		30
1,4-Dichlorobenzene	103		105		70-130	2		30
Methyl tert butyl ether	102		95		66-130	7		30
p/m-Xylene	100		107		70-130	7		30
o-Xylene	99		103		70-130	4		30
cis-1,2-Dichloroethene	96		100		70-130	4		30
Styrene	99		104		70-130	5		30
Dichlorodifluoromethane	132		136		30-146	3		30
Acetone	97		100		54-140	3		30
Carbon disulfide	91		93		59-130	2		30
2-Butanone	89		79		70-130	12		30
4-Methyl-2-pentanone	80		77		70-130	4		30
2-Hexanone	83		76		70-130	9		30
Bromochloromethane	101		105		70-130	4		30
1,2-Dibromoethane	99		102		70-130	3		30
n-Butylbenzene	97		103		70-130	6		30
sec-Butylbenzene	100		105		70-130	5		30
1,2-Dibromo-3-chloropropane	94		93		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1849531

Report Date: 12/11/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1187527-3 WG1187527-4								
Isopropylbenzene	97		104		70-130	7		30
p-Isopropyltoluene	104		108		70-130	4		30
n-Propylbenzene	96		100		70-130	4		30
1,2,3-Trichlorobenzene	103		107		70-130	4		30
1,2,4-Trichlorobenzene	108		114		70-130	5		30
1,3,5-Trimethylbenzene	100		106		70-130	6		30
1,2,4-Trimethylbenzene	101		105		70-130	4		30
Methyl Acetate	88		79		51-146	11		30
Cyclohexane	89		96		59-142	8		30
1,4-Dioxane	86		83		65-136	4		30
Freon-113	108		113		50-139	5		30
Methyl cyclohexane	99		103		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	118		114		70-130
Toluene-d8	99		102		70-130
4-Bromofluorobenzene	96		96		70-130
Dibromofluoromethane	107		107		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1849531**Report Date:** 12/11/18**SAMPLE RESULTS**

Lab ID: L1849531-01

Client ID: MW-4 (16-18)

Sample Location: BUFFALO

Date Collected: 12/04/18 12:47

Date Received: 12/04/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8270D

Analytical Date: 12/10/18 14:03

Analyst: SZ

Percent Solids: 90%

Extraction Method: EPA 3546

Extraction Date: 12/07/18 00:24

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	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	25.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	37.	1
2,6-Dinitrotoluene	ND		ug/kg	180	32.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	160	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	64.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

SAMPLE RESULTS

Lab ID: L1849531-01

Date Collected: 12/04/18 12:47

Client ID: MW-4 (16-18)

Date Received: 12/04/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	43.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	35.	1
4-Nitroaniline	ND		ug/kg	180	76.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	160	30.	1
2,4-Dimethylphenol	ND		ug/kg	180	61.	1
2-Nitrophenol	ND		ug/kg	400	69.	1
4-Nitrophenol	ND		ug/kg	260	75.	1
2,4-Dinitrophenol	ND		ug/kg	880	86.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	88.	1
Pentachlorophenol	ND		ug/kg	150	40.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	150	64.	1
Benzaldehyde	ND		ug/kg	240	50.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS**

Lab ID: L1849531-01

Date Collected: 12/04/18 12:47

Client ID: MW-4 (16-18)

Date Received: 12/04/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		25-120
Phenol-d6	62		10-120
Nitrobenzene-d5	53		23-120
2-Fluorobiphenyl	64		30-120
2,4,6-Tribromophenol	54		10-136
4-Terphenyl-d14	52		18-120

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS**

Lab ID: L1849531-02

Date Collected: 12/04/18 15:40

Client ID: MW-1 (16-18)

Date Received: 12/04/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: EPA 3546

Analytical Method: 1,8270D

Extraction Date: 12/07/18 00:24

Analytical Date: 12/10/18 14:28

Analyst: SZ

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	26.	1
2-Chloronaphthalene	ND		ug/kg	190	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	52.	1
2,4-Dinitrotoluene	ND		ug/kg	190	39.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	ND		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	25.	1
Naphthalene	ND		ug/kg	190	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	67.	1
Butyl benzyl phthalate	ND		ug/kg	190	49.	1
Di-n-butylphthalate	ND		ug/kg	190	37.	1
Di-n-octylphthalate	ND		ug/kg	190	66.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	41.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS****Lab ID:** L1849531-02**Date Collected:** 12/04/18 15:40**Client ID:** MW-1 (16-18)**Date Received:** 12/04/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	ND		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	27.	1
Pyrene	ND		ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	38.	1
3-Nitroaniline	ND		ug/kg	190	37.	1
4-Nitroaniline	ND		ug/kg	190	81.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	64.	1
2-Nitrophenol	ND		ug/kg	420	73.	1
4-Nitrophenol	ND		ug/kg	270	79.	1
2,4-Dinitrophenol	ND		ug/kg	940	91.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	94.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	ND		ug/kg	190	19.	1
Atrazine	ND		ug/kg	160	68.	1
Benzaldehyde	ND		ug/kg	260	53.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS****Lab ID:** L1849531-02**Date Collected:** 12/04/18 15:40**Client ID:** MW-1 (16-18)**Date Received:** 12/04/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	59.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	70		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	75		30-120
2,4,6-Tribromophenol	69		10-136
4-Terphenyl-d14	58		18-120

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/07/18 23:10
 Analyst: RC

Extraction Method: EPA 3546
 Extraction Date: 12/07/18 00:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1186597-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	73	J	ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	27.

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/07/18 23:10
 Analyst: RC

Extraction Method: EPA 3546
 Extraction Date: 12/07/18 00:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1186597-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/07/18 23:10
 Analyst: RC

Extraction Method: EPA 3546
 Extraction Date: 12/07/18 00:24

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1186597-1					
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	210	44.
Caprolactam	ND		ug/kg	160	49.
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	55		25-120
Phenol-d6	58		10-120
Nitrobenzene-d5	51		23-120
2-Fluorobiphenyl	62		30-120
2,4,6-Tribromophenol	88		10-136
4-Terphenyl-d14	64		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1186597-2 WG1186597-3								
Acenaphthene	62		67		31-137	8		50
Hexachlorobenzene	72		80		40-140	11		50
Bis(2-chloroethyl)ether	54		54		40-140	0		50
2-Chloronaphthalene	62		66		40-140	6		50
3,3'-Dichlorobenzidine	40		46		40-140	14		50
2,4-Dinitrotoluene	69		76		40-132	10		50
2,6-Dinitrotoluene	66		73		40-140	10		50
Fluoranthene	60		66		40-140	10		50
4-Chlorophenyl phenyl ether	65		70		40-140	7		50
4-Bromophenyl phenyl ether	69		75		40-140	8		50
Bis(2-chloroisopropyl)ether	48		48		40-140	0		50
Bis(2-chloroethoxy)methane	58		60		40-117	3		50
Hexachlorobutadiene	63		62		40-140	2		50
Hexachlorocyclopentadiene	63		64		40-140	2		50
Hexachloroethane	55		55		40-140	0		50
Isophorone	59		62		40-140	5		50
Naphthalene	58		59		40-140	2		50
Nitrobenzene	56		57		40-140	2		50
NDPA/DPA	65		71		36-157	9		50
n-Nitrosodi-n-propylamine	57		58		32-121	2		50
Bis(2-ethylhexyl)phthalate	54		57		40-140	5		50
Butyl benzyl phthalate	58		65		40-140	11		50
Di-n-butylphthalate	60		66		40-140	10		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1186597-2 WG1186597-3								
Di-n-octylphthalate	54		58		40-140	7		50
Diethyl phthalate	64		70		40-140	9		50
Dimethyl phthalate	65		70		40-140	7		50
Benzo(a)anthracene	58		63		40-140	8		50
Benzo(a)pyrene	62		70		40-140	12		50
Benzo(b)fluoranthene	62		72		40-140	15		50
Benzo(k)fluoranthene	62		66		40-140	6		50
Chrysene	57		62		40-140	8		50
Acenaphthylene	65		70		40-140	7		50
Anthracene	58		63		40-140	8		50
Benzo(ghi)perylene	60		66		40-140	10		50
Fluorene	65		71		40-140	9		50
Phenanthrene	56		60		40-140	7		50
Dibenzo(a,h)anthracene	60		67		40-140	11		50
Indeno(1,2,3-cd)pyrene	60		68		40-140	13		50
Pyrene	58		65		35-142	11		50
Biphenyl	65		69		54-104	6		50
4-Chloroaniline	44		53		40-140	19		50
2-Nitroaniline	63		68		47-134	8		50
3-Nitroaniline	52		54		26-129	4		50
4-Nitroaniline	62		68		41-125	9		50
Dibenzofuran	64		69		40-140	8		50
2-Methylnaphthalene	61		63		40-140	3		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1849531

Report Date: 12/11/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1186597-2 WG1186597-3								
1,2,4,5-Tetrachlorobenzene	67		70		40-117	4		50
Acetophenone	63		65		14-144	3		50
2,4,6-Trichlorophenol	69		75		30-130	8		50
p-Chloro-m-cresol	62		67		26-103	8		50
2-Chlorophenol	62		62		25-102	0		50
2,4-Dichlorophenol	67		70		30-130	4		50
2,4-Dimethylphenol	62		64		30-130	3		50
2-Nitrophenol	61		63		30-130	3		50
4-Nitrophenol	57		65		11-114	13		50
2,4-Dinitrophenol	56		62		4-130	10		50
4,6-Dinitro-o-cresol	65		73		10-130	12		50
Pentachlorophenol	65		74		17-109	13		50
Phenol	57		59		26-90	3		50
2-Methylphenol	61		63		30-130	3		50
3-Methylphenol/4-Methylphenol	62		65		30-130	5		50
2,4,5-Trichlorophenol	68		74		30-130	8		50
Carbazole	58		64		54-128	10		50
Atrazine	67		74		40-140	10		50
Benzaldehyde	53		52		40-140	2		50
Caprolactam	68		75		15-130	10		50
2,3,4,6-Tetrachlorophenol	70		78		40-140	11		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1186597-2 WG1186597-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	57		58		25-120
Phenol-d6	58		60		10-120
Nitrobenzene-d5	54		55		23-120
2-Fluorobiphenyl	61		65		30-120
2,4,6-Tribromophenol	83		92		10-136
4-Terphenyl-d14	53		59		18-120

METALS

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS**

Lab ID: L1849531-01

Date Collected: 12/04/18 12:47

Client ID: MW-4 (16-18)

Date Received: 12/04/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

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											
Aluminum, Total	3460		mg/kg	8.62	2.33	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Antimony, Total	ND		mg/kg	4.31	0.327	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Arsenic, Total	1.67		mg/kg	0.862	0.179	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Barium, Total	34.8		mg/kg	0.862	0.150	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Beryllium, Total	0.095	J	mg/kg	0.431	0.028	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Cadmium, Total	0.310	J	mg/kg	0.862	0.084	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Calcium, Total	66600		mg/kg	86.2	30.2	20	12/10/18 12:55	12/10/18 20:34	EPA 3050B	1,6010D	AB
Chromium, Total	6.82		mg/kg	0.862	0.083	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Cobalt, Total	3.29		mg/kg	1.72	0.143	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Copper, Total	8.26		mg/kg	0.862	0.222	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Iron, Total	8740		mg/kg	4.31	0.778	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Lead, Total	9.49		mg/kg	4.31	0.231	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Magnesium, Total	24400		mg/kg	8.62	1.33	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Manganese, Total	269		mg/kg	0.862	0.137	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.069	0.015	1	12/11/18 05:00	12/11/18 15:59	EPA 7471B	1,7471B	MG
Nickel, Total	6.52		mg/kg	2.15	0.208	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Potassium, Total	752		mg/kg	215	12.4	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Selenium, Total	0.284	J	mg/kg	1.72	0.222	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.862	0.244	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Sodium, Total	334		mg/kg	172	2.71	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Thallium, Total	ND		mg/kg	1.72	0.271	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Vanadium, Total	11.9		mg/kg	0.862	0.175	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB
Zinc, Total	61.6		mg/kg	4.31	0.252	2	12/10/18 12:55	12/10/18 19:30	EPA 3050B	1,6010D	AB



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**SAMPLE RESULTS**

Lab ID: L1849531-02

Date Collected: 12/04/18 15:40

Client ID: MW-1 (16-18)

Date Received: 12/04/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	7880		mg/kg	9.25	2.50	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Antimony, Total	ND		mg/kg	4.62	0.351	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Arsenic, Total	1.48		mg/kg	0.925	0.192	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Barium, Total	44.7		mg/kg	0.925	0.161	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Beryllium, Total	0.305	J	mg/kg	0.462	0.031	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Cadmium, Total	0.379	J	mg/kg	0.925	0.091	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Calcium, Total	69500		mg/kg	92.5	32.4	20	12/10/18 12:55	12/10/18 20:39	EPA 3050B	1,6010D	AB
Chromium, Total	12.2		mg/kg	0.925	0.089	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Cobalt, Total	6.86		mg/kg	1.85	0.154	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Copper, Total	14.2		mg/kg	0.925	0.239	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Iron, Total	15200		mg/kg	4.62	0.835	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Lead, Total	9.56		mg/kg	4.62	0.248	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Magnesium, Total	21200		mg/kg	9.25	1.42	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Manganese, Total	363		mg/kg	0.925	0.147	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.075	0.016	1	12/11/18 05:00	12/11/18 16:01	EPA 7471B	1,7471B	MG
Nickel, Total	14.9		mg/kg	2.31	0.224	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Potassium, Total	1410		mg/kg	231	13.3	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Selenium, Total	0.296	J	mg/kg	1.85	0.239	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.925	0.262	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Sodium, Total	401		mg/kg	185	2.91	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Thallium, Total	ND		mg/kg	1.85	0.291	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Vanadium, Total	17.4		mg/kg	0.925	0.188	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB
Zinc, Total	59.7		mg/kg	4.62	0.271	2	12/10/18 12:55	12/10/18 19:35	EPA 3050B	1,6010D	AB



Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1187498-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Antimony, Total	ND		mg/kg	2.00	0.152	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Arsenic, Total	ND		mg/kg	0.400	0.083	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Barium, Total	ND		mg/kg	0.400	0.070	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Beryllium, Total	ND		mg/kg	0.200	0.013	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Cadmium, Total	ND		mg/kg	0.400	0.039	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Calcium, Total	ND		mg/kg	4.00	1.40	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Chromium, Total	0.048	J	mg/kg	0.400	0.038	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Cobalt, Total	ND		mg/kg	0.800	0.066	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Copper, Total	ND		mg/kg	0.400	0.103	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Iron, Total	ND		mg/kg	2.00	0.361	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Lead, Total	ND		mg/kg	2.00	0.107	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Magnesium, Total	ND		mg/kg	4.00	0.616	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Manganese, Total	ND		mg/kg	0.400	0.064	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Nickel, Total	ND		mg/kg	1.00	0.097	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Potassium, Total	ND		mg/kg	100	5.76	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Selenium, Total	ND		mg/kg	0.800	0.103	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Silver, Total	ND		mg/kg	0.400	0.113	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Sodium, Total	3.24	J	mg/kg	80.0	1.26	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Thallium, Total	ND		mg/kg	0.800	0.126	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Vanadium, Total	ND		mg/kg	0.400	0.081	1	12/10/18 12:55	12/10/18 16:52	1,6010D	AB
Zinc, Total	ND		mg/kg	2.00	0.117	1	12/10/18 12:55	12/10/18 18:28	1,6010D	AB

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): 01-02 Batch: WG1187808-1										
Mercury, Total	ND		mg/kg	0.083	0.018	1	12/11/18 05:00	12/11/18 15:08	1,7471B	MG



Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1849531

Report Date: 12/11/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1187498-2 SRM Lot Number: D102-540								
Aluminum, Total	70		-		49-150	-		
Antimony, Total	122		-		1-199	-		
Arsenic, Total	111		-		83-117	-		
Barium, Total	99		-		83-118	-		
Beryllium, Total	98		-		83-116	-		
Cadmium, Total	102		-		83-118	-		
Calcium, Total	101		-		82-118	-		
Chromium, Total	100		-		83-117	-		
Cobalt, Total	104		-		84-116	-		
Copper, Total	103		-		84-116	-		
Iron, Total	90		-		61-139	-		
Lead, Total	105		-		82-118	-		
Magnesium, Total	96		-		76-124	-		
Manganese, Total	93		-		82-118	-		
Nickel, Total	105		-		83-117	-		
Potassium, Total	91		-		70-130	-		
Selenium, Total	109		-		79-121	-		
Silver, Total	109		-		80-120	-		
Sodium, Total	95		-		74-126	-		
Thallium, Total	102		-		81-119	-		
Vanadium, Total	96		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1849531

Report Date: 12/11/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1187498-2 SRM Lot Number: D102-540					
Zinc, Total	104	-	81-118	-	
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1187808-2 SRM Lot Number: D102-540					
Mercury, Total	132	-	65-134	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1849531
Report Date: 12/11/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02			QC Batch ID: WG1187498-3			QC Sample: L1849419-01			Client ID: MS Sample			
Aluminum, Total	5810	164	5880	43	Q	-	-		75-125	-		20
Antimony, Total	ND	41	26.6	65	Q	-	-		75-125	-		20
Arsenic, Total	2.29	9.83	9.38	72	Q	-	-		75-125	-		20
Barium, Total	44.4	164	185	86		-	-		75-125	-		20
Beryllium, Total	ND	4.1	2.95	72	Q	-	-		75-125	-		20
Cadmium, Total	0.284J	4.18	3.47	83		-	-		75-125	-		20
Calcium, Total	1710	820	2130	51	Q	-	-		75-125	-		20
Chromium, Total	18.1	16.4	28.3	62	Q	-	-		75-125	-		20
Cobalt, Total	6.49	41	37.6	76		-	-		75-125	-		20
Copper, Total	7.20	20.5	23.8	81		-	-		75-125	-		20
Iron, Total	15900	82	13300	0	Q	-	-		75-125	-		20
Lead, Total	1.22J	41.8	30.2	72	Q	-	-		75-125	-		20
Magnesium, Total	2580	820	3520	115		-	-		75-125	-		20
Manganese, Total	218	41	214	0	Q	-	-		75-125	-		20
Nickel, Total	13.9	41	44.9	76		-	-		75-125	-		20
Potassium, Total	1320	820	2410	133	Q	-	-		75-125	-		20
Selenium, Total	0.263J	9.83	7.76	79		-	-		75-125	-		20
Silver, Total	ND	24.6	22.7	92		-	-		75-125	-		20
Sodium, Total	200	820	863	81		-	-		75-125	-		20
Thallium, Total	ND	9.83	5.57	57	Q	-	-		75-125	-		20
Vanadium, Total	32.9	41	65.7	80		-	-		75-125	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1849531

Project Number: 0136-018-001

Report Date: 12/11/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits		
Total Metals - Mansfield Lab Associated sample(s): 01-02			QC Batch ID: WG1187808-3		WG1187808-4	QC Sample: L1849494-07		Client ID: MS Sample			
Mercury, Total	ND	0.161	0.248	154	Q	0.229	140	Q	80-120	8	20

Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1849531**Report Date:** 12/11/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1187498-4 QC Sample: L1849419-01 Client ID: DUP Sample						
Lead, Total	1.22J	1.44J	mg/kg	NC		20

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1849531**Report Date:** 12/11/18**SAMPLE RESULTS****Lab ID:** L1849531-01**Client ID:** MW-4 (16-18)**Sample Location:** BUFFALO**Date Collected:** 12/04/18 12:47**Date Received:** 12/04/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.3		%	0.100	NA	1	-	12/06/18 14:21	121,2540G	RI



Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1849531**Report Date:** 12/11/18**SAMPLE RESULTS****Lab ID:** L1849531-02**Client ID:** MW-1 (16-18)**Sample Location:** BUFFALO**Date Collected:** 12/04/18 15:40**Date Received:** 12/04/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.2		%	0.100	NA	1	-	12/06/18 14:21	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1849531**Report Date:** 12/11/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1186437-1 QC Sample: L1849414-01 Client ID: DUP Sample						
Solids, Total	18.9	18.8	%	1		20

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Serial_No:12111819:09
Lab Number: L1849531
Report Date: 12/11/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1849531-01A	5 gram Encore Sampler	A	NA		4.5	Y	Absent		NYTCL-8260HLW-R2(14)
L1849531-01B	5 gram Encore Sampler	A	NA		4.5	Y	Absent		NYTCL-8260HLW-R2(14)
L1849531-01C	5 gram Encore Sampler	A	NA		4.5	Y	Absent		NYTCL-8260HLW-R2(14)
L1849531-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1849531-01E	Glass 120ml/4oz unpreserved	A	NA		4.5	Y	Absent		NYTCL-8270(14),TS(7)
L1849531-01X	Vial MeOH preserved split	A	NA		4.5	Y	Absent		NYTCL-8260HLW-R2(14)
L1849531-01Y	Vial Water preserved split	A	NA		4.5	Y	Absent	05-DEC-18 09:29	NYTCL-8260HLW-R2(14)
L1849531-01Z	Vial Water preserved split	A	NA		4.5	Y	Absent	05-DEC-18 09:29	NYTCL-8260HLW-R2(14)
L1849531-02A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.5	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1849531-02B	Glass 120ml/4oz unpreserved	A	NA		4.5	Y	Absent		NYTCL-8270(14),TS(7)

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1849531
Report Date: 12/11/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1849531**Project Number:** 0136-018-001**Report Date:** 12/11/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1849531
Report Date: 12/11/18

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.

ID No.:17873

Facility: **Company-wide**

Revision 12

Department: **Quality Assurance**

Published Date: 10/9/2018 4:58:19 PM

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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate. **EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-896-9220 FAX: 508-898-9193 Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 12/31/18		ALPHA Job # L1849531																																																											
		Project Information Project Name: 441 Elmwood Ave Project Location: B. Rd. Project # 0136-18-001 (Use Project name as Project #) ☒		Deliverables ☐ ASP-A ☐ ASP-B ☐ EQUIS (1 File) ☐ EQUIS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #																																																													
Client Information Client: T. B. ... Address: 7554 Humboldt Ave Lockport, NY 14218 Phone: (716) 818-8358 Fax: (716) 856-0583 Email: T.B. ...		Project Manager: Nate ... ALPHAQuote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days:		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:																																																													
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: CAT B		ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)		Total Bottles																																																													
Please specify Metals or TAL.		<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 rowspan="2">TAL</th> <th rowspan="2">METALS</th> <th rowspan="2">TAL</th> <th rowspan="2">METALS</th> <th rowspan="2">TAL</th> <th rowspan="2">METALS</th> <th rowspan="2">TAL</th> <th rowspan="2">METALS</th> <th rowspan="2">TAL</th> <th rowspan="2">METALS</th> <th rowspan="2">TAL</th> <th rowspan="2">METALS</th> <th rowspan="2">TAL</th> <th rowspan="2">METALS</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>49531-01</td> <td>MW-4(16-18)</td> <td>12/4/18</td> <td>12:17</td> <td>Soil</td> <td>TAB</td> <td>3</td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5</td> </tr> <tr> <td>-02</td> <td>MW-1(16-18)</td> <td></td> <td>15:40</td> <td>Soil</td> <td>TAB</td> <td></td> <td>1</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> </tbody> </table>		ALPHA Lab ID (Lab Use Only)	Sample ID			Collection		Sample Matrix	Sampler's Initials	TAL	METALS	TAL	METALS	TAL	METALS	TAL	METALS	TAL	METALS	TAL	METALS	TAL	METALS	Date	Time	49531-01	MW-4(16-18)	12/4/18	12:17	Soil	TAB	3	1	1												5	-02	MW-1(16-18)		15:40	Soil	TAB		1	1										
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-02	MW-1(16-18)		15:40	Soil	TAB		1	1												2																																															
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type E A A Preservative A A A		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)																																																											
Form No: 01-25 HC (rev. 30-Sept-2013)		Relinquished By: [Signature] Date/Time: 12/4/18 16:05 12/4/18 16:40		Received By: [Signature] Date/Time: 12/4/18 16:05 12/31/18 02:05																																																															



ANALYTICAL REPORT

Lab Number:	L1849740
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD
Project Number:	0136-018-001
Report Date:	12/12/18

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1849740-01	MW-2 (16-18)	SOIL	BUFFALO, NY	12/05/18 14:15	12/05/18
L1849740-02	MW-2 (16-20)	SOIL	BUFFALO, NY	12/05/18 14:25	12/05/18

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

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: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

Case Narrative (continued)

Report Submission

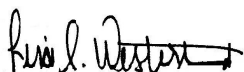
All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

L1849740-02: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

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

Authorized Signature:



Lisa Westerlind

Title: Technical Director/Representative

Date: 12/12/18

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-01
 Client ID: MW-2 (16-18)
 Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:15
 Date Received: 12/05/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 12/11/18 12:27
 Analyst: MV
 Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	6.9	3.2	1
1,1-Dichloroethane	ND		ug/kg	1.4	0.20	1
Chloroform	0.19	J	ug/kg	2.1	0.19	1
Carbon tetrachloride	ND		ug/kg	1.4	0.32	1
1,2-Dichloropropane	ND		ug/kg	1.4	0.17	1
Dibromochloromethane	ND		ug/kg	1.4	0.19	1
1,1,2-Trichloroethane	ND		ug/kg	1.4	0.37	1
Tetrachloroethene	ND		ug/kg	0.69	0.27	1
Chlorobenzene	ND		ug/kg	0.69	0.18	1
Trichlorofluoromethane	ND		ug/kg	5.6	0.96	1
1,2-Dichloroethane	ND		ug/kg	1.4	0.36	1
1,1,1-Trichloroethane	1.9		ug/kg	0.69	0.23	1
Bromodichloromethane	ND		ug/kg	0.69	0.15	1
trans-1,3-Dichloropropene	ND		ug/kg	1.4	0.38	1
cis-1,3-Dichloropropene	ND		ug/kg	0.69	0.22	1
Bromoform	ND		ug/kg	5.6	0.34	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.69	0.23	1
Benzene	ND		ug/kg	0.69	0.23	1
Toluene	ND		ug/kg	1.4	0.75	1
Ethylbenzene	ND		ug/kg	1.4	0.20	1
Chloromethane	ND		ug/kg	5.6	1.3	1
Bromomethane	ND		ug/kg	2.8	0.81	1
Vinyl chloride	ND		ug/kg	1.4	0.46	1
Chloroethane	ND		ug/kg	2.8	0.63	1
1,1-Dichloroethene	ND		ug/kg	1.4	0.33	1
trans-1,2-Dichloroethene	ND		ug/kg	2.1	0.19	1
Trichloroethene	ND		ug/kg	0.69	0.19	1
1,2-Dichlorobenzene	ND		ug/kg	2.8	0.20	1

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-01

Date Collected: 12/05/18 14:15

Client ID: MW-2 (16-18)

Date Received: 12/05/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.8	0.20	1
1,4-Dichlorobenzene	ND		ug/kg	2.8	0.24	1
Methyl tert butyl ether	ND		ug/kg	2.8	0.28	1
p/m-Xylene	ND		ug/kg	2.8	0.78	1
o-Xylene	ND		ug/kg	1.4	0.40	1
cis-1,2-Dichloroethene	ND		ug/kg	1.4	0.24	1
Styrene	ND		ug/kg	1.4	0.27	1
Dichlorodifluoromethane	ND		ug/kg	14	1.3	1
Acetone	ND		ug/kg	14	6.7	1
Carbon disulfide	ND		ug/kg	14	6.3	1
2-Butanone	ND		ug/kg	14	3.1	1
4-Methyl-2-pentanone	ND		ug/kg	14	1.8	1
2-Hexanone	ND		ug/kg	14	1.6	1
Bromochloromethane	ND		ug/kg	2.8	0.28	1
1,2-Dibromoethane	ND		ug/kg	1.4	0.39	1
n-Butylbenzene	ND		ug/kg	1.4	0.23	1
sec-Butylbenzene	ND		ug/kg	1.4	0.20	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	4.2	1.4	1
Isopropylbenzene	ND		ug/kg	1.4	0.15	1
p-Isopropyltoluene	ND		ug/kg	1.4	0.15	1
n-Propylbenzene	ND		ug/kg	1.4	0.24	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.8	0.45	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.8	0.38	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.8	0.27	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.8	0.46	1
Methyl Acetate	ND		ug/kg	5.6	1.3	1
Cyclohexane	ND		ug/kg	14	0.76	1
1,4-Dioxane	ND		ug/kg	140	49.	1
Freon-113	ND		ug/kg	5.6	0.96	1
Methyl cyclohexane	ND		ug/kg	5.6	0.84	1

Tentatively Identified Compounds

Total TIC Compounds	3.43	J	ug/kg	1
Unknown Alkane	3.43	J	ug/kg	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-01
Client ID: MW-2 (16-18)
Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:15
Date Received: 12/05/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Volatile Organics by 8260/5035 - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	110		70-130
Dibromofluoromethane	116		70-130

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/11/18 08:27

Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1188085-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/11/18 08:27

Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1188085-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	100	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/11/18 08:27

Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1188085-5					

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	115		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG1188085-3 WG1188085-4								
Methylene chloride	104		99		70-130	5		30
1,1-Dichloroethane	113		108		70-130	5		30
Chloroform	115		108		70-130	6		30
Carbon tetrachloride	116		112		70-130	4		30
1,2-Dichloropropane	112		108		70-130	4		30
Dibromochloromethane	104		99		70-130	5		30
1,1,2-Trichloroethane	105		98		70-130	7		30
Tetrachloroethene	111		108		70-130	3		30
Chlorobenzene	106		101		70-130	5		30
Trichlorofluoromethane	124		118		70-139	5		30
1,2-Dichloroethane	110		106		70-130	4		30
1,1,1-Trichloroethane	115		110		70-130	4		30
Bromodichloromethane	116		110		70-130	5		30
trans-1,3-Dichloropropene	103		97		70-130	6		30
cis-1,3-Dichloropropene	120		115		70-130	4		30
Bromoform	99		96		70-130	3		30
1,1,2,2-Tetrachloroethane	102		96		70-130	6		30
Benzene	113		109		70-130	4		30
Toluene	106		102		70-130	4		30
Ethylbenzene	108		104		70-130	4		30
Chloromethane	92		89		52-130	3		30
Bromomethane	134		123		57-147	9		30
Vinyl chloride	109		105		67-130	4		30

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG1188085-3 WG1188085-4								
Chloroethane	121		115		50-151	5		30
1,1-Dichloroethene	122		146	Q	65-135	18		30
trans-1,2-Dichloroethene	115		110		70-130	4		30
Trichloroethene	116		109		70-130	6		30
1,2-Dichlorobenzene	107		102		70-130	5		30
1,3-Dichlorobenzene	108		103		70-130	5		30
1,4-Dichlorobenzene	106		100		70-130	6		30
Methyl tert butyl ether	108		103		66-130	5		30
p/m-Xylene	112		106		70-130	6		30
o-Xylene	111		105		70-130	6		30
cis-1,2-Dichloroethene	116		110		70-130	5		30
Styrene	112		107		70-130	5		30
Dichlorodifluoromethane	106		100		30-146	6		30
Acetone	89		88		54-140	1		30
Carbon disulfide	108		126		59-130	15		30
2-Butanone	100		96		70-130	4		30
4-Methyl-2-pentanone	99		93		70-130	6		30
2-Hexanone	98		90		70-130	9		30
Bromochloromethane	114		108		70-130	5		30
1,2-Dibromoethane	101		97		70-130	4		30
n-Butylbenzene	110		105		70-130	5		30
sec-Butylbenzene	108		103		70-130	5		30
1,2-Dibromo-3-chloropropane	88		85		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG1188085-3 WG1188085-4								
Isopropylbenzene	106		102		70-130	4		30
p-Isopropyltoluene	109		104		70-130	5		30
n-Propylbenzene	108		102		70-130	6		30
1,2,3-Trichlorobenzene	108		102		70-130	6		30
1,2,4-Trichlorobenzene	112		106		70-130	6		30
1,3,5-Trimethylbenzene	107		102		70-130	5		30
1,2,4-Trimethylbenzene	107		101		70-130	6		30
Methyl Acetate	100		92		51-146	8		30
Cyclohexane	119		115		59-142	3		30
1,4-Dioxane	95		87		65-136	9		30
Freon-113	125		139		50-139	11		30
Methyl cyclohexane	121		116		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		106		70-130
Toluene-d8	106		106		70-130
4-Bromofluorobenzene	111		109		70-130
Dibromofluoromethane	116		115		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02
Client ID: MW-2 (16-20)
Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:25
Date Received: 12/05/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/12/18 00:15
Analyst: RC
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/08/18 01:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	52.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	68.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	37.	1
Di-n-octylphthalate	ND		ug/kg	200	67.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02

Date Collected: 12/05/18 14:25

Client ID: MW-2 (16-20)

Date Received: 12/05/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	450	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	200	29.	1
2-Chlorophenol	ND		ug/kg	200	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	65.	1
2-Nitrophenol	ND		ug/kg	430	74.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	950	92.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	95.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	69.	1
Benzaldehyde	ND		ug/kg	260	53.	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02
Client ID: MW-2 (16-20)
Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:25
Date Received: 12/05/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	60.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		25-120
Phenol-d6	79		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	78		30-120
2,4,6-Tribromophenol	81		10-136
4-Terphenyl-d14	62		18-120

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/08/18 23:08
 Analyst: SZ

Extraction Method: EPA 3546
 Extraction Date: 12/07/18 23:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1187044-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	27.

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/08/18 23:08
 Analyst: SZ

Extraction Method: EPA 3546
 Extraction Date: 12/07/18 23:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1187044-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/08/18 23:08
 Analyst: SZ

Extraction Method: EPA 3546
 Extraction Date: 12/07/18 23:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1187044-1					
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	210	44.
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	91		25-120
Phenol-d6	91		10-120
Nitrobenzene-d5	92		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	90		10-136
4-Terphenyl-d14	84		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1187044-2 WG1187044-3								
Acenaphthene	84		85		31-137	1		50
Hexachlorobenzene	86		86		40-140	0		50
Bis(2-chloroethyl)ether	79		81		40-140	3		50
2-Chloronaphthalene	86		87		40-140	1		50
3,3'-Dichlorobenzidine	49		49		40-140	0		50
2,4-Dinitrotoluene	106		110		40-132	4		50
2,6-Dinitrotoluene	100		101		40-140	1		50
Fluoranthene	90		92		40-140	2		50
4-Chlorophenyl phenyl ether	82		83		40-140	1		50
4-Bromophenyl phenyl ether	83		84		40-140	1		50
Bis(2-chloroisopropyl)ether	82		82		40-140	0		50
Bis(2-chloroethoxy)methane	86		86		40-117	0		50
Hexachlorobutadiene	68		69		40-140	1		50
Hexachlorocyclopentadiene	70		72		40-140	3		50
Hexachloroethane	78		77		40-140	1		50
Isophorone	86		85		40-140	1		50
Naphthalene	83		83		40-140	0		50
Nitrobenzene	87		88		40-140	1		50
NDPA/DPA	88		89		36-157	1		50
n-Nitrosodi-n-propylamine	84		84		32-121	0		50
Bis(2-ethylhexyl)phthalate	106		107		40-140	1		50
Butyl benzyl phthalate	106		107		40-140	1		50
Di-n-butylphthalate	100		103		40-140	3		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1187044-2 WG1187044-3								
Di-n-octylphthalate	111		112		40-140	1		50
Diethyl phthalate	91		92		40-140	1		50
Dimethyl phthalate	87		87		40-140	0		50
Benzo(a)anthracene	86		86		40-140	0		50
Benzo(a)pyrene	100		99		40-140	1		50
Benzo(b)fluoranthene	93		94		40-140	1		50
Benzo(k)fluoranthene	100		98		40-140	2		50
Chrysene	89		91		40-140	2		50
Acenaphthylene	90		91		40-140	1		50
Anthracene	95		96		40-140	1		50
Benzo(ghi)perylene	99		99		40-140	0		50
Fluorene	90		92		40-140	2		50
Phenanthrene	90		91		40-140	1		50
Dibenzo(a,h)anthracene	96		96		40-140	0		50
Indeno(1,2,3-cd)pyrene	97		98		40-140	1		50
Pyrene	90		92		35-142	2		50
Biphenyl	90		89		54-104	1		50
4-Chloroaniline	37	Q	36	Q	40-140	3		50
2-Nitroaniline	107		105		47-134	2		50
3-Nitroaniline	67		68		26-129	1		50
4-Nitroaniline	96		102		41-125	6		50
Dibenzofuran	89		91		40-140	2		50
2-Methylnaphthalene	86		86		40-140	0		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1187044-2 WG1187044-3								
1,2,4,5-Tetrachlorobenzene	82		84		40-117	2		50
Acetophenone	86		87		14-144	1		50
2,4,6-Trichlorophenol	92		92		30-130	0		50
p-Chloro-m-cresol	97		97		26-103	0		50
2-Chlorophenol	86		88		25-102	2		50
2,4-Dichlorophenol	94		94		30-130	0		50
2,4-Dimethylphenol	96		94		30-130	2		50
2-Nitrophenol	101		101		30-130	0		50
4-Nitrophenol	114		118	Q	11-114	3		50
2,4-Dinitrophenol	106		109		4-130	3		50
4,6-Dinitro-o-cresol	104		107		10-130	3		50
Pentachlorophenol	93		95		17-109	2		50
Phenol	90		88		26-90	2		50
2-Methylphenol	93		93		30-130.	0		50
3-Methylphenol/4-Methylphenol	95		94		30-130	1		50
2,4,5-Trichlorophenol	90		91		30-130	1		50
Carbazole	96		97		54-128	1		50
Atrazine	85		86		40-140	1		50
Benzaldehyde	67		67		40-140	0		50
Caprolactam	128		128		15-130	0		50
2,3,4,6-Tetrachlorophenol	87		90		40-140	3		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1187044-2 WG1187044-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	89		89		25-120
Phenol-d6	93		91		10-120
Nitrobenzene-d5	91		89		23-120
2-Fluorobiphenyl	85		85		30-120
2,4,6-Tribromophenol	95		96		10-136
4-Terphenyl-d14	82		82		18-120

PCBS

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02
Client ID: MW-2 (16-20)
Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:25
Date Received: 12/05/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/11/18 10:33
Analyst: HT
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/08/18 10:57
Cleanup Method: EPA 3665A
Cleanup Date: 12/09/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/09/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	39.3	3.49	1	A
Aroclor 1221	ND		ug/kg	39.3	3.94	1	A
Aroclor 1232	ND		ug/kg	39.3	8.33	1	A
Aroclor 1242	ND		ug/kg	39.3	5.30	1	A
Aroclor 1248	ND		ug/kg	39.3	5.89	1	A
Aroclor 1254	ND		ug/kg	39.3	4.30	1	A
Aroclor 1260	ND		ug/kg	39.3	7.26	1	A
Aroclor 1262	ND		ug/kg	39.3	4.99	1	A
Aroclor 1268	ND		ug/kg	39.3	4.07	1	A
PCBs, Total	ND		ug/kg	39.3	3.49	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	79		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A
 Analytical Date: 12/11/18 13:20
 Analyst: HT

Extraction Method: EPA 3546
 Extraction Date: 12/08/18 10:57
 Cleanup Method: EPA 3665A
 Cleanup Date: 12/09/18
 Cleanup Method: EPA 3660B
 Cleanup Date: 12/09/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 02 Batch: WG1187143-1						
Aroclor 1016	ND		ug/kg	32.3	2.87	A
Aroclor 1221	ND		ug/kg	32.3	3.23	A
Aroclor 1232	ND		ug/kg	32.3	6.84	A
Aroclor 1242	ND		ug/kg	32.3	4.35	A
Aroclor 1248	ND		ug/kg	32.3	4.84	A
Aroclor 1254	ND		ug/kg	32.3	3.53	A
Aroclor 1260	ND		ug/kg	32.3	5.96	A
Aroclor 1262	ND		ug/kg	32.3	4.10	A
Aroclor 1268	ND		ug/kg	32.3	3.34	A
PCBs, Total	ND		ug/kg	32.3	2.87	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	98		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	94		30-150	B
Decachlorobiphenyl	96		30-150	B

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 02 Batch: WG1187143-2 WG1187143-3									
Aroclor 1016	78		88		40-140	12		50	A
Aroclor 1260	71		79		40-140	11		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		99		30-150	A
Decachlorobiphenyl	65		69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	90		97		30-150	B
Decachlorobiphenyl	87		87		30-150	B

PESTICIDES

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02
Client ID: MW-2 (16-20)
Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:25
Date Received: 12/05/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 12/10/18 14:21
Analyst: JW
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 12/08/18 04:24
Cleanup Method: EPA 3620B
Cleanup Date: 12/09/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.92	0.376	1	A
Lindane	ND		ug/kg	0.799	0.357	1	A
Alpha-BHC	ND		ug/kg	0.799	0.227	1	A
Beta-BHC	ND		ug/kg	1.92	0.727	1	A
Heptachlor	ND		ug/kg	0.959	0.430	1	A
Aldrin	ND		ug/kg	1.92	0.675	1	A
Heptachlor epoxide	ND		ug/kg	3.60	1.08	1	A
Endrin	ND		ug/kg	0.799	0.328	1	A
Endrin aldehyde	ND		ug/kg	2.40	0.839	1	A
Endrin ketone	ND		ug/kg	1.92	0.494	1	A
Dieldrin	ND		ug/kg	1.20	0.600	1	A
4,4'-DDE	ND		ug/kg	1.92	0.444	1	A
4,4'-DDD	ND		ug/kg	1.92	0.684	1	A
4,4'-DDT	ND		ug/kg	3.60	1.54	1	A
Endosulfan I	ND		ug/kg	1.92	0.453	1	A
Endosulfan II	ND		ug/kg	1.92	0.641	1	A
Endosulfan sulfate	ND		ug/kg	0.799	0.380	1	A
Methoxychlor	ND		ug/kg	3.60	1.12	1	A
Toxaphene	ND		ug/kg	36.0	10.1	1	A
cis-Chlordane	ND		ug/kg	2.40	0.668	1	A
trans-Chlordane	ND		ug/kg	2.40	0.633	1	A
Chlordane	ND		ug/kg	15.6	6.36	1	A

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02
Client ID: MW-2 (16-20)
Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:25
Date Received: 12/05/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	88		30-150	B
Decachlorobiphenyl	96		30-150	B
2,4,5,6-Tetrachloro-m-xylene	78		30-150	A
Decachlorobiphenyl	98		30-150	A

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02
Client ID: MW-2 (16-20)
Sample Location: BUFFALO, NY

Date Collected: 12/05/18 14:25
Date Received: 12/05/18
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 12/10/18 17:30
Analyst: DGM
Percent Solids: 82%
Methylation Date: 12/08/18 15:40

Extraction Method: EPA 8151A
Extraction Date: 12/07/18 17:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/kg	199	12.5	1	B
2,4,5-T	ND		ug/kg	199	6.17	1	B
2,4,5-TP (Silvex)	ND		ug/kg	199	5.29	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	121		30-150	A
DCAA	105		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8151A

Extraction Method: EPA 8151A

Analytical Date: 12/10/18 05:00

Extraction Date: 12/07/18 17:03

Analyst: DGM

Methylation Date: 12/08/18 15:40

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 02 Batch: WG1186951-1						
2,4-D	ND		ug/kg	164	10.3	B
2,4,5-T	ND		ug/kg	164	5.08	B
2,4,5-TP (Silvex)	ND		ug/kg	164	4.36	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	119		30-150	A
DCAA	110		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 12/09/18 19:39
 Analyst: SL

Extraction Method: EPA 3546
 Extraction Date: 12/08/18 04:24
 Cleanup Method: EPA 3620B
 Cleanup Date: 12/09/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 02 Batch: WG1187063-1						
Delta-BHC	ND		ug/kg	1.52	0.297	A
Lindane	ND		ug/kg	0.632	0.282	A
Alpha-BHC	ND		ug/kg	0.632	0.180	A
Beta-BHC	ND		ug/kg	1.52	0.575	A
Heptachlor	ND		ug/kg	0.758	0.340	A
Aldrin	ND		ug/kg	1.52	0.534	A
Heptachlor epoxide	ND		ug/kg	2.84	0.853	A
Endrin	ND		ug/kg	0.632	0.259	A
Endrin aldehyde	ND		ug/kg	1.90	0.664	A
Endrin ketone	ND		ug/kg	1.52	0.391	A
Dieldrin	ND		ug/kg	0.948	0.474	A
4,4'-DDE	ND		ug/kg	1.52	0.351	A
4,4'-DDD	ND		ug/kg	1.52	0.541	A
4,4'-DDT	ND		ug/kg	2.84	1.22	A
Endosulfan I	ND		ug/kg	1.52	0.358	A
Endosulfan II	ND		ug/kg	1.52	0.507	A
Endosulfan sulfate	ND		ug/kg	0.632	0.301	A
Methoxychlor	ND		ug/kg	2.84	0.885	A
Toxaphene	ND		ug/kg	28.4	7.96	A
cis-Chlordane	ND		ug/kg	1.90	0.528	A
trans-Chlordane	ND		ug/kg	1.90	0.501	A
Chlordane	ND		ug/kg	12.3	5.02	A

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 12/09/18 19:39
 Analyst: SL

Extraction Method: EPA 3546
 Extraction Date: 12/08/18 04:24
 Cleanup Method: EPA 3620B
 Cleanup Date: 12/09/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 02 Batch: WG1187063-1						

Surrogate	%Recovery	Qualifier	Acceptance	
			Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	76		30-150	B
2,4,5,6-Tetrachloro-m-xylene	74		30-150	A
Decachlorobiphenyl	78		30-150	A

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 02 Batch: WG1186951-2 WG1186951-3									
2,4-D	112		110		30-150	2		30	B
2,4,5-T	105		106		30-150	1		30	B
2,4,5-TP (Silvex)	96		96		30-150	0		30	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	118		117		30-150	A
DCAA	125		109		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 02 Batch: WG1187063-2 WG1187063-3									
Delta-BHC	72		78		30-150	8		30	A
Lindane	69		77		30-150	11		30	A
Alpha-BHC	75		84		30-150	11		30	A
Beta-BHC	70		75		30-150	7		30	A
Heptachlor	70		78		30-150	11		30	A
Aldrin	63		68		30-150	8		30	A
Heptachlor epoxide	72		79		30-150	9		30	A
Endrin	75		78		30-150	4		30	A
Endrin aldehyde	52		51		30-150	2		30	A
Endrin ketone	68		70		30-150	3		30	A
Dieldrin	75		79		30-150	5		30	A
4,4'-DDE	52		62		30-150	18		30	A
4,4'-DDD	86		73		30-150	16		30	A
4,4'-DDT	81		75		30-150	8		30	A
Endosulfan I	62		66		30-150	6		30	A
Endosulfan II	67		70		30-150	4		30	A
Endosulfan sulfate	66		52		30-150	24		30	A
Methoxychlor	78		79		30-150	1		30	A
cis-Chlordane	86		56		30-150	42	Q	30	A
trans-Chlordane	46		51		30-150	10		30	A

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

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

Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 02 Batch: WG1187063-2 WG1187063-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	87		79		30-150	B
Decachlorobiphenyl	95		81		30-150	B
2,4,5,6-Tetrachloro-m-xylene	64		71		30-150	A
Decachlorobiphenyl	82		84		30-150	A

METALS

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

SAMPLE RESULTS

Lab ID: L1849740-02

Date Collected: 12/05/18 14:25

Client ID: MW-2 (16-20)

Date Received: 12/05/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1650		mg/kg	9.57	2.58	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Antimony, Total	ND		mg/kg	4.78	0.364	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Arsenic, Total	1.31		mg/kg	0.957	0.199	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Barium, Total	11.7		mg/kg	0.957	0.166	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Beryllium, Total	0.038	J	mg/kg	0.478	0.032	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Cadmium, Total	0.325	J	mg/kg	0.957	0.094	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Calcium, Total	56400		mg/kg	9.57	3.35	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Chromium, Total	4.22		mg/kg	0.957	0.092	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Cobalt, Total	2.25		mg/kg	1.91	0.159	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Copper, Total	6.12		mg/kg	0.957	0.247	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Iron, Total	6350		mg/kg	4.78	0.864	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Lead, Total	9.13		mg/kg	4.78	0.256	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Magnesium, Total	22600		mg/kg	9.57	1.47	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Manganese, Total	209		mg/kg	0.957	0.152	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Mercury, Total	ND		mg/kg	0.076	0.016	1	12/11/18 06:10	12/11/18 16:41	EPA 7471B	1,7471B	MG
Nickel, Total	3.01		mg/kg	2.39	0.232	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Potassium, Total	321		mg/kg	239	13.8	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Selenium, Total	0.335	J	mg/kg	1.91	0.247	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Silver, Total	ND		mg/kg	0.957	0.271	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Sodium, Total	422		mg/kg	191	3.01	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Thallium, Total	ND		mg/kg	1.91	0.301	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Vanadium, Total	10.0		mg/kg	0.957	0.194	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB
Zinc, Total	76.3		mg/kg	4.78	0.280	2	12/11/18 11:40	12/11/18 18:07	EPA 3050B	1,6010D	AB



Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

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): 02 Batch: WG1187810-1										
Mercury, Total	0.039	J	mg/kg	0.083	0.018	1	12/11/18 06:10	12/11/18 15:48	1,7471B	MG

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): 02 Batch: WG1187982-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	12/11/18 11:40	12/11/18 17:44	1,6010D	AB
Antimony, Total	ND		mg/kg	2.00	0.152	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	0.083	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Barium, Total	ND		mg/kg	0.400	0.070	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	0.013	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Calcium, Total	ND		mg/kg	4.00	1.40	1	12/11/18 11:40	12/11/18 17:44	1,6010D	AB
Chromium, Total	ND		mg/kg	0.400	0.038	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Cobalt, Total	ND		mg/kg	0.800	0.066	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Copper, Total	ND		mg/kg	0.400	0.103	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Iron, Total	ND		mg/kg	2.00	0.361	1	12/11/18 11:40	12/11/18 17:44	1,6010D	AB
Lead, Total	ND		mg/kg	2.00	0.107	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Magnesium, Total	ND		mg/kg	4.00	0.616	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Manganese, Total	0.160	J	mg/kg	0.400	0.064	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Nickel, Total	ND		mg/kg	1.00	0.097	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Potassium, Total	ND		mg/kg	100	5.76	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Selenium, Total	ND		mg/kg	0.800	0.103	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Silver, Total	ND		mg/kg	0.400	0.113	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Sodium, Total	3.92	J	mg/kg	80.0	1.26	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Thallium, Total	ND		mg/kg	0.800	0.126	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	0.081	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC
Zinc, Total	ND		mg/kg	2.00	0.117	1	12/11/18 11:40	12/11/18 14:42	1,6010D	LC

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1187810-2 SRM Lot Number: D102-540								
Mercury, Total	123		-		65-134	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1187982-2 SRM Lot Number: D102-540					
Aluminum, Total	78	-	49-150	-	
Antimony, Total	156	-	1-199	-	
Arsenic, Total	114	-	83-117	-	
Barium, Total	105	-	83-118	-	
Beryllium, Total	109	-	83-116	-	
Cadmium, Total	101	-	83-118	-	
Calcium, Total	115	-	82-118	-	
Chromium, Total	108	-	83-117	-	
Cobalt, Total	104	-	84-116	-	
Copper, Total	107	-	84-116	-	
Iron, Total	112	-	61-139	-	
Lead, Total	104	-	82-118	-	
Magnesium, Total	93	-	76-124	-	
Manganese, Total	110	-	82-118	-	
Nickel, Total	103	-	83-117	-	
Potassium, Total	92	-	70-130	-	
Selenium, Total	109	-	79-121	-	
Silver, Total	116	-	80-120	-	
Sodium, Total	95	-	74-126	-	
Thallium, Total	98	-	81-119	-	
Vanadium, Total	103	-	80-120	-	

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02 Batch: WG1187982-2 SRM Lot Number: D102-540					
Zinc, Total	104	-	81-118	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

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): 02 QC Batch ID: WG1187810-3 QC Sample: L1849573-02 Client ID: MS Sample												
Mercury, Total	0.224	0.148	0.560	227	Q	-	-		80-120	-		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits		
Total Metals - Mansfield Lab Associated sample(s): 02 QC Batch ID: WG1187982-3 WG1187982-4 QC Sample: L1850029-03 Client ID: MS Sample											
Aluminum, Total	6650	218	6410	0	Q	7440	353	Q	75-125	15	20
Antimony, Total	2.79	54.6	49.0	84		52.5	89		75-125	7	20
Arsenic, Total	25.6	13.1	38.5	98		40.2	109		75-125	4	20
Barium, Total	40.6	218	245	94		256	96		75-125	4	20
Beryllium, Total	0.486	5.46	5.52	92		5.75	94		75-125	4	20
Cadmium, Total	1.80	5.57	6.80	90		6.93	90		75-125	2	20
Calcium, Total	5360	1090	6300	86		9570	376	Q	75-125	41	Q 20
Chromium, Total	42.7	21.8	64.5	100		83.1	181	Q	75-125	25	Q 20
Cobalt, Total	7.34	54.6	53.1	84		55.6	86		75-125	5	20
Copper, Total	178	27.3	198	73	Q	222	157	Q	75-125	11	20
Iron, Total	61200	109	62000	732	Q	61300	89		75-125	1	20
Lead, Total	84.0	55.7	124	72	Q	136	91		75-125	9	20
Magnesium, Total	2160	1090	3200	95		4710	228	Q	75-125	38	Q 20
Manganese, Total	375	54.6	405	55	Q	481	190	Q	75-125	17	20
Nickel, Total	42.1	54.6	87.2	82		97.3	99		75-125	11	20
Potassium, Total	447	1090	1440	91		1540	98		75-125	7	20
Selenium, Total	3.10	13.1	15.6	95		15.8	95		75-125	1	20
Silver, Total	0.246J	32.8	38.0	116		40.3	120		75-125	6	20
Sodium, Total	232	1090	1300	98		1370	102		75-125	5	20
Thallium, Total	0.641J	13.1	10.5	80		10.7	80		75-125	2	20
Vanadium, Total	29.2	54.6	74.0	82		81.8	94		75-125	10	20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1849740

Project Number: 0136-018-001

Report Date: 12/12/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02 QC Batch ID: WG1187982-3 WG1187982-4 QC Sample: L1850029-03 Client ID: MS Sample									
Zinc, Total	4420	54.6	4130	0	Q	4670	447	Q	75-125 12 20

Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1849740**Report Date:** 12/12/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 02 QC Batch ID: WG1187810-4 QC Sample: L1849573-02 Client ID: DUP Sample						
Mercury, Total	0.224	0.330	mg/kg	38	Q	20

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1849740**Report Date:** 12/12/18**SAMPLE RESULTS****Lab ID:** L1849740-01**Client ID:** MW-2 (16-18)**Sample Location:** BUFFALO, NY**Date Collected:** 12/05/18 14:15**Date Received:** 12/05/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.7		%	0.100	NA	1	-	12/07/18 13:28	121,2540G	RI



Project Name: 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1849740**Report Date:** 12/12/18**SAMPLE RESULTS****Lab ID:** L1849740-02**Client ID:** MW-2 (16-20)**Sample Location:** BUFFALO, NY**Date Collected:** 12/05/18 14:25**Date Received:** 12/05/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.3		%	0.100	NA	1	-	12/08/18 11:37	121,2540G	RI



Lab Duplicate Analysis *Batch Quality Control*

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1849740

Report Date: 12/12/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1186875-1 QC Sample: L1849638-03 Client ID: DUP Sample						
Solids, Total	90.7	89.6	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 02 QC Batch ID: WG1187132-1 QC Sample: L1847084-10 Client ID: DUP Sample						
Solids, Total	90.5	90.4	%	0		20

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Serial_No:12121816:34
Lab Number: L1849740
Report Date: 12/12/18

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1849740-01A	5 gram Encore Sampler	A	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1849740-01B	5 gram Encore Sampler	A	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1849740-01C	5 gram Encore Sampler	A	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1849740-01D	Plastic 2oz unpreserved for TS	A	NA		2.9	Y	Absent		TS(7)
L1849740-01X	Vial MeOH preserved split	A	NA		2.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1849740-01Y	Vial Water preserved split	A	NA		2.9	Y	Absent	06-DEC-18 14:21	NYTCL-8260HLW-R2(14)
L1849740-01Z	Vial Water preserved split	A	NA		2.9	Y	Absent	06-DEC-18 14:21	NYTCL-8260HLW-R2(14)
L1849740-02A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		2.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1849740-02B	Glass 60mL/2oz unpreserved	A	NA		2.9	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1849740-02C	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1849740-02D	Glass 120ml/4oz unpreserved	A	NA		2.9	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD**Lab Number:** L1849740**Project Number:** 0136-018-001**Report Date:** 12/12/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1849740
Report Date: 12/12/18

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**

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

 ALPHA LABORATORY		NEW YORK CHAIN OF CUSTODY		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 12/6/18		ALPHA Job # L1849740					
		Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288											
Project Information				Deliverables				Billing Information							
Project Name: 44 Elmwood				☐ ASP-A ☐ ASP-B				☐ Same as Client Info							
Project Location: Bull Run NY				☐ EQulS (1 File) ☐ EQulS (4 File)				PO #							
Project # 036-018-001				☐ Other											
(Use Project name as Project #) ☒				Regulatory Requirement				Disposal Site Information							
Project Manager: Nate Manning				☐ NY TOGS ☐ NY Part 375				Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:							
ALPHAQuote #:				☐ AWQ Standards ☐ NY CP-51											
Turn-Around Time				☐ NY Restricted Use ☐ Other											
Standard ☒ Due Date:				☐ NY Unrestricted Use											
Rush (only if pre approved) ☐ # of Days:				☐ NYC Sewer Discharge											
These samples have been previously analyzed by Alpha ☐								ANALYSIS				Sample Filtration			
Other project specific requirements/comments: C# B								T. Solids T. CP-51 + T. G VOC 5260 T. T. G 5290 TAL METALS Pest + Herb PCB ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)				Sample Specific Comments			
Please specify Metals or TAL.															
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection		Sample Matrix		Sampler's Initials							
				Date Time											
49740-01		MW-2 (16-18)		12/5/18 1415		Soil		JMS		+		+		4	
-02		MW-2 (16-20)		1425		Soil		+		+		+		+	
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type P E A A A A		Preservative A A A A A A		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: [Signature]		Date/Time: 12/5/18 1540		Received By: Jack Dong		Date/Time: 12/5/18 1540									
Relinquished By: [Signature]		Date/Time: 12/6/18 0135		Received By: Brenda AAC		Date/Time: 12/6/18 0135									



ANALYTICAL REPORT

Lab Number:	L1850055
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD
Project Number:	0136-018-001
Report Date:	12/13/18

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850055
Report Date: 12/13/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1850055-01	MW-3 (18-20)	SOIL	BUFFALO	12/06/18 11:00	12/06/18

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850055
Report Date: 12/13/18

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.

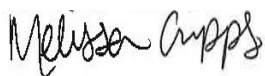
Project Name: 441 ELMWOOD**Lab Number:** L1850055**Project Number:** 0136-018-001**Report Date:** 12/13/18**Case Narrative (continued)**

Report Submission

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

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: 12/13/18

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01

Date Collected: 12/06/18 11:00

Client ID: MW-3 (18-20)

Date Received: 12/06/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/12/18 16:20

Analyst: PK

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	6.2	2.8	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.9	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.29	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.16	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.33	1
Tetrachloroethene	ND		ug/kg	0.62	0.24	1
Chlorobenzene	ND		ug/kg	0.62	0.16	1
Trichlorofluoromethane	ND		ug/kg	5.0	0.87	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.32	1
1,1,1-Trichloroethane	ND		ug/kg	0.62	0.21	1
Bromodichloromethane	ND		ug/kg	0.62	0.14	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.34	1
cis-1,3-Dichloropropene	ND		ug/kg	0.62	0.20	1
Bromoform	ND		ug/kg	5.0	0.31	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.62	0.21	1
Benzene	1.1		ug/kg	0.62	0.21	1
Toluene	9.6		ug/kg	1.2	0.68	1
Ethylbenzene	4.3		ug/kg	1.2	0.18	1
Chloromethane	ND		ug/kg	5.0	1.2	1
Bromomethane	ND		ug/kg	2.5	0.72	1
Vinyl chloride	ND		ug/kg	1.2	0.42	1
Chloroethane	ND		ug/kg	2.5	0.56	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	0.17	1
Trichloroethene	ND		ug/kg	0.62	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	0.18	1

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01

Date Collected: 12/06/18 11:00

Client ID: MW-3 (18-20)

Date Received: 12/06/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.5	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.5	0.25	1
p/m-Xylene	19		ug/kg	2.5	0.70	1
o-Xylene	6.4		ug/kg	1.2	0.36	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.22	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	20		ug/kg	12	6.0	1
Carbon disulfide	ND		ug/kg	12	5.7	1
2-Butanone	ND		ug/kg	12	2.8	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.5	1
Bromochloromethane	ND		ug/kg	2.5	0.26	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.35	1
n-Butylbenzene	1.1	J	ug/kg	1.2	0.21	1
sec-Butylbenzene	1.1	J	ug/kg	1.2	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.7	1.2	1
Isopropylbenzene	0.58	J	ug/kg	1.2	0.14	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.14	1
Naphthalene	1.6	J	ug/kg	5.0	0.81	1
n-Propylbenzene	1.6		ug/kg	1.2	0.21	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	0.40	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	0.34	1
1,3,5-Trimethylbenzene	3.6		ug/kg	2.5	0.24	1
1,2,4-Trimethylbenzene	12		ug/kg	2.5	0.42	1
Methyl Acetate	ND		ug/kg	5.0	1.2	1
Cyclohexane	4.8	J	ug/kg	12	0.68	1
1,4-Dioxane	ND		ug/kg	120	44.	1
Freon-113	ND		ug/kg	5.0	0.86	1
Methyl cyclohexane	6.1		ug/kg	5.0	0.75	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850055
Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01
Client ID: MW-3 (18-20)
Sample Location: BUFFALO

Date Collected: 12/06/18 11:00
Date Received: 12/06/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	83.9	J	ug/kg	1
Unknown	5.88	J	ug/kg	1
Pentane	15.2	NJ	ug/kg	1
Unknown Alkane	8.16	J	ug/kg	1
Hexane, 3-methyl-	5.62	NJ	ug/kg	1
Unknown	6.60	J	ug/kg	1
Unknown	6.32	J	ug/kg	1
Unknown	5.35	J	ug/kg	1
Pentane, 2-methyl-	15.0	NJ	ug/kg	1
Pentane, 2,3-dimethyl-	7.92	NJ	ug/kg	1
n-Hexane	7.86	NJ	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	99		70-130

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/12/18 08:01
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1188511-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/12/18 08:01

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1188511-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
Naphthalene	ND		ug/kg	4.0	0.65
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	100	35.
Freon-113	ND		ug/kg	4.0	0.69

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/12/18 08:01

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1188511-5					
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	102		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1188511-3 WG1188511-4								
Methylene chloride	101		99		70-130	2		30
1,1-Dichloroethane	108		105		70-130	3		30
Chloroform	105		103		70-130	2		30
Carbon tetrachloride	107		107		70-130	0		30
1,2-Dichloropropane	108		108		70-130	0		30
Dibromochloromethane	101		101		70-130	0		30
1,1,2-Trichloroethane	103		101		70-130	2		30
Tetrachloroethene	110		107		70-130	3		30
Chlorobenzene	102		101		70-130	1		30
Trichlorofluoromethane	103		102		70-139	1		30
1,2-Dichloroethane	104		102		70-130	2		30
1,1,1-Trichloroethane	109		108		70-130	1		30
Bromodichloromethane	107		107		70-130	0		30
trans-1,3-Dichloropropene	94		94		70-130	0		30
cis-1,3-Dichloropropene	102		101		70-130	1		30
Bromoform	96		100		70-130	4		30
1,1,2,2-Tetrachloroethane	97		100		70-130	3		30
Benzene	109		107		70-130	2		30
Toluene	106		103		70-130	3		30
Ethylbenzene	109		108		70-130	1		30
Chloromethane	105		100		52-130	5		30
Bromomethane	88		87		57-147	1		30
Vinyl chloride	105		102		67-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1188511-3 WG1188511-4								
Chloroethane	98		96		50-151	2		30
1,1-Dichloroethene	144	Q	102		65-135	34	Q	30
trans-1,2-Dichloroethene	107		105		70-130	2		30
Trichloroethene	110		107		70-130	3		30
1,2-Dichlorobenzene	100		102		70-130	2		30
1,3-Dichlorobenzene	102		102		70-130	0		30
1,4-Dichlorobenzene	100		100		70-130	0		30
Methyl tert butyl ether	106		105		66-130	1		30
p/m-Xylene	110		108		70-130	2		30
o-Xylene	112		110		70-130	2		30
cis-1,2-Dichloroethene	109		107		70-130	2		30
Styrene	98		98		70-130	0		30
Dichlorodifluoromethane	103		101		30-146	2		30
Acetone	114		107		54-140	6		30
Carbon disulfide	107		100		59-130	7		30
2-Butanone	102		101		70-130	1		30
4-Methyl-2-pentanone	94		96		70-130	2		30
2-Hexanone	98		97		70-130	1		30
Bromochloromethane	104		104		70-130	0		30
1,2-Dibromoethane	105		104		70-130	1		30
n-Butylbenzene	110		110		70-130	0		30
sec-Butylbenzene	108		109		70-130	1		30
1,2-Dibromo-3-chloropropane	93		98		68-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1188511-3 WG1188511-4								
Isopropylbenzene	109		109		70-130	0		30
p-Isopropyltoluene	111		112		70-130	1		30
Naphthalene	98		101		70-130	3		30
n-Propylbenzene	106		106		70-130	0		30
1,2,3-Trichlorobenzene	100		103		70-130	3		30
1,2,4-Trichlorobenzene	105		107		70-130	2		30
1,3,5-Trimethylbenzene	105		106		70-130	1		30
1,2,4-Trimethylbenzene	109		110		70-130	1		30
Methyl Acetate	108		104		51-146	4		30
Cyclohexane	114		112		59-142	2		30
1,4-Dioxane	110		111		65-136	1		30
Freon-113	114		106		50-139	7		30
Methyl cyclohexane	114		111		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		95		70-130
Toluene-d8	99		99		70-130
4-Bromofluorobenzene	100		102		70-130
Dibromofluoromethane	100		100		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850055
Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01
Client ID: MW-3 (18-20)
Sample Location: BUFFALO

Date Collected: 12/06/18 11:00
Date Received: 12/06/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/13/18 02:02
Analyst: RC
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 12/10/18 08:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	31.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	67.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01

Date Collected: 12/06/18 11:00

Client ID: MW-3 (18-20)

Date Received: 12/06/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	450	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	38.	1
p-Chloro-m-cresol	ND		ug/kg	200	30.	1
2-Chlorophenol	ND		ug/kg	200	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	65.	1
2-Nitrophenol	ND		ug/kg	430	74.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	950	92.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	95.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	69.	1
Benzaldehyde	ND		ug/kg	260	54.	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850055
Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01
Client ID: MW-3 (18-20)
Sample Location: BUFFALO

Date Collected: 12/06/18 11:00
Date Received: 12/06/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	60.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		25-120
Phenol-d6	59		10-120
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	52		30-120
2,4,6-Tribromophenol	46		10-136
4-Terphenyl-d14	38		18-120

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/10/18 15:48
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 12/10/18 08:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1187473-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	19.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	170	16.
3,3'-Dichlorobenzidine	ND		ug/kg	170	44.
2,4-Dinitrotoluene	ND		ug/kg	170	33.
2,6-Dinitrotoluene	ND		ug/kg	170	28.
Fluoranthene	ND		ug/kg	100	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	170	18.
4-Bromophenyl phenyl ether	ND		ug/kg	170	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	17.
Hexachlorobutadiene	ND		ug/kg	170	24.
Hexachlorocyclopentadiene	ND		ug/kg	480	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
Naphthalene	ND		ug/kg	170	20.
Nitrobenzene	ND		ug/kg	150	25.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	170	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	58.
Butyl benzyl phthalate	ND		ug/kg	170	42.
Di-n-butylphthalate	ND		ug/kg	170	32.
Di-n-octylphthalate	ND		ug/kg	170	56.
Diethyl phthalate	ND		ug/kg	170	15.
Dimethyl phthalate	ND		ug/kg	170	35.
Benzo(a)anthracene	ND		ug/kg	100	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/10/18 15:48
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 12/10/18 08:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1187473-1					
Benzo(k)fluoranthene	ND		ug/kg	100	26.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	170	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	170	30.
2-Nitroaniline	ND		ug/kg	170	32.
3-Nitroaniline	ND		ug/kg	170	31.
4-Nitroaniline	ND		ug/kg	170	69.
Dibenzofuran	ND		ug/kg	170	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	170	17.
Acetophenone	ND		ug/kg	170	20.
2,4,6-Trichlorophenol	ND		ug/kg	100	32.
p-Chloro-m-cresol	ND		ug/kg	170	25.
2-Chlorophenol	ND		ug/kg	170	20.
2,4-Dichlorophenol	ND		ug/kg	150	27.
2,4-Dimethylphenol	ND		ug/kg	170	55.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	68.
2,4-Dinitrophenol	ND		ug/kg	800	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/10/18 15:48
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 12/10/18 08:59

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1187473-1					
Phenol	ND		ug/kg	170	25.
2-Methylphenol	ND		ug/kg	170	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	170	32.
Carbazole	ND		ug/kg	170	16.
Atrazine	ND		ug/kg	130	58.
Benzaldehyde	ND		ug/kg	220	45.
Caprolactam	ND		ug/kg	170	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	170	34.

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	69		25-120
Phenol-d6	71		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	75		30-120
2,4,6-Tribromophenol	79		10-136
4-Terphenyl-d14	68		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1187473-2 WG1187473-3								
Acenaphthene	73		76		31-137	4		50
Hexachlorobenzene	74		80		40-140	8		50
Bis(2-chloroethyl)ether	64		65		40-140	2		50
2-Chloronaphthalene	78		79		40-140	1		50
3,3'-Dichlorobenzidine	65		63		40-140	3		50
2,4-Dinitrotoluene	80		84		40-132	5		50
2,6-Dinitrotoluene	84		87		40-140	4		50
Fluoranthene	76		80		40-140	5		50
4-Chlorophenyl phenyl ether	74		78		40-140	5		50
4-Bromophenyl phenyl ether	73		79		40-140	8		50
Bis(2-chloroisopropyl)ether	54		55		40-140	2		50
Bis(2-chloroethoxy)methane	72		73		40-117	1		50
Hexachlorobutadiene	64		64		40-140	0		50
Hexachlorocyclopentadiene	51		54		40-140	6		50
Hexachloroethane	60		61		40-140	2		50
Isophorone	71		71		40-140	0		50
Naphthalene	72		73		40-140	1		50
Nitrobenzene	62		64		40-140	3		50
NDPA/DPA	76		81		36-157	6		50
n-Nitrosodi-n-propylamine	62		63		32-121	2		50
Bis(2-ethylhexyl)phthalate	88		91		40-140	3		50
Butyl benzyl phthalate	81		83		40-140	2		50
Di-n-butylphthalate	79		83		40-140	5		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1187473-2 WG1187473-3								
Di-n-octylphthalate	88		91		40-140	3		50
Diethyl phthalate	76		79		40-140	4		50
Dimethyl phthalate	81		84		40-140	4		50
Benzo(a)anthracene	76		79		40-140	4		50
Benzo(a)pyrene	80		85		40-140	6		50
Benzo(b)fluoranthene	79		82		40-140	4		50
Benzo(k)fluoranthene	78		82		40-140	5		50
Chrysene	77		80		40-140	4		50
Acenaphthylene	82		84		40-140	2		50
Anthracene	76		80		40-140	5		50
Benzo(ghi)perylene	75		78		40-140	4		50
Fluorene	76		78		40-140	3		50
Phenanthrene	73		76		40-140	4		50
Dibenzo(a,h)anthracene	78		81		40-140	4		50
Indeno(1,2,3-cd)pyrene	76		79		40-140	4		50
Pyrene	76		78		35-142	3		50
Biphenyl	81		82		54-104	1		50
4-Chloroaniline	44		35	Q	40-140	23		50
2-Nitroaniline	88		90		47-134	2		50
3-Nitroaniline	71		68		26-129	4		50
4-Nitroaniline	84		86		41-125	2		50
Dibenzofuran	76		78		40-140	3		50
2-Methylnaphthalene	74		75		40-140	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1187473-2 WG1187473-3								
1,2,4,5-Tetrachlorobenzene	80		80		40-117	0		50
Acetophenone	74		76		14-144	3		50
2,4,6-Trichlorophenol	81		84		30-130	4		50
p-Chloro-m-cresol	78		81		26-103	4		50
2-Chlorophenol	73		74		25-102	1		50
2,4-Dichlorophenol	82		84		30-130	2		50
2,4-Dimethylphenol	78		79		30-130	1		50
2-Nitrophenol	76		77		30-130	1		50
4-Nitrophenol	72		75		11-114	4		50
2,4-Dinitrophenol	47		50		4-130	6		50
4,6-Dinitro-o-cresol	55		60		10-130	9		50
Pentachlorophenol	76		79		17-109	4		50
Phenol	64		65		26-90	2		50
2-Methylphenol	75		76		30-130.	1		50
3-Methylphenol/4-Methylphenol	78		80		30-130	3		50
2,4,5-Trichlorophenol	83		86		30-130	4		50
Carbazole	79		83		54-128	5		50
Atrazine	81		85		40-140	5		50
Benzaldehyde	60		60		40-140	0		50
Caprolactam	74		78		15-130	5		50
2,3,4,6-Tetrachlorophenol	75		80		40-140	6		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1187473-2 WG1187473-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	68		71		25-120
Phenol-d6	70		72		10-120
Nitrobenzene-d5	61		62		23-120
2-Fluorobiphenyl	76		78		30-120
2,4,6-Tribromophenol	78		82		10-136
4-Terphenyl-d14	63		65		18-120

METALS

Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01

Date Collected: 12/06/18 11:00

Client ID: MW-3 (18-20)

Date Received: 12/06/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1620		mg/kg	4.76	1.28	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Antimony, Total	0.342	J	mg/kg	2.38	0.181	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Arsenic, Total	1.05		mg/kg	0.476	0.099	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Barium, Total	12.0		mg/kg	0.476	0.083	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Beryllium, Total	0.081	J	mg/kg	0.238	0.016	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Cadmium, Total	0.300	J	mg/kg	0.476	0.047	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Calcium, Total	43900		mg/kg	4.76	1.66	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Chromium, Total	3.53		mg/kg	0.476	0.046	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Cobalt, Total	1.62		mg/kg	0.951	0.079	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Copper, Total	5.93		mg/kg	0.476	0.123	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Iron, Total	5220		mg/kg	2.38	0.429	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Lead, Total	8.16		mg/kg	2.38	0.127	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Magnesium, Total	19700		mg/kg	4.76	0.732	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Manganese, Total	186		mg/kg	0.476	0.076	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.076	0.016	1	12/12/18 06:00	12/12/18 12:56	EPA 7471B	1,7471B	MG
Nickel, Total	3.28		mg/kg	1.19	0.115	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Potassium, Total	367		mg/kg	119	6.85	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Selenium, Total	0.185	J	mg/kg	0.951	0.123	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.476	0.134	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Sodium, Total	489		mg/kg	95.1	1.50	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	0.951	0.150	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Vanadium, Total	8.74		mg/kg	0.476	0.097	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC
Zinc, Total	57.9		mg/kg	2.38	0.139	1	12/11/18 21:00	12/12/18 20:27	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1188157-1									
Aluminum, Total	ND	mg/kg	4.00	1.08	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Antimony, Total	ND	mg/kg	2.00	0.152	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Arsenic, Total	ND	mg/kg	0.400	0.083	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Barium, Total	ND	mg/kg	0.400	0.070	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Beryllium, Total	ND	mg/kg	0.200	0.013	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Cadmium, Total	ND	mg/kg	0.400	0.039	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Calcium, Total	ND	mg/kg	4.00	1.40	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Chromium, Total	ND	mg/kg	0.400	0.038	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Cobalt, Total	ND	mg/kg	0.800	0.066	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Copper, Total	ND	mg/kg	0.400	0.103	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Iron, Total	ND	mg/kg	2.00	0.361	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Lead, Total	ND	mg/kg	2.00	0.107	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Magnesium, Total	ND	mg/kg	4.00	0.616	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Manganese, Total	ND	mg/kg	0.400	0.064	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Nickel, Total	ND	mg/kg	1.00	0.097	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Potassium, Total	ND	mg/kg	100	5.76	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Selenium, Total	ND	mg/kg	0.800	0.103	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Silver, Total	ND	mg/kg	0.400	0.113	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Sodium, Total	ND	mg/kg	80.0	1.26	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Thallium, Total	ND	mg/kg	0.800	0.126	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Vanadium, Total	ND	mg/kg	0.400	0.081	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC
Zinc, Total	ND	mg/kg	2.00	0.117	1	12/11/18 21:00	12/12/18 13:01	1,6010D	LC

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 Batch: WG1188293-1									
Mercury, Total	ND	mg/kg	0.083	0.018	1	12/12/18 06:00	12/12/18 12:07	1,7471B	MG



Project Name: 441 ELMWOOD

Lab Number: L1850055

Project Number: 0136-018-001

Report Date: 12/13/18

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1188157-2 SRM Lot Number: D102-540								
Aluminum, Total	75		-		49-150	-		
Antimony, Total	172		-		1-199	-		
Arsenic, Total	110		-		83-117	-		
Barium, Total	105		-		83-118	-		
Beryllium, Total	97		-		83-116	-		
Cadmium, Total	104		-		83-118	-		
Calcium, Total	91		-		82-118	-		
Chromium, Total	109		-		83-117	-		
Cobalt, Total	102		-		84-116	-		
Copper, Total	108		-		84-116	-		
Iron, Total	104		-		61-139	-		
Lead, Total	103		-		82-118	-		
Magnesium, Total	93		-		76-124	-		
Manganese, Total	91		-		82-118	-		
Nickel, Total	103		-		83-117	-		
Potassium, Total	88		-		70-130	-		
Selenium, Total	107		-		79-121	-		
Silver, Total	107		-		80-120	-		
Sodium, Total	98		-		74-126	-		
Thallium, Total	108		-		81-119	-		
Vanadium, Total	100		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1188157-2 SRM Lot Number: D102-540					
Zinc, Total	98	-	81-118	-	
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1188293-2 SRM Lot Number: D102-540					
Mercury, Total	126	-	65-134	-	

Matrix Spike Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1188157-3 WG1188157-4 QC Sample: L1849742-07 Client ID: MS Sample												
Aluminum, Total	7120	192	7950	433	Q	8360	666	Q	75-125	5		20
Antimony, Total	1.08J	47.9	36.5	76		34.3	74	Q	75-125	6		20
Arsenic, Total	13.4	11.5	21.0	66	Q	23.3	88		75-125	10		20
Barium, Total	73.6	192	238	86		234	86		75-125	2		20
Beryllium, Total	0.392J	4.79	4.07	85		3.69	79		75-125	10		20
Cadmium, Total	0.476J	4.89	4.15	85		3.92	82		75-125	6		20
Calcium, Total	3040	958	3600	58	Q	3520	52	Q	75-125	2		20
Chromium, Total	22.5	19.2	41.3	98		31.0	46	Q	75-125	28	Q	20
Cobalt, Total	11.7	47.9	47.5	75		44.8	71	Q	75-125	6		20
Copper, Total	37.8	24	58.1	85		60.1	96		75-125	3		20
Iron, Total	24400	95.8	24000	0	Q	27300	3110	Q	75-125	13		20
Lead, Total	17.1	48.9	51.2	70	Q	48.1	65	Q	75-125	6		20
Magnesium, Total	3090	958	3840	78		4060	104		75-125	6		20
Manganese, Total	1290	47.9	1210	0	Q	1530	515	Q	75-125	23	Q	20
Nickel, Total	51.2	47.9	94.1	90		68.9	38	Q	75-125	31	Q	20
Potassium, Total	834	958	1760	97		1610	83		75-125	9		20
Selenium, Total	ND	11.5	8.49	74	Q	7.72	69	Q	75-125	10		20
Silver, Total	ND	28.8	26.8	93		24.3	87		75-125	10		20
Sodium, Total	16.4J	958	899	94		807	87		75-125	11		20
Thallium, Total	0.429J	11.5	8.58	75		8.23	74	Q	75-125	4		20
Vanadium, Total	17.0	47.9	55.3	80		51.9	75		75-125	6		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits	
Total Metals - Mansfield Lab Associated sample(s): 01			QC Batch ID: WG1188157-3		WG1188157-4	QC Sample: L1849742-07		Client ID: MS Sample		
Zinc, Total	90.1	47.9	117	56	Q	134	94	75-125	14	20
Total Metals - Mansfield Lab Associated sample(s): 01			QC Batch ID: WG1188293-3		WG1188293-4	QC Sample: L1849742-07		Client ID: MS Sample		
Mercury, Total	0.060J	0.154	0.264	171	Q	0.279	182	Q 80-120	6	20

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850055

Report Date: 12/13/18

SAMPLE RESULTS

Lab ID: L1850055-01

Client ID: MW-3 (18-20)

Sample Location: BUFFALO

Date Collected: 12/06/18 11:00

Date Received: 12/06/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.6		%	0.100	NA	1	-	12/11/18 15:34	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1850055**Report Date:** 12/13/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1188068-1 QC Sample: L1849959-01 Client ID: DUP Sample						
Solids, Total	71.5	70.7	%	1		20

Project Name: 441 ELMWOOD**Lab Number:** L1850055**Project Number:** 0136-018-001**Report Date:** 12/13/18**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1850055-01A	5 gram Encore Sampler	A	NA		3.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1850055-01B	5 gram Encore Sampler	A	NA		3.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1850055-01C	5 gram Encore Sampler	A	NA		3.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1850055-01D	Glass 120ml/4oz unpreserved	A	NA		3.9	Y	Absent		NYTCL-8270(14),TS(7)
L1850055-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.9	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1850055-01X	Vial MeOH preserved split	A	NA		3.9	Y	Absent		NYTCL-8260HLW-R2(14)
L1850055-01Y	Vial Water preserved split	A	NA		3.9	Y	Absent	07-DEC-18 11:49	NYTCL-8260HLW-R2(14)
L1850055-01Z	Vial Water preserved split	A	NA		3.9	Y	Absent	07-DEC-18 11:49	NYTCL-8260HLW-R2(14)

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850055
Report Date: 12/13/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD**Lab Number:** L1850055**Project Number:** 0136-018-001**Report Date:** 12/13/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850055
Report Date: 12/13/18

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**

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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



ANALYTICAL REPORT

Lab Number:	L1850769
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD
Project Number:	0136-018-001
Report Date:	12/18/18

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

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



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1850769-01	MW-1	WATER	BUFFALO	12/10/18 11:54	12/11/18
L1850769-02	BLIND DUP	WATER	BUFFALO	12/10/18 12:00	12/11/18
L1850769-03	MW-2	WATER	BUFFALO	12/10/18 10:11	12/11/18
L1850769-04	MW-3	WATER	BUFFALO	12/10/18 14:19	12/11/18
L1850769-05	MW-4	WATER	BUFFALO	12/10/18 13:16	12/11/18
L1850769-06	EQUIPMENT BLANK	WATER	BUFFALO	12/10/18 09:00	12/11/18
L1850769-07	TRIP BLANK	WATER	BUFFALO	12/10/18 11:54	12/11/18

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

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: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

Case Narrative (continued)

Report Submission

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

Semivolatile Organics

The WG1188913-4/-5 MS/MSD recoveries, performed on L1850769-03, are below the acceptance criteria for 3,3'-dichlorobenzidine (0%/0%), due to the concentration of this compound falling below the reported detection limit.

Pesticides

L1850769-04: The surrogate recoveries are outside the method acceptance criteria for 2,4,5,6-tetrachloro-m-xylene (24%) and decachlorobiphenyl (29%) due to interference with the Internal Standard.

L1850769-04: The internal standard (IS) response for 1-bromo-2-nitrobenzene was above the acceptance criteria on confirmatory column; however, the sample was not re-analyzed due to obvious interferences. Since the IS response was above method criteria, all associated compounds are considered to have a potentially low.

Total Metals

The WG1189783-3/-4 MS/MSD recoveries for calcium (MSD at 20%), magnesium (MSD at 66%) and sodium (430%/170%), performed on L1850769-03, do not apply because the sample concentrations are greater than four times the spike amounts added.

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

Authorized Signature:

 Amita Naik

Title: Technical Director/Representative

Date: 12/18/18

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01

Date Collected: 12/10/18 11:54

Client ID: MW-1

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 12/14/18 14:19

Analyst: PK

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	3.4		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	0.17	J	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	0.60		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	0.40	J	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

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01

Date Collected: 12/10/18 11:54

Client ID: MW-1

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
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	8.9		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
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	0.37	J	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

Tentatively Identified Compounds

Total TIC Compounds	3.80	J	ug/l	1
Unknown	1.20	J	ug/l	1
Unknown Alkene	2.60	J	ug/l	1

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-01

Date Collected: 12/10/18 11:54

Client ID: MW-1

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02

Date Collected: 12/10/18 12:00

Client ID: BLIND DUP

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 12/14/18 14:45

Analyst: PK

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	3.4		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	0.17	J	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	0.62		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	0.38	J	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

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02

Date Collected: 12/10/18 12:00

Client ID: BLIND DUP

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
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	9.5		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
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	0.35	J	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

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02
Client ID: BLIND DUP
Sample Location: BUFFALO

Date Collected: 12/10/18 12:00
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	5.69	J	ug/l	1
Unknown Aromatic	1.03	J	ug/l	1
Unknown	1.16	J	ug/l	1
Unknown Benzene	1.12	J	ug/l	1
Unknown Alkene	2.38	J	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	100		70-130

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03
Client ID: MW-2
Sample Location: BUFFALO

Date Collected: 12/10/18 10:11
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/18 15:10
Analyst: PK

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	1.9	J	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	7.3		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	0.38	J	ug/l	0.50	0.16	1
Toluene	0.77	J	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	0.22	J	ug/l	0.50	0.17	1
trans-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
Trichloroethene	0.27	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03

Date Collected: 12/10/18 10:11

Client ID: MW-2

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
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	4.1	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
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	1.0	J	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	1.2	J	ug/l	10	0.40	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03
Client ID: MW-2
Sample Location: BUFFALO

Date Collected: 12/10/18 10:11
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	14.0	J	ug/l	1
Pentane	1.11	NJ	ug/l	1
Unknown	3.64	J	ug/l	1
Unknown Alkane	3.11	J	ug/l	1
Unknown Alkene	6.13	J	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04 D2

Date Collected: 12/10/18 14:19

Client ID: MW-3

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 12/14/18 18:33

Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	25	7.0	10
1,1-Dichloroethane	ND		ug/l	25	7.0	10
Chloroform	ND		ug/l	25	7.0	10
Carbon tetrachloride	ND		ug/l	5.0	1.3	10
1,2-Dichloropropane	ND		ug/l	10	1.4	10
Dibromochloromethane	ND		ug/l	5.0	1.5	10
1,1,2-Trichloroethane	ND		ug/l	15	5.0	10
Tetrachloroethene	ND		ug/l	5.0	1.8	10
Chlorobenzene	ND		ug/l	25	7.0	10
Trichlorofluoromethane	ND		ug/l	25	7.0	10
1,2-Dichloroethane	ND		ug/l	5.0	1.3	10
1,1,1-Trichloroethane	ND		ug/l	25	7.0	10
Bromodichloromethane	ND		ug/l	5.0	1.9	10
trans-1,3-Dichloropropene	ND		ug/l	5.0	1.6	10
cis-1,3-Dichloropropene	ND		ug/l	5.0	1.4	10
Bromoform	ND		ug/l	20	6.5	10
1,1,2,2-Tetrachloroethane	ND		ug/l	5.0	1.7	10
Benzene	210		ug/l	5.0	1.6	10
Toluene	3800	E	ug/l	25	7.0	10
Ethylbenzene	1600		ug/l	25	7.0	10
Chloromethane	ND		ug/l	25	7.0	10
Bromomethane	ND		ug/l	25	7.0	10
Vinyl chloride	ND		ug/l	10	0.71	10
Chloroethane	ND		ug/l	25	7.0	10
1,1-Dichloroethene	ND		ug/l	5.0	1.7	10
trans-1,2-Dichloroethene	ND		ug/l	25	7.0	10
Trichloroethene	5.5		ug/l	5.0	1.8	10
1,2-Dichlorobenzene	ND		ug/l	25	7.0	10

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04 D2

Date Collected: 12/10/18 14:19

Client ID: MW-3

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	25	7.0	10
1,4-Dichlorobenzene	ND		ug/l	25	7.0	10
Methyl tert butyl ether	ND		ug/l	25	7.0	10
p/m-Xylene	5600	E	ug/l	25	7.0	10
o-Xylene	2300		ug/l	25	7.0	10
cis-1,2-Dichloroethene	ND		ug/l	25	7.0	10
Styrene	ND		ug/l	25	7.0	10
Dichlorodifluoromethane	ND		ug/l	50	10.	10
Acetone	ND		ug/l	50	15.	10
Carbon disulfide	ND		ug/l	50	10.	10
2-Butanone	ND		ug/l	50	19.	10
4-Methyl-2-pentanone	ND		ug/l	50	10.	10
2-Hexanone	ND		ug/l	50	10.	10
Bromochloromethane	ND		ug/l	25	7.0	10
1,2-Dibromoethane	ND		ug/l	20	6.5	10
n-Butylbenzene	14	J	ug/l	25	7.0	10
sec-Butylbenzene	ND		ug/l	25	7.0	10
1,2-Dibromo-3-chloropropane	ND		ug/l	25	7.0	10
Isopropylbenzene	59		ug/l	25	7.0	10
p-Isopropyltoluene	ND		ug/l	25	7.0	10
n-Propylbenzene	210		ug/l	25	7.0	10
1,2,3-Trichlorobenzene	ND		ug/l	25	7.0	10
1,2,4-Trichlorobenzene	ND		ug/l	25	7.0	10
1,3,5-Trimethylbenzene	550		ug/l	25	7.0	10
1,2,4-Trimethylbenzene	2000	E	ug/l	25	7.0	10
Methyl Acetate	ND		ug/l	20	2.3	10
Cyclohexane	630		ug/l	100	2.7	10
1,4-Dioxane	ND		ug/l	2500	610	10
Freon-113	ND		ug/l	25	7.0	10
Methyl cyclohexane	240		ug/l	100	4.0	10

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04 **D2**
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	2900	J	ug/l	10
n-Hexane	125	NJ	ug/l	10
Unknown	264	J	ug/l	10
Butane, 2-Methyl-	502	NJ	ug/l	10
Unknown Alkene	135	J	ug/l	10
Unknown Alkane	124	J	ug/l	10
Pentane	465	NJ	ug/l	10
Cyclopentane, Methyl-	358	NJ	ug/l	10
Unknown Alkane	359	J	ug/l	10
Cyclopentane	454	NJ	ug/l	10
Unknown	116	J	ug/l	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	91		70-130

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04 **D**
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/18 15:35
Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Toluene	4100		ug/l	100	28.	40
p/m-Xylene	6400		ug/l	100	28.	40
1,2,4-Trimethylbenzene	2000		ug/l	100	28.	40

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05
Client ID: MW-4
Sample Location: BUFFALO

Date Collected: 12/10/18 13:16
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/18 16:01
Analyst: PK

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	1.6	J	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	0.44	J	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	0.20	J	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

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05

Date Collected: 12/10/18 13:16

Client ID: MW-4

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
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	3.4	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
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	1.4	J	ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	32		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	6.9		ug/l	2.5	0.70	1
Methyl Acetate	ND		ug/l	2.0	0.23	1
Cyclohexane	4.8	J	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	13		ug/l	10	0.40	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05

Date Collected: 12/10/18 13:16

Client ID: MW-4

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	105	J	ug/l	1
Unknown Benzene	8.53	J	ug/l	1
Unknown Benzene	16.1	J	ug/l	1
Unknown Aromatic	9.45	J	ug/l	1
Unknown Benzene	9.48	J	ug/l	1
Unknown Aromatic	18.2	J	ug/l	1
Pentane, 2-methyl-	6.23	NJ	ug/l	1
Unknown Benzene	5.42	J	ug/l	1
Unknown Benzene	6.45	J	ug/l	1
Unknown Benzene	19.9	J	ug/l	1
Unknown Benzene	5.62	J	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	97		70-130

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8260C
 Analytical Date: 12/14/18 16:26
 Analyst: PK

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

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
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	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
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
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	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

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/l	1

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-06

Date Collected: 12/10/18 09:00

Client ID: EQUIPMENT BLANK

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	97		70-130

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-07
Client ID: TRIP BLANK
Sample Location: BUFFALO

Date Collected: 12/10/18 11:54
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/14/18 13:54
Analyst: MKS

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

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-07

Date Collected: 12/10/18 11:54

Client ID: TRIP BLANK

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70	1
1,4-Dichlorobenzene	ND		ug/l	2.5	0.70	1
Methyl tert butyl ether	ND		ug/l	2.5	0.70	1
p/m-Xylene	ND		ug/l	2.5	0.70	1
o-Xylene	ND		ug/l	2.5	0.70	1
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	ND		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
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
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	ND		ug/l	2.5	0.70	1
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70	1
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	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

Tentatively Identified Compounds

Total TIC Compounds	1.37	J	ug/l	1
Sulfur Dioxide	1.37	NJ	ug/l	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-07

Date Collected: 12/10/18 11:54

Client ID: TRIP BLANK

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	100		70-130

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/14/18 08:41

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG1189478-5					
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: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/14/18 08:41
 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG1189478-5					
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
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
n-Propylbenzene	ND		ug/l	2.5	0.70
1,2,3-Trichlorobenzene	ND		ug/l	2.5	0.70
1,2,4-Trichlorobenzene	ND		ug/l	2.5	0.70
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
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: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/14/18 08:41

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-07 Batch: WG1189478-5					

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/l

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1189478-3 WG1189478-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	84		83		63-132	1		20
1,2-Dichloropropane	110		100		70-130	10		20
Dibromochloromethane	97		94		63-130	3		20
1,1,2-Trichloroethane	100		100		70-130	0		20
Tetrachloroethene	80		78		70-130	3		20
Chlorobenzene	96		94		75-130	2		20
Trichlorofluoromethane	74		72		62-150	3		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	90		88		67-130	2		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	100		100		70-130	0		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
Bromoform	92		88		54-136	4		20
1,1,2,2-Tetrachloroethane	100		98		67-130	2		20
Benzene	100		100		70-130	0		20
Toluene	99		97		70-130	2		20
Ethylbenzene	92		90		70-130	2		20
Chloromethane	94		89		64-130	5		20
Bromomethane	33	Q	32	Q	39-139	3		20
Vinyl chloride	76		75		55-140	1		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1189478-3 WG1189478-4								
Chloroethane	87		82		55-138	6		20
1,1-Dichloroethene	85		80		61-145	6		20
trans-1,2-Dichloroethene	94		92		70-130	2		20
Trichloroethene	91		89		70-130	2		20
1,2-Dichlorobenzene	92		88		70-130	4		20
1,3-Dichlorobenzene	93		89		70-130	4		20
1,4-Dichlorobenzene	94		91		70-130	3		20
Methyl tert butyl ether	100		99		63-130	1		20
p/m-Xylene	90		90		70-130	0		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	100		96		70-130	4		20
Styrene	95		90		70-130	5		20
Dichlorodifluoromethane	72		68		36-147	6		20
Acetone	100		110		58-148	10		20
Carbon disulfide	94		91		51-130	3		20
2-Butanone	110		98		63-138	12		20
4-Methyl-2-pentanone	93		88		59-130	6		20
2-Hexanone	89		83		57-130	7		20
Bromochloromethane	98		94		70-130	4		20
1,2-Dibromoethane	96		94		70-130	2		20
n-Butylbenzene	88		79		53-136	11		20
sec-Butylbenzene	84		77		70-130	9		20
1,2-Dibromo-3-chloropropane	75		73		41-144	3		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 Batch: WG1189478-3 WG1189478-4								
Isopropylbenzene	89		86		70-130	3		20
p-Isopropyltoluene	84		78		70-130	7		20
n-Propylbenzene	91		86		69-130	6		20
1,2,3-Trichlorobenzene	77		71		70-130	8		20
1,2,4-Trichlorobenzene	81		76		70-130	6		20
1,3,5-Trimethylbenzene	92		88		64-130	4		20
1,2,4-Trimethylbenzene	94		89		70-130	5		20
Methyl Acetate	100		96		70-130	4		20
Cyclohexane	73		68	Q	70-130	7		20
1,4-Dioxane	78		108		56-162	32	Q	20
Freon-113	67	Q	64	Q	70-130	5		20
Methyl cyclohexane	67	Q	59	Q	70-130	13		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	102		100		70-130
Toluene-d8	104		103		70-130
4-Bromofluorobenzene	108		108		70-130
Dibromofluoromethane	98		98		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 QC Batch ID: WG1189478-6 WG1189478-7 QC Sample: L1850769-03 Client ID: MW-2												
Methylene chloride	ND	10	8.4	84		9.9	99		70-130	16		20
1,1-Dichloroethane	ND	10	9.5	95		11	110		70-130	15		20
Chloroform	1.9J	10	10	100		12	120		70-130	18		20
Carbon tetrachloride	ND	10	8.4	84		9.3	93		63-132	10		20
1,2-Dichloropropane	ND	10	8.8	88		10	100		70-130	13		20
Dibromochloromethane	ND	10	7.4	74		8.8	88		63-130	17		20
1,1,2-Trichloroethane	ND	10	8.7	87		9.9	99		70-130	13		20
Tetrachloroethene	ND	10	6.4	64	Q	7.4	74		70-130	14		20
Chlorobenzene	ND	10	7.3	73	Q	8.3	83		75-130	13		20
Trichlorofluoromethane	ND	10	7.9	79		9.0	90		62-150	13		20
1,2-Dichloroethane	ND	10	8.8	88		10	100		70-130	13		20
1,1,1-Trichloroethane	7.3	10	16	87		17	97		67-130	6		20
Bromodichloromethane	ND	10	8.4	84		9.9	99		67-130	16		20
trans-1,3-Dichloropropene	ND	10	7.6	76		8.8	88		70-130	15		20
cis-1,3-Dichloropropene	ND	10	7.4	74		8.8	88		70-130	17		20
Bromoform	ND	10	6.5	65		7.7	77		54-136	17		20
1,1,2,2-Tetrachloroethane	ND	10	7.9	79		8.8	88		67-130	11		20
Benzene	0.38J	10	8.9	89		10	100		70-130	12		20
Toluene	0.77J	10	8.4	84		9.5	95		70-130	12		20
Ethylbenzene	ND	10	7.3	73		8.2	82		70-130	12		20
Chloromethane	ND	10	8.8	88		10	100		64-130	13		20
Bromomethane	ND	10	1.6J	16	Q	2.6	26	Q	39-139	48	Q	20
Vinyl chloride	ND	10	7.6	76		8.7	87		55-140	13		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 QC Batch ID: WG1189478-6 WG1189478-7 QC Sample: L1850769-03 Client ID: MW-2												
Chloroethane	ND	10	7.9	79		9.1	91		55-138	14		20
1,1-Dichloroethene	0.22J	10	8.2	82		9.4	94		61-145	14		20
trans-1,2-Dichloroethene	ND	10	7.8	78		9.0	90		70-130	14		20
Trichloroethene	0.27J	10	7.8	78		8.9	89		70-130	13		20
1,2-Dichlorobenzene	ND	10	6.7	67	Q	7.8	78		70-130	15		20
1,3-Dichlorobenzene	ND	10	6.4	64	Q	7.6	76		70-130	17		20
1,4-Dichlorobenzene	ND	10	6.5	65	Q	7.7	77		70-130	17		20
Methyl tert butyl ether	ND	10	8.2	82		9.6	96		63-130	16		20
p/m-Xylene	ND	20	14	70		16	80		70-130	13		20
o-Xylene	ND	20	14	70		16	80		70-130	13		20
cis-1,2-Dichloroethene	ND	10	8.0	80		9.5	95		70-130	17		20
Styrene	ND	20	13	65	Q	16	80		70-130	21	Q	20
Dichlorodifluoromethane	ND	10	7.5	75		8.8	88		36-147	16		20
Acetone	4.1J	10	14	140		17	170	Q	58-148	19		20
Carbon disulfide	ND	10	8.5	85		9.6	96		51-130	12		20
2-Butanone	ND	10	10	100		11	110		63-138	10		20
4-Methyl-2-pentanone	ND	10	7.4	74		8.4	84		59-130	13		20
2-Hexanone	ND	10	7.7	77		8.3	83		57-130	8		20
Bromochloromethane	ND	10	7.7	77		9.0	90		70-130	16		20
1,2-Dibromoethane	ND	10	7.6	76		8.5	85		70-130	11		20
n-Butylbenzene	ND	10	5.8	58		7.2	72		53-136	22	Q	20
sec-Butylbenzene	ND	10	6.7	67	Q	7.7	77		70-130	14		20
1,2-Dibromo-3-chloropropane	ND	10	6.2	62		7.0	70		41-144	12		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-07 QC Batch ID: WG1189478-6 WG1189478-7 QC Sample: L1850769-03 Client ID: MW-2												
Isopropylbenzene	ND	10	6.7	67	Q	7.6	76		70-130	13		20
p-Isopropyltoluene	ND	10	5.9	59	Q	7.0	70		70-130	17		20
n-Propylbenzene	ND	10	6.5	65	Q	7.6	76		69-130	16		20
1,2,3-Trichlorobenzene	ND	10	5.4	54	Q	6.5	65	Q	70-130	18		20
1,2,4-Trichlorobenzene	ND	10	5.6	56	Q	6.8	68	Q	70-130	19		20
1,3,5-Trimethylbenzene	ND	10	6.7	67		7.7	77		64-130	14		20
1,2,4-Trimethylbenzene	ND	10	6.6	66	Q	7.7	77		70-130	15		20
Methyl Acetate	ND	10	8.2	82		9.1	91		70-130	10		20
Cyclohexane	1.0J	10	8.4J	84		9.2J	92		70-130	9		20
1,4-Dioxane	ND	500	290	58		530	106		56-162	59	Q	20
Freon-113	ND	10	6.9	69	Q	7.9	79		70-130	14		20
Methyl cyclohexane	1.2J	10	7.0J	70		8.3J	83		70-130	17		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		104		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	102		101		70-130
Toluene-d8	104		102		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01
Client ID: MW-1
Sample Location: BUFFALO

Date Collected: 12/10/18 11:54
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/17/18 11:06
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44	1
Acetophenone	ND		ug/l	5.0	0.53	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01

Date Collected: 12/10/18 11:54

Client ID: MW-1

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Carbazole	ND		ug/l	2.0	0.49	1
Atrazine	ND		ug/l	10	0.76	1
Benzaldehyde	ND		ug/l	5.0	0.53	1
Caprolactam	ND		ug/l	10	3.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84	1

Tentatively Identified Compounds

Total TIC Compounds	11.6	J	ug/l	1
Aldol Condensates	11.6	J	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		21-120
Phenol-d6	51		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	73		15-120
2,4,6-Tribromophenol	94		10-120
4-Terphenyl-d14	76		41-149

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01
Client ID: MW-1
Sample Location: BUFFALO

Date Collected: 12/10/18 11:54
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/17/18 17:07
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.23		ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	0.06	J	ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	ND		ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	ND		ug/l	0.10	0.01	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	0.19		ug/l	0.10	0.01	1
Phenanthrene	0.17		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	0.05	J	ug/l	0.10	0.02	1
2-Methylnaphthalene	0.04	J	ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01
Client ID: MW-1
Sample Location: BUFFALO

Date Collected: 12/10/18 11:54
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	44		10-120
Nitrobenzene-d5	67		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	89		10-120
4-Terphenyl-d14	94		41-149

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02

Date Collected: 12/10/18 12:00

Client ID: BLIND DUP

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 3510C

Analytical Method: 1,8270D

Extraction Date: 12/14/18 08:08

Analytical Date: 12/17/18 11:34

Analyst: SZ

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44	1
Acetophenone	ND		ug/l	5.0	0.53	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02

Date Collected: 12/10/18 12:00

Client ID: BLIND DUP

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Carbazole	ND		ug/l	2.0	0.49	1
Atrazine	ND		ug/l	10	0.76	1
Benzaldehyde	ND		ug/l	5.0	0.53	1
Caprolactam	ND		ug/l	10	3.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84	1

Tentatively Identified Compounds

Total TIC Compounds	18.0	J	ug/l	1
Unknown Alkene	1.96	J	ug/l	1
Unknown	2.29	J	ug/l	1
Aldol Condensates	13.7	J	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	52		21-120
Phenol-d6	44		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	65		15-120
2,4,6-Tribromophenol	96		10-120
4-Terphenyl-d14	83		41-149

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02
Client ID: BLIND DUP
Sample Location: BUFFALO

Date Collected: 12/10/18 12:00
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/17/18 17:33
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.19		ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	0.05	J	ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	ND		ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	ND		ug/l	0.10	0.01	1
Anthracene	0.02	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	0.18		ug/l	0.10	0.01	1
Phenanthrene	0.18		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	0.04	J	ug/l	0.10	0.02	1
2-Methylnaphthalene	0.06	J	ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-02

Date Collected: 12/10/18 12:00

Client ID: BLIND DUP

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	43		21-120
Phenol-d6	37		10-120
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	67		15-120
2,4,6-Tribromophenol	85		10-120
4-Terphenyl-d14	92		41-149

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03

Date Collected: 12/10/18 10:11

Client ID: MW-2

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 3510C

Analytical Method: 1,8270D

Extraction Date: 12/14/18 08:08

Analytical Date: 12/17/18 09:44

Analyst: SZ

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44	1
Acetophenone	ND		ug/l	5.0	0.53	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03

Date Collected: 12/10/18 10:11

Client ID: MW-2

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Carbazole	ND		ug/l	2.0	0.49	1
Atrazine	ND		ug/l	10	0.76	1
Benzaldehyde	ND		ug/l	5.0	0.53	1
Caprolactam	ND		ug/l	10	3.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84	1

Tentatively Identified Compounds

Total TIC Compounds	34.8	J	ug/l	1
Butyl citrate	4.69	NJ	ug/l	1
Aldol Condensates	21.9	J	ug/l	1
Tetrachloroethene	4.33	NJ	ug/l	1
Tributyl acetyl citrate	3.85	NJ	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		21-120
Phenol-d6	61		10-120
Nitrobenzene-d5	86		23-120
2-Fluorobiphenyl	84		15-120
2,4,6-Tribromophenol	92		10-120
4-Terphenyl-d14	79		41-149

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03
Client ID: MW-2
Sample Location: BUFFALO

Date Collected: 12/10/18 10:11
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/17/18 16:40
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.04	J	ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	0.10		ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	0.06	J	ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	ND		ug/l	0.10	0.01	1
Anthracene	0.03	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	0.05	J	ug/l	0.10	0.01	1
Phenanthrene	0.27		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	0.07	J	ug/l	0.10	0.02	1
2-Methylnaphthalene	0.06	J	ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03
Client ID: MW-2
Sample Location: BUFFALO

Date Collected: 12/10/18 10:11
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	63		21-120
Phenol-d6	53		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	88		15-120
2,4,6-Tribromophenol	107		10-120
4-Terphenyl-d14	102		41-149

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/17/18 12:57
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	1.6	J	ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	1.8	J	ug/l	2.0	0.46	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44	1
Acetophenone	ND		ug/l	5.0	0.53	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04

Date Collected: 12/10/18 14:19

Client ID: MW-3

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	8.1		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
3-Methylphenol/4-Methylphenol	9.6		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Carbazole	ND		ug/l	2.0	0.49	1
Atrazine	ND		ug/l	10	0.76	1
Benzaldehyde	ND		ug/l	5.0	0.53	1
Caprolactam	ND		ug/l	10	3.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04

Date Collected: 12/10/18 14:19

Client ID: MW-3

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	377	J	ug/l			1
Ethylbenzene	28.8	NJ	ug/l			1
Toluene	46.0	NJ	ug/l			1
Unknown Benzene	24.2	J	ug/l			1
Naphthalene, 1-methyl-	4.00	NJ	ug/l			1
Unknown Benzene	2.62	J	ug/l			1
Unknown Benzene	3.53	J	ug/l			1
Unknown Benzene	9.85	J	ug/l			1
Unknown Benzene	14.5	J	ug/l			1
Unknown Benzene	46.4	J	ug/l			1
Unknown Benzene	13.5	J	ug/l			1
Benzene, Propyl-	4.94	NJ	ug/l			1
Naphthalene, 2-methyl-	5.60	NJ	ug/l			1
Unknown	14.5	J	ug/l			1
Unknown	44.9	J	ug/l			1
Unknown	114	J	ug/l			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	92		21-120
Phenol-d6	70		10-120
Nitrobenzene-d5	97		23-120
2-Fluorobiphenyl	89		15-120
2,4,6-Tribromophenol	131	Q	10-120
4-Terphenyl-d14	92		41-149

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/17/18 18:00
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	0.30		ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	0.05	J	ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	150	E	ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	0.10	J	ug/l	0.10	0.01	1
Anthracene	0.03	J	ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	0.22		ug/l	0.10	0.01	1
Phenanthrene	0.23		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	0.04	J	ug/l	0.10	0.02	1
2-Methylnaphthalene	100	E	ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	22		21-120
Phenol-d6	53		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	95		15-120
2,4,6-Tribromophenol	110		10-120
4-Terphenyl-d14	113		41-149

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04 D
 Client ID: MW-3
 Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Water
 Analytical Method: 1,8270D-SIM
 Analytical Date: 12/17/18 20:39
 Analyst: DV

Extraction Method: EPA 3510C
 Extraction Date: 12/14/18 08:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Naphthalene	310		ug/l	0.50	0.24	5
2-Methylnaphthalene	120		ug/l	0.50	0.11	5

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05
Client ID: MW-4
Sample Location: BUFFALO

Date Collected: 12/10/18 13:16
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D
Analytical Date: 12/17/18 13:24
Analyst: SZ

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44	1
Acetophenone	ND		ug/l	5.0	0.53	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05

Date Collected: 12/10/18 13:16

Client ID: MW-4

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Carbazole	ND		ug/l	2.0	0.49	1
Atrazine	ND		ug/l	10	0.76	1
Benzaldehyde	ND		ug/l	5.0	0.53	1
Caprolactam	ND		ug/l	10	3.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05

Date Collected: 12/10/18 13:16

Client ID: MW-4

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	127	J	ug/l	1
Unknown	2.62	J	ug/l	1
Unknown Benzene	3.64	J	ug/l	1
Unknown Benzene	5.93	J	ug/l	1
Aldol Condensates	19.8	J	ug/l	1
Unknown Organic Acid	2.62	J	ug/l	1
Unknown Benzene	14.9	J	ug/l	1
Unknown Benzene	3.64	J	ug/l	1
Unknown Benzene	20.3	J	ug/l	1
Unknown Benzene	4.14	J	ug/l	1
Unknown Organic Acid	13.2	J	ug/l	1
Unknown Benzene	10.6	J	ug/l	1
Unknown	6.00	J	ug/l	1
Unknown	7.49	J	ug/l	1
Unknown Benzene	7.56	J	ug/l	1
Unknown Indene	4.22	J	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	68		21-120
Phenol-d6	58		10-120
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	78		15-120
2,4,6-Tribromophenol	96		10-120
4-Terphenyl-d14	73		41-149

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05
Client ID: MW-4
Sample Location: BUFFALO

Date Collected: 12/10/18 13:16
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/17/18 18:26
Analyst: DV

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 08:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	ND		ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	0.06	J	ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	ND		ug/l	0.10	0.01	1
Anthracene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
2-Methylnaphthalene	0.02	J	ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05
Client ID: MW-4
Sample Location: BUFFALO

Date Collected: 12/10/18 13:16
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS-SIM - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	62		21-120
Phenol-d6	51		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	97		10-120
4-Terphenyl-d14	100		41-149

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8270D
 Analytical Date: 12/17/18 13:52
 Analyst: SZ

Extraction Method: EPA 3510C
 Extraction Date: 12/14/18 08:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50	1
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6	1
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2	1
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93	1
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49	1
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38	1
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53	1
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50	1
Hexachlorocyclopentadiene	ND		ug/l	20	0.69	1
Isophorone	ND		ug/l	5.0	1.2	1
Nitrobenzene	ND		ug/l	2.0	0.77	1
NDPA/DPA	ND		ug/l	2.0	0.42	1
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64	1
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5	1
Butyl benzyl phthalate	ND		ug/l	5.0	1.2	1
Di-n-butylphthalate	ND		ug/l	5.0	0.39	1
Di-n-octylphthalate	ND		ug/l	5.0	1.3	1
Diethyl phthalate	ND		ug/l	5.0	0.38	1
Dimethyl phthalate	ND		ug/l	5.0	1.8	1
Biphenyl	ND		ug/l	2.0	0.46	1
4-Chloroaniline	ND		ug/l	5.0	1.1	1
2-Nitroaniline	ND		ug/l	5.0	0.50	1
3-Nitroaniline	ND		ug/l	5.0	0.81	1
4-Nitroaniline	ND		ug/l	5.0	0.80	1
Dibenzofuran	ND		ug/l	2.0	0.50	1
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44	1
Acetophenone	ND		ug/l	5.0	0.53	1
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61	1

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
p-Chloro-m-cresol	ND		ug/l	2.0	0.35	1
2-Chlorophenol	ND		ug/l	2.0	0.48	1
2,4-Dichlorophenol	ND		ug/l	5.0	0.41	1
2,4-Dimethylphenol	ND		ug/l	5.0	1.8	1
2-Nitrophenol	ND		ug/l	10	0.85	1
4-Nitrophenol	ND		ug/l	10	0.67	1
2,4-Dinitrophenol	ND		ug/l	20	6.6	1
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8	1
Phenol	ND		ug/l	5.0	0.57	1
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48	1
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77	1
Carbazole	ND		ug/l	2.0	0.49	1
Atrazine	ND		ug/l	10	0.76	1
Benzaldehyde	ND		ug/l	5.0	0.53	1
Caprolactam	9.3	J	ug/l	10	3.3	1
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84	1

Tentatively Identified Compounds

Total TIC Compounds	29.4	J	ug/l	1
Unknown Organic Acid	3.05	J	ug/l	1
Unknown Organic Acid	3.74	J	ug/l	1
Aldol Condensates	22.6	J	ug/l	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	71		21-120
Phenol-d6	60		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	85		15-120
2,4,6-Tribromophenol	96		10-120
4-Terphenyl-d14	81		41-149

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8270D-SIM
 Analytical Date: 12/17/18 18:53
 Analyst: DV

Extraction Method: EPA 3510C
 Extraction Date: 12/14/18 08:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Acenaphthene	ND		ug/l	0.10	0.01	1
2-Chloronaphthalene	ND		ug/l	0.20	0.02	1
Fluoranthene	ND		ug/l	0.10	0.02	1
Hexachlorobutadiene	ND		ug/l	0.50	0.05	1
Naphthalene	ND		ug/l	0.10	0.05	1
Benzo(a)anthracene	ND		ug/l	0.10	0.02	1
Benzo(a)pyrene	ND		ug/l	0.10	0.02	1
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01	1
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01	1
Chrysene	ND		ug/l	0.10	0.01	1
Acenaphthylene	ND		ug/l	0.10	0.01	1
Anthracene	ND		ug/l	0.10	0.01	1
Benzo(ghi)perylene	ND		ug/l	0.10	0.01	1
Fluorene	ND		ug/l	0.10	0.01	1
Phenanthrene	ND		ug/l	0.10	0.02	1
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01	1
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01	1
Pyrene	ND		ug/l	0.10	0.02	1
2-Methylnaphthalene	0.03	J	ug/l	0.10	0.02	1
Pentachlorophenol	ND		ug/l	0.80	0.01	1
Hexachlorobenzene	ND		ug/l	0.80	0.01	1
Hexachloroethane	ND		ug/l	0.80	0.06	1

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-06

Date Collected: 12/10/18 09:00

Client ID: EQUIPMENT BLANK

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		21-120
Phenol-d6	52		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	85		15-120
2,4,6-Tribromophenol	90		10-120
4-Terphenyl-d14	97		41-149

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/14/18 08:51
 Analyst: SZ

Extraction Method: EPA 3510C
 Extraction Date: 12/13/18 08:33

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1188913-1					
Bis(2-chloroethyl)ether	ND		ug/l	2.0	0.50
3,3'-Dichlorobenzidine	ND		ug/l	5.0	1.6
2,4-Dinitrotoluene	ND		ug/l	5.0	1.2
2,6-Dinitrotoluene	ND		ug/l	5.0	0.93
4-Chlorophenyl phenyl ether	ND		ug/l	2.0	0.49
4-Bromophenyl phenyl ether	ND		ug/l	2.0	0.38
Bis(2-chloroisopropyl)ether	ND		ug/l	2.0	0.53
Bis(2-chloroethoxy)methane	ND		ug/l	5.0	0.50
Hexachlorocyclopentadiene	ND		ug/l	20	0.69
Isophorone	ND		ug/l	5.0	1.2
Nitrobenzene	ND		ug/l	2.0	0.77
NDPA/DPA	ND		ug/l	2.0	0.42
n-Nitrosodi-n-propylamine	ND		ug/l	5.0	0.64
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1.5
Butyl benzyl phthalate	ND		ug/l	5.0	1.2
Di-n-butylphthalate	ND		ug/l	5.0	0.39
Di-n-octylphthalate	ND		ug/l	5.0	1.3
Diethyl phthalate	ND		ug/l	5.0	0.38
Dimethyl phthalate	ND		ug/l	5.0	1.8
Biphenyl	ND		ug/l	2.0	0.46
4-Chloroaniline	ND		ug/l	5.0	1.1
2-Nitroaniline	ND		ug/l	5.0	0.50
3-Nitroaniline	ND		ug/l	5.0	0.81
4-Nitroaniline	ND		ug/l	5.0	0.80
Dibenzofuran	ND		ug/l	2.0	0.50
1,2,4,5-Tetrachlorobenzene	ND		ug/l	10	0.44
Acetophenone	ND		ug/l	5.0	0.53
2,4,6-Trichlorophenol	ND		ug/l	5.0	0.61
p-Chloro-m-cresol	ND		ug/l	2.0	0.35

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/14/18 08:51
 Analyst: SZ

Extraction Method: EPA 3510C
 Extraction Date: 12/13/18 08:33

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1188913-1					
2-Chlorophenol	ND		ug/l	2.0	0.48
2,4-Dichlorophenol	ND		ug/l	5.0	0.41
2,4-Dimethylphenol	ND		ug/l	5.0	1.8
2-Nitrophenol	ND		ug/l	10	0.85
4-Nitrophenol	ND		ug/l	10	0.67
2,4-Dinitrophenol	ND		ug/l	20	6.6
4,6-Dinitro-o-cresol	ND		ug/l	10	1.8
Phenol	ND		ug/l	5.0	0.57
3-Methylphenol/4-Methylphenol	ND		ug/l	5.0	0.48
2,4,5-Trichlorophenol	ND		ug/l	5.0	0.77
Carbazole	ND		ug/l	2.0	0.49
Atrazine	ND		ug/l	10	0.76
Benzaldehyde	ND		ug/l	5.0	0.53
Caprolactam	ND		ug/l	10	3.3
2,3,4,6-Tetrachlorophenol	ND		ug/l	5.0	0.84

Tentatively Identified Compounds

Total TIC Compounds	15.2	J	ug/l
Aldol Condensates	15.2	J	ug/l

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/14/18 08:51
 Analyst: SZ

Extraction Method: EPA 3510C
 Extraction Date: 12/13/18 08:33

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1188913-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		21-120
Phenol-d6	47		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	77		15-120
2,4,6-Tribromophenol	51		10-120
4-Terphenyl-d14	74		41-149

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 12/14/18 20:53
 Analyst: DV

Extraction Method: EPA 3510C
 Extraction Date: 12/13/18 08:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-06 Batch: WG1188917-1					
Acenaphthene	ND		ug/l	0.10	0.01
2-Chloronaphthalene	ND		ug/l	0.20	0.02
Fluoranthene	ND		ug/l	0.10	0.02
Hexachlorobutadiene	ND		ug/l	0.50	0.05
Naphthalene	ND		ug/l	0.10	0.05
Benzo(a)anthracene	ND		ug/l	0.10	0.02
Benzo(a)pyrene	ND		ug/l	0.10	0.02
Benzo(b)fluoranthene	ND		ug/l	0.10	0.01
Benzo(k)fluoranthene	ND		ug/l	0.10	0.01
Chrysene	ND		ug/l	0.10	0.01
Acenaphthylene	ND		ug/l	0.10	0.01
Anthracene	ND		ug/l	0.10	0.01
Benzo(ghi)perylene	ND		ug/l	0.10	0.01
Fluorene	ND		ug/l	0.10	0.01
Phenanthrene	ND		ug/l	0.10	0.02
Dibenzo(a,h)anthracene	ND		ug/l	0.10	0.01
Indeno(1,2,3-cd)pyrene	ND		ug/l	0.10	0.01
Pyrene	ND		ug/l	0.10	0.02
2-Methylnaphthalene	ND		ug/l	0.10	0.02
Pentachlorophenol	ND		ug/l	0.80	0.01
Hexachlorobenzene	ND		ug/l	0.80	0.01
Hexachloroethane	ND		ug/l	0.80	0.06

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM

Extraction Method: EPA 3510C

Analytical Date: 12/14/18 20:53

Extraction Date: 12/13/18 08:44

Analyst: DV

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-06 Batch: WG1188917-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		21-120
Phenol-d6	41		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	80		15-120
2,4,6-Tribromophenol	69		10-120
4-Terphenyl-d14	92		41-149

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1188913-2 WG1188913-3								
Bis(2-chloroethyl)ether	82		85		40-140	4		30
3,3'-Dichlorobenzidine	46		46		40-140	0		30
2,4-Dinitrotoluene	81		82		48-143	1		30
2,6-Dinitrotoluene	81		80		40-140	1		30
4-Chlorophenyl phenyl ether	82		84		40-140	2		30
4-Bromophenyl phenyl ether	85		89		40-140	5		30
Bis(2-chloroisopropyl)ether	93		96		40-140	3		30
Bis(2-chloroethoxy)methane	85		89		40-140	5		30
Hexachlorocyclopentadiene	74		77		40-140	4		30
Isophorone	80		85		40-140	6		30
Nitrobenzene	81		83		40-140	2		30
NDPA/DPA	79		78		40-140	1		30
n-Nitrosodi-n-propylamine	85		89		29-132	5		30
Bis(2-ethylhexyl)phthalate	80		82		40-140	2		30
Butyl benzyl phthalate	65		66		40-140	2		30
Di-n-butylphthalate	74		75		40-140	1		30
Di-n-octylphthalate	66		69		40-140	4		30
Diethyl phthalate	79		79		40-140	0		30
Dimethyl phthalate	79		78		40-140	1		30
Biphenyl	80		80		40-140	0		30
4-Chloroaniline	44		39	Q	40-140	12		30
2-Nitroaniline	73		74		52-143	1		30
3-Nitroaniline	59		62		25-145	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1188913-2 WG1188913-3								
4-Nitroaniline	63		68		51-143	8		30
Dibenzofuran	78		82		40-140	5		30
1,2,4,5-Tetrachlorobenzene	77		78		2-134	1		30
Acetophenone	82		86		39-129	5		30
2,4,6-Trichlorophenol	75		76		30-130	1		30
p-Chloro-m-cresol	80		82		23-97	2		30
2-Chlorophenol	74		77		27-123	4		30
2,4-Dichlorophenol	75		79		30-130	5		30
2,4-Dimethylphenol	57		64		30-130	12		30
2-Nitrophenol	76		76		30-130	0		30
4-Nitrophenol	79		81	Q	10-80	3		30
2,4-Dinitrophenol	82		86		20-130	5		30
4,6-Dinitro-o-cresol	79		82		20-164	4		30
Phenol	64		67		12-110	5		30
3-Methylphenol/4-Methylphenol	78		82		30-130	5		30
2,4,5-Trichlorophenol	80		79		30-130	1		30
Carbazole	81		80		55-144	1		30
Atrazine	70		70		40-140	0		30
Benzaldehyde	74		76		40-140	3		30
Caprolactam	37		41		10-130	10		30
2,3,4,6-Tetrachlorophenol	81		83		40-140	2		30

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1188913-2 WG1188913-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	70		74		21-120
Phenol-d6	61		63		10-120
Nitrobenzene-d5	81		84		23-120
2-Fluorobiphenyl	77		79		15-120
2,4,6-Tribromophenol	82		85		10-120
4-Terphenyl-d14	74		75		41-149

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-06 Batch: WG1188917-2 WG1188917-3								
Acenaphthene	77		81		40-140	5		40
2-Chloronaphthalene	82		85		40-140	4		40
Fluoranthene	91		93		40-140	2		40
Hexachlorobutadiene	74		77		40-140	4		40
Naphthalene	74		77		40-140	4		40
Benzo(a)anthracene	91		93		40-140	2		40
Benzo(a)pyrene	91		94		40-140	3		40
Benzo(b)fluoranthene	88		90		40-140	2		40
Benzo(k)fluoranthene	92		94		40-140	2		40
Chrysene	85		87		40-140	2		40
Acenaphthylene	89		90		40-140	1		40
Anthracene	86		88		40-140	2		40
Benzo(ghi)perylene	86		88		40-140	2		40
Fluorene	82		86		40-140	5		40
Phenanthrene	83		85		40-140	2		40
Dibenzo(a,h)anthracene	93		96		40-140	3		40
Indeno(1,2,3-cd)pyrene	87		89		40-140	2		40
Pyrene	90		92		40-140	2		40
2-Methylnaphthalene	80		84		40-140	5		40
Pentachlorophenol	74		75		40-140	1		40
Hexachlorobenzene	83		85		40-140	2		40
Hexachloroethane	63		66		40-140	5		40

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-06 Batch: WG1188917-2 WG1188917-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	60		62		21-120
Phenol-d6	53		53		10-120
Nitrobenzene-d5	74		77		23-120
2-Fluorobiphenyl	81		83		15-120
2,4,6-Tribromophenol	90		91		10-120
4-Terphenyl-d14	92		93		41-149

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1188913-4 WG1188913-5 QC Sample: L1850769-03 Client ID: MW-2												
Bis(2-chloroethyl)ether	ND	18.2	11	61		14	77		40-140	24		30
3,3'-Dichlorobenzidine	ND	18.2	ND	0	Q	ND	0	Q	40-140	NC		30
2,4-Dinitrotoluene	ND	18.2	18	99		18	99		48-143	0		30
2,6-Dinitrotoluene	ND	18.2	19	100		19	100		40-140	0		30
4-Chlorophenyl phenyl ether	ND	18.2	16	88		16	88		40-140	0		30
4-Bromophenyl phenyl ether	ND	18.2	16	88		16	88		40-140	0		30
Bis(2-chloroisopropyl)ether	ND	18.2	10	55		12	66		40-140	18		30
Bis(2-chloroethoxy)methane	ND	18.2	13	72		15	83		40-140	14		30
Hexachlorocyclopentadiene	ND	18.2	12.J	66		15.J	83		40-140	22		30
Isophorone	ND	18.2	14	77		16	88		40-140	13		30
Nitrobenzene	ND	18.2	16	88		18	99		40-140	12		30
NDPA/DPA	ND	18.2	15	83		16	88		40-140	6		30
n-Nitrosodi-n-propylamine	ND	18.2	13	72		15	83		29-132	14		30
Bis(2-ethylhexyl)phthalate	ND	18.2	16	88		24	130		40-140	40	Q	30
Butyl benzyl phthalate	ND	18.2	18	99		17	94		40-140	6		30
Di-n-butylphthalate	ND	18.2	17	94		16	88		40-140	6		30
Di-n-octylphthalate	ND	18.2	17	94		16	88		40-140	6		30
Diethyl phthalate	ND	18.2	17	94		17	94		40-140	0		30
Dimethyl phthalate	ND	18.2	17	94		18	99		40-140	6		30
Biphenyl	ND	18.2	15	83		17	94		40-140	13		30
4-Chloroaniline	ND	18.2	2.5J	14	Q	4.3J	24	Q	40-140	53	Q	30
2-Nitroaniline	ND	18.2	15	83		15	83		52-143	0		30
3-Nitroaniline	ND	18.2	1.7J	9	Q	1.9J	10	Q	25-145	11		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1188913-4 WG1188913-5 QC Sample: L1850769-03 Client ID: MW-2												
4-Nitroaniline	ND	18.2	3.4J	19	Q	3.5J	19	Q	51-143	3		30
Dibenzofuran	ND	18.2	15	83		16	88		40-140	6		30
1,2,4,5-Tetrachlorobenzene	ND	18.2	13	72		16	88		2-134	21		30
Acetophenone	ND	18.2	12	66		14	77		39-129	15		30
2,4,6-Trichlorophenol	ND	18.2	16	88		18	99		30-130	12		30
p-Chloro-m-cresol	ND	18.2	17	94		17	94		23-97	0		30
2-Chlorophenol	ND	18.2	12	66		15	83		27-123	22		30
2,4-Dichlorophenol	ND	18.2	15	83		17	94		30-130	13		30
2,4-Dimethylphenol	ND	18.2	8.4	46		9.1	50		30-130	8		30
2-Nitrophenol	ND	18.2	15	83		17	94		30-130	13		30
4-Nitrophenol	ND	18.2	19	100	Q	19	100	Q	10-80	0		30
2,4-Dinitrophenol	ND	18.2	18.J	99		18.J	99		20-130	0		30
4,6-Dinitro-o-cresol	ND	18.2	18	99		19	100		20-164	5		30
Phenol	ND	18.2	10	55		11	61		12-110	10		30
3-Methylphenol/4-Methylphenol	ND	18.2	14	77		15	83		30-130	7		30
2,4,5-Trichlorophenol	ND	18.2	17	94		18	99		30-130	6		30
Carbazole	ND	18.2	17	94		16	88		55-144	6		30
Atrazine	ND	18.2	20	110		19	100		40-140	5		30
Benzaldehyde	ND	18.2	10	55		12	66		40-140	18		30
Caprolactam	ND	18.2	11	61		12	66		10-130	9		30
2,3,4,6-Tetrachlorophenol	ND	18.2	17	94		17	94		40-140	0		30

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1188913-4 WG1188913-5 QC Sample: L1850769-03 Client ID: MW-2

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	93		103		10-120
2-Fluorobiphenyl	75		85		15-120
2-Fluorophenol	60		69		21-120
4-Terphenyl-d14	76		75		41-149
Nitrobenzene-d5	69		80		23-120
Phenol-d6	56		62		10-120

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1188917-4 WG1188917-5 QC Sample: L1850769-03 Client ID: MW-2												
Acenaphthene	0.04J	18.2	13	72		14	77		40-140	7		40
2-Chloronaphthalene	ND	18.2	12	66		14	77		40-140	15		40
Fluoranthene	0.10	18.2	17	94		17	94		40-140	0		40
Hexachlorobutadiene	ND	18.2	9.6	53		12	66		40-140	22		40
Naphthalene	0.06J	18.2	11	61		14	77		40-140	24		40
Benzo(a)anthracene	ND	18.2	18	99		17	94		40-140	6		40
Benzo(a)pyrene	ND	18.2	15	83		15	83		40-140	0		40
Benzo(b)fluoranthene	ND	18.2	18	99		18	99		40-140	0		40
Benzo(k)fluoranthene	ND	18.2	18	99		17	94		40-140	6		40
Chrysene	ND	18.2	16	88		16	88		40-140	0		40
Acenaphthylene	ND	18.2	13	72		14	77		40-140	7		40
Anthracene	0.03J	18.2	16	88		16	88		40-140	0		40
Benzo(ghi)perylene	ND	18.2	7.8	43		6.6	36	Q	40-140	17		40
Fluorene	0.05J	18.2	17	94		18	99		40-140	6		40
Phenanthrene	0.27	18.2	16	87		16	87		40-140	0		40
Dibenzo(a,h)anthracene	ND	18.2	9.2	51		7.9	43		40-140	15		40
Indeno(1,2,3-cd)pyrene	ND	18.2	9.8	54		8.4	46		40-140	15		40
Pyrene	0.07J	18.2	18	99		17	94		40-140	6		40
2-Methylnaphthalene	0.06J	18.2	11	61		12	66		40-140	9		40
Pentachlorophenol	ND	18.2	21	120		21	120		40-140	0		40
Hexachlorobenzene	ND	18.2	18	99		18	99		40-140	0		40
Hexachloroethane	ND	18.2	10	55		13	72		40-140	26		40

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1188917-4 WG1188917-5 QC Sample: L1850769-03
 Client ID: MW-2

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	93		91		10-120
2-Fluorobiphenyl	74		80		15-120
2-Fluorophenol	55		66		21-120
4-Terphenyl-d14	102		97		41-149
Nitrobenzene-d5	66		81		23-120
Phenol-d6	51		57		10-120

PCBS

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01
Client ID: MW-1
Sample Location: BUFFALO

Date Collected: 12/10/18 11:54
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 12/15/18 09:53
Analyst: HT

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:37
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.034	1	A
Aroclor 1221	ND		ug/l	0.083	0.067	1	A
Aroclor 1232	ND		ug/l	0.083	0.046	1	A
Aroclor 1242	ND		ug/l	0.083	0.039	1	A
Aroclor 1248	ND		ug/l	0.083	0.049	1	A
Aroclor 1254	ND		ug/l	0.083	0.039	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A
Aroclor 1262	ND		ug/l	0.083	0.035	1	A
Aroclor 1268	ND		ug/l	0.083	0.034	1	A
PCBs, Total	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	67		30-150	A
Decachlorobiphenyl	50		30-150	A
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	55		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02
Client ID: BLIND DUP
Sample Location: BUFFALO

Date Collected: 12/10/18 12:00
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 12/15/18 10:06
Analyst: HT

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:37
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.034	1	A
Aroclor 1221	ND		ug/l	0.083	0.067	1	A
Aroclor 1232	ND		ug/l	0.083	0.046	1	A
Aroclor 1242	ND		ug/l	0.083	0.039	1	A
Aroclor 1248	ND		ug/l	0.083	0.049	1	A
Aroclor 1254	ND		ug/l	0.083	0.039	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A
Aroclor 1262	ND		ug/l	0.083	0.035	1	A
Aroclor 1268	ND		ug/l	0.083	0.034	1	A
PCBs, Total	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	68		30-150	A
Decachlorobiphenyl	51		30-150	A
2,4,5,6-Tetrachloro-m-xylene	75		30-150	B
Decachlorobiphenyl	57		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03
Client ID: MW-2
Sample Location: BUFFALO

Date Collected: 12/10/18 10:11
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 12/15/18 09:12
Analyst: HT

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:37
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.034	1	A
Aroclor 1221	ND		ug/l	0.083	0.067	1	A
Aroclor 1232	ND		ug/l	0.083	0.046	1	A
Aroclor 1242	ND		ug/l	0.083	0.039	1	A
Aroclor 1248	ND		ug/l	0.083	0.049	1	A
Aroclor 1254	ND		ug/l	0.083	0.039	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A
Aroclor 1262	ND		ug/l	0.083	0.035	1	A
Aroclor 1268	ND		ug/l	0.083	0.034	1	A
PCBs, Total	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	65		30-150	A
Decachlorobiphenyl	59		30-150	A
2,4,5,6-Tetrachloro-m-xylene	73		30-150	B
Decachlorobiphenyl	65		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 12/15/18 10:20
Analyst: HT

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:37
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.034	1	A
Aroclor 1221	ND		ug/l	0.083	0.067	1	A
Aroclor 1232	ND		ug/l	0.083	0.046	1	A
Aroclor 1242	ND		ug/l	0.083	0.039	1	A
Aroclor 1248	ND		ug/l	0.083	0.049	1	A
Aroclor 1254	ND		ug/l	0.083	0.039	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A
Aroclor 1262	ND		ug/l	0.083	0.035	1	A
Aroclor 1268	ND		ug/l	0.083	0.034	1	A
PCBs, Total	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	45		30-150	A
2,4,5,6-Tetrachloro-m-xylene	61		30-150	B
Decachlorobiphenyl	45		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05
Client ID: MW-4
Sample Location: BUFFALO

Date Collected: 12/10/18 13:16
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8082A
Analytical Date: 12/15/18 10:33
Analyst: HT

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:37
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.034	1	A
Aroclor 1221	ND		ug/l	0.083	0.067	1	A
Aroclor 1232	ND		ug/l	0.083	0.046	1	A
Aroclor 1242	ND		ug/l	0.083	0.039	1	A
Aroclor 1248	ND		ug/l	0.083	0.049	1	A
Aroclor 1254	ND		ug/l	0.083	0.039	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A
Aroclor 1262	ND		ug/l	0.083	0.035	1	A
Aroclor 1268	ND		ug/l	0.083	0.034	1	A
PCBs, Total	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	58		30-150	A
Decachlorobiphenyl	62		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	66		30-150	B

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8082A
 Analytical Date: 12/15/18 10:47
 Analyst: HT

Extraction Method: EPA 3510C
 Extraction Date: 12/14/18 09:37
 Cleanup Method: EPA 3665A
 Cleanup Date: 12/15/18
 Cleanup Method: EPA 3660B
 Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/l	0.083	0.034	1	A
Aroclor 1221	ND		ug/l	0.083	0.067	1	A
Aroclor 1232	ND		ug/l	0.083	0.046	1	A
Aroclor 1242	ND		ug/l	0.083	0.039	1	A
Aroclor 1248	ND		ug/l	0.083	0.049	1	A
Aroclor 1254	ND		ug/l	0.083	0.039	1	A
Aroclor 1260	ND		ug/l	0.083	0.032	1	A
Aroclor 1262	ND		ug/l	0.083	0.035	1	A
Aroclor 1268	ND		ug/l	0.083	0.034	1	A
PCBs, Total	ND		ug/l	0.083	0.032	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	61		30-150	A
Decachlorobiphenyl	33		30-150	A
2,4,5,6-Tetrachloro-m-xylene	66		30-150	B
Decachlorobiphenyl	37		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A
 Analytical Date: 12/14/18 02:06
 Analyst: WR

Extraction Method: EPA 3510C
 Extraction Date: 12/13/18 10:07
 Cleanup Method: EPA 3665A
 Cleanup Date: 12/13/18
 Cleanup Method: EPA 3660B
 Cleanup Date: 12/13/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-06 Batch: WG1188988-1						
Aroclor 1016	ND		ug/l	0.083	0.034	A
Aroclor 1221	ND		ug/l	0.083	0.067	A
Aroclor 1232	ND		ug/l	0.083	0.046	A
Aroclor 1242	ND		ug/l	0.083	0.039	A
Aroclor 1248	ND		ug/l	0.083	0.049	A
Aroclor 1254	ND		ug/l	0.083	0.039	A
Aroclor 1260	ND		ug/l	0.083	0.032	A
Aroclor 1262	ND		ug/l	0.083	0.035	A
Aroclor 1268	ND		ug/l	0.083	0.034	A
PCBs, Total	ND		ug/l	0.083	0.032	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	86		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	89		30-150	B
Decachlorobiphenyl	89		30-150	B

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-06 Batch: WG1188988-2 WG1188988-3									
Aroclor 1016	82		77		40-140	7		50	A
Aroclor 1260	83		77		40-140	8		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	99		88		30-150	A
Decachlorobiphenyl	95		86		30-150	A
2,4,5,6-Tetrachloro-m-xylene	102		91		30-150	B
Decachlorobiphenyl	98		89		30-150	B

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1188988-4 WG1188988-5 QC Sample: L1850769-03 Client ID: MW-2													
Aroclor 1016	ND	1.78	1.19	67		1.20	67		40-140	1		50	A
Aroclor 1260	ND	1.78	1.07	60		1.08	60		40-140	1		50	A

Surrogate	MS		MSD		Acceptance Criteria	Column
	% Recovery	Qualifier	% Recovery	Qualifier		
2,4,5,6-Tetrachloro-m-xylene	58		60		30-150	A
Decachlorobiphenyl	56		53		30-150	A
2,4,5,6-Tetrachloro-m-xylene	62		64		30-150	B
Decachlorobiphenyl	61		59		30-150	B

PESTICIDES

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01
Client ID: MW-1
Sample Location: BUFFALO

Date Collected: 12/10/18 11:54
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 12/17/18 15:01
Analyst: KB

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.014	0.003	1	A
Lindane	ND		ug/l	0.014	0.003	1	A
Alpha-BHC	ND		ug/l	0.014	0.003	1	A
Beta-BHC	ND		ug/l	0.014	0.004	1	A
Heptachlor	ND		ug/l	0.014	0.002	1	A
Aldrin	ND		ug/l	0.014	0.002	1	A
Heptachlor epoxide	0.007	JIP	ug/l	0.014	0.003	1	A
Endrin	ND		ug/l	0.029	0.003	1	A
Endrin aldehyde	ND		ug/l	0.029	0.006	1	A
Endrin ketone	ND		ug/l	0.029	0.003	1	A
Dieldrin	ND		ug/l	0.029	0.003	1	A
4,4'-DDE	ND		ug/l	0.029	0.003	1	A
4,4'-DDD	ND		ug/l	0.029	0.003	1	A
4,4'-DDT	0.034		ug/l	0.029	0.003	1	A
Endosulfan I	ND		ug/l	0.014	0.002	1	A
Endosulfan II	ND		ug/l	0.029	0.004	1	A
Endosulfan sulfate	ND		ug/l	0.029	0.003	1	A
Methoxychlor	ND		ug/l	0.143	0.005	1	A
Toxaphene	ND		ug/l	0.143	0.045	1	A
cis-Chlordane	ND		ug/l	0.014	0.005	1	A
trans-Chlordane	0.008	JIP	ug/l	0.014	0.004	1	A
Chlordane	ND		ug/l	0.143	0.033	1	A

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-01

Date Collected: 12/10/18 11:54

Client ID: MW-1

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	64		30-150	B
Decachlorobiphenyl	70		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01
Client ID: MW-1
Sample Location: BUFFALO

Date Collected: 12/10/18 11:54
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 12/17/18 00:49
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 12/15/18 05:35

Methylation Date: 12/15/18 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/l	10.0	0.498	1	B
2,4,5-T	ND		ug/l	2.00	0.531	1	B
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	127		30-150	A
DCAA	105		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02
Client ID: BLIND DUP
Sample Location: BUFFALO

Date Collected: 12/10/18 12:00
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 12/17/18 15:14
Analyst: KB

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.014	0.003	1	A
Lindane	ND		ug/l	0.014	0.003	1	A
Alpha-BHC	ND		ug/l	0.014	0.003	1	A
Beta-BHC	ND		ug/l	0.014	0.004	1	A
Heptachlor	ND		ug/l	0.014	0.002	1	A
Aldrin	ND		ug/l	0.014	0.002	1	A
Heptachlor epoxide	0.005	JIP	ug/l	0.014	0.003	1	A
Endrin	ND		ug/l	0.029	0.003	1	A
Endrin aldehyde	ND		ug/l	0.029	0.006	1	A
Endrin ketone	ND		ug/l	0.029	0.003	1	A
Dieldrin	ND		ug/l	0.029	0.003	1	A
4,4'-DDE	ND		ug/l	0.029	0.003	1	A
4,4'-DDD	ND		ug/l	0.029	0.003	1	A
4,4'-DDT	0.019	JP	ug/l	0.029	0.003	1	A
Endosulfan I	ND		ug/l	0.014	0.002	1	A
Endosulfan II	ND		ug/l	0.029	0.004	1	A
Endosulfan sulfate	ND		ug/l	0.029	0.003	1	A
Methoxychlor	ND		ug/l	0.143	0.005	1	A
Toxaphene	ND		ug/l	0.143	0.045	1	A
cis-Chlordane	ND		ug/l	0.014	0.005	1	A
trans-Chlordane	0.007	JIP	ug/l	0.014	0.004	1	A
Chlordane	ND		ug/l	0.143	0.033	1	A

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-02

Date Collected: 12/10/18 12:00

Client ID: BLIND DUP

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	71		30-150	A
Decachlorobiphenyl	77		30-150	A
2,4,5,6-Tetrachloro-m-xylene	59		30-150	B
Decachlorobiphenyl	59		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02
Client ID: BLIND DUP
Sample Location: BUFFALO

Date Collected: 12/10/18 12:00
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 12/17/18 01:08
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 12/15/18 05:35

Methylation Date: 12/15/18 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/l	10.0	0.498	1	B
2,4,5-T	ND		ug/l	2.00	0.531	1	B
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	133		30-150	A
DCAA	109		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03

Date Collected: 12/10/18 10:11

Client ID: MW-2

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 3510C

Analytical Method: 1,8081B

Extraction Date: 12/14/18 09:42

Analytical Date: 12/17/18 14:23

Analyst: KB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.014	0.003	1	A
Lindane	ND		ug/l	0.014	0.003	1	A
Alpha-BHC	ND		ug/l	0.014	0.003	1	A
Beta-BHC	ND		ug/l	0.014	0.004	1	A
Heptachlor	ND		ug/l	0.014	0.002	1	A
Aldrin	ND		ug/l	0.014	0.002	1	A
Heptachlor epoxide	ND	IP	ug/l	0.014	0.003	1	A
Endrin	ND		ug/l	0.029	0.003	1	A
Endrin aldehyde	ND		ug/l	0.029	0.006	1	A
Endrin ketone	ND		ug/l	0.029	0.003	1	A
Dieldrin	ND		ug/l	0.029	0.003	1	A
4,4'-DDE	ND		ug/l	0.029	0.003	1	A
4,4'-DDD	ND		ug/l	0.029	0.003	1	A
4,4'-DDT	0.015	J	ug/l	0.029	0.003	1	A
Endosulfan I	ND		ug/l	0.014	0.002	1	A
Endosulfan II	ND		ug/l	0.029	0.004	1	A
Endosulfan sulfate	ND		ug/l	0.029	0.003	1	A
Methoxychlor	ND		ug/l	0.143	0.005	1	A
Toxaphene	ND		ug/l	0.143	0.045	1	A
cis-Chlordane	ND		ug/l	0.014	0.005	1	A
trans-Chlordane	ND		ug/l	0.014	0.004	1	A
Chlordane	ND		ug/l	0.143	0.033	1	A

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03

Date Collected: 12/10/18 10:11

Client ID: MW-2

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Organochlorine Pesticides by GC - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	69		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03
Client ID: MW-2
Sample Location: BUFFALO

Date Collected: 12/10/18 10:11
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 12/17/18 00:30
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 12/15/18 05:35

Methylation Date: 12/15/18 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/l	10.0	0.498	1	B
2,4,5-T	ND		ug/l	2.00	0.531	1	B
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	119		30-150	A
DCAA	101		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 12/17/18 15:27
Analyst: KB

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.014	0.003	1	A
Lindane	ND		ug/l	0.014	0.003	1	A
Alpha-BHC	ND		ug/l	0.014	0.003	1	A
Beta-BHC	ND		ug/l	0.014	0.004	1	A
Heptachlor	ND		ug/l	0.014	0.002	1	A
Aldrin	ND		ug/l	0.014	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.014	0.003	1	A
Endrin	ND		ug/l	0.029	0.003	1	A
Endrin aldehyde	ND		ug/l	0.029	0.006	1	A
Endrin ketone	ND		ug/l	0.029	0.003	1	A
Dieldrin	ND		ug/l	0.029	0.003	1	A
4,4'-DDE	ND		ug/l	0.029	0.003	1	A
4,4'-DDD	ND		ug/l	0.029	0.003	1	A
4,4'-DDT	0.020	JP	ug/l	0.029	0.003	1	A
Endosulfan I	ND		ug/l	0.014	0.002	1	A
Endosulfan II	ND		ug/l	0.029	0.004	1	A
Endosulfan sulfate	ND		ug/l	0.029	0.003	1	A
Methoxychlor	ND		ug/l	0.143	0.005	1	A
Toxaphene	ND		ug/l	0.143	0.045	1	A
cis-Chlordane	ND		ug/l	0.014	0.005	1	A
trans-Chlordane	ND		ug/l	0.014	0.004	1	A
Chlordane	ND		ug/l	0.143	0.033	1	A

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04

Date Collected: 12/10/18 14:19

Client ID: MW-3

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	62		30-150	A
Decachlorobiphenyl	83		30-150	A
2,4,5,6-Tetrachloro-m-xylene	24	Q	30-150	B
Decachlorobiphenyl	29	Q	30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04
Client ID: MW-3
Sample Location: BUFFALO

Date Collected: 12/10/18 14:19
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 12/17/18 01:27
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 12/15/18 05:35

Methylation Date: 12/15/18 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/l	10.0	0.498	1	B
2,4,5-T	ND		ug/l	2.00	0.531	1	B
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	91		30-150	A
DCAA	88		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05
Client ID: MW-4
Sample Location: BUFFALO

Date Collected: 12/10/18 13:16
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 12/17/18 15:39
Analyst: KB

Extraction Method: EPA 3510C
Extraction Date: 12/14/18 09:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.014	0.003	1	A
Lindane	ND		ug/l	0.014	0.003	1	A
Alpha-BHC	ND		ug/l	0.014	0.003	1	A
Beta-BHC	ND		ug/l	0.014	0.004	1	A
Heptachlor	ND		ug/l	0.014	0.002	1	A
Aldrin	ND		ug/l	0.014	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.014	0.003	1	A
Endrin	ND		ug/l	0.029	0.003	1	A
Endrin aldehyde	ND		ug/l	0.029	0.006	1	A
Endrin ketone	ND		ug/l	0.029	0.003	1	A
Dieldrin	ND		ug/l	0.029	0.003	1	A
4,4'-DDE	ND		ug/l	0.029	0.003	1	A
4,4'-DDD	ND		ug/l	0.029	0.003	1	A
4,4'-DDT	0.007	JP	ug/l	0.029	0.003	1	A
Endosulfan I	ND		ug/l	0.014	0.002	1	A
Endosulfan II	ND		ug/l	0.029	0.004	1	A
Endosulfan sulfate	ND		ug/l	0.029	0.003	1	A
Methoxychlor	ND		ug/l	0.143	0.005	1	A
Toxaphene	ND		ug/l	0.143	0.045	1	A
cis-Chlordane	ND		ug/l	0.014	0.005	1	A
trans-Chlordane	ND		ug/l	0.014	0.004	1	A
Chlordane	ND		ug/l	0.143	0.033	1	A

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-05

Date Collected: 12/10/18 13:16

Client ID: MW-4

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	52		30-150	A
Decachlorobiphenyl	64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	63		30-150	B
Decachlorobiphenyl	60		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05
Client ID: MW-4
Sample Location: BUFFALO

Date Collected: 12/10/18 13:16
Date Received: 12/11/18
Field Prep: Not Specified

Sample Depth:

Matrix: Water
Analytical Method: 1,8151A
Analytical Date: 12/17/18 02:05
Analyst: DGM

Extraction Method: EPA 8151A
Extraction Date: 12/15/18 05:35

Methylation Date: 12/15/18 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Chlorinated Herbicides by GC - Westborough Lab							
2,4-D	ND		ug/l	10.0	0.498	1	B
2,4,5-T	ND		ug/l	2.00	0.531	1	B
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	113		30-150	A
DCAA	98		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8081B
 Analytical Date: 12/17/18 15:52
 Analyst: KB

Extraction Method: EPA 3510C
 Extraction Date: 12/14/18 09:42

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/l	0.014	0.003	1	A
Lindane	ND		ug/l	0.014	0.003	1	A
Alpha-BHC	ND		ug/l	0.014	0.003	1	A
Beta-BHC	ND		ug/l	0.014	0.004	1	A
Heptachlor	ND		ug/l	0.014	0.002	1	A
Aldrin	ND		ug/l	0.014	0.002	1	A
Heptachlor epoxide	ND		ug/l	0.014	0.003	1	A
Endrin	ND		ug/l	0.029	0.003	1	A
Endrin aldehyde	ND		ug/l	0.029	0.006	1	A
Endrin ketone	ND		ug/l	0.029	0.003	1	A
Dieldrin	ND		ug/l	0.029	0.003	1	A
4,4'-DDE	ND		ug/l	0.029	0.003	1	A
4,4'-DDD	ND		ug/l	0.029	0.003	1	A
4,4'-DDT	0.011	J	ug/l	0.029	0.003	1	A
Endosulfan I	ND		ug/l	0.014	0.002	1	A
Endosulfan II	ND		ug/l	0.029	0.004	1	A
Endosulfan sulfate	ND		ug/l	0.029	0.003	1	A
Methoxychlor	ND		ug/l	0.143	0.005	1	A
Toxaphene	ND		ug/l	0.143	0.045	1	A
cis-Chlordane	ND		ug/l	0.014	0.005	1	A
trans-Chlordane	ND		ug/l	0.014	0.004	1	A
Chlordane	ND		ug/l	0.143	0.033	1	A

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06

Date Collected: 12/10/18 09:00

Client ID: EQUIPMENT BLANK

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	64		30-150	B

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**SAMPLE RESULTS**

Lab ID: L1850769-06
 Client ID: EQUIPMENT BLANK
 Sample Location: BUFFALO

Date Collected: 12/10/18 09:00
 Date Received: 12/11/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 1,8151A
 Analytical Date: 12/17/18 02:23
 Analyst: TQ

Extraction Method: EPA 8151A
 Extraction Date: 12/15/18 05:35

Methylation Date: 12/15/18 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/l	10.0	0.498	1	B
2,4,5-T	ND		ug/l	2.00	0.531	1	B
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	117		30-150	A
DCAA	95		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 12/14/18 01:06
 Analyst: KEG

Extraction Method: EPA 3510C
 Extraction Date: 12/13/18 15:35

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-06 Batch: WG1189138-1						
Delta-BHC	ND		ug/l	0.014	0.003	A
Lindane	ND		ug/l	0.014	0.003	A
Alpha-BHC	ND		ug/l	0.014	0.003	A
Beta-BHC	ND		ug/l	0.014	0.004	A
Heptachlor	ND		ug/l	0.014	0.002	A
Aldrin	ND		ug/l	0.014	0.002	A
Heptachlor epoxide	ND		ug/l	0.014	0.003	A
Endrin	ND		ug/l	0.029	0.003	A
Endrin aldehyde	ND		ug/l	0.029	0.006	A
Endrin ketone	ND		ug/l	0.029	0.003	A
Dieldrin	ND		ug/l	0.029	0.003	A
4,4'-DDE	ND		ug/l	0.029	0.003	A
4,4'-DDD	ND		ug/l	0.029	0.003	A
4,4'-DDT	0.019	JP	ug/l	0.029	0.003	A
Endosulfan I	ND		ug/l	0.014	0.002	A
Endosulfan II	ND		ug/l	0.029	0.004	A
Endosulfan sulfate	ND		ug/l	0.029	0.003	A
Methoxychlor	ND		ug/l	0.143	0.005	A
Toxaphene	ND		ug/l	0.143	0.045	A
cis-Chlordane	ND		ug/l	0.014	0.005	A
trans-Chlordane	ND		ug/l	0.014	0.004	A
Chlordane	ND		ug/l	0.143	0.033	A

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 12/14/18 01:06
 Analyst: KEG

Extraction Method: EPA 3510C
 Extraction Date: 12/13/18 15:35

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 01-06 Batch: WG1189138-1						

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	84		30-150	B
Decachlorobiphenyl	63		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8151A

Extraction Method: EPA 8151A

Analytical Date: 12/16/18 22:56

Extraction Date: 12/15/18 05:35

Analyst: DGM

Methylation Date: 12/15/18 20:51

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 01-06 Batch: WG1189745-1						
2,4-D	ND		ug/l	10.0	0.498	B
2,4,5-T	ND		ug/l	2.00	0.531	B
2,4,5-TP (Silvex)	ND		ug/l	2.00	0.539	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	120		30-150	A
DCAA	95		30-150	B

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-06 Batch: WG1189138-2 WG1189138-3									
Delta-BHC	100		103		30-150	3		20	A
Lindane	97		101		30-150	4		20	A
Alpha-BHC	102		107		30-150	5		20	A
Beta-BHC	93		94		30-150	1		20	A
Heptachlor	91		101		30-150	10		20	A
Aldrin	112		96		30-150	15		20	A
Heptachlor epoxide	116		99		30-150	16		20	A
Endrin	120		103		30-150	15		20	A
Endrin aldehyde	85		75		30-150	13		20	A
Endrin ketone	111		93		30-150	17		20	A
Dieldrin	123		103		30-150	18		20	A
4,4'-DDE	108		91		30-150	17		20	A
4,4'-DDD	115		99		30-150	15		20	A
4,4'-DDT	108		93		30-150	15		20	A
Endosulfan I	135		115		30-150	16		20	A
Endosulfan II	110		93		30-150	17		20	A
Endosulfan sulfate	108		91		30-150	17		20	A
Methoxychlor	144		123		30-150	16		20	A
cis-Chlordane	89		71		30-150	22	Q	20	A
trans-Chlordane	109		92		30-150	17		20	A

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

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

Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-06 Batch: WG1189138-2 WG1189138-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	94		95		30-150	A
Decachlorobiphenyl	93		79		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		90		30-150	B
Decachlorobiphenyl	69		72		30-150	B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01-06 Batch: WG1189745-2 WG1189745-3									
2,4-D	105		107		30-150	2		25	B
2,4,5-T	104		108		30-150	4		25	B
2,4,5-TP (Silvex)	98		101		30-150	3		25	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	123		124		30-150	A
DCAA	113		114		30-150	B

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab ID: MW-2 Associated sample(s): 01-06 QC Batch ID: WG1189138-4 WG1189138-5 QC Sample: L1850769-03 Client													
Delta-BHC	ND	0.357	0.269	75		0.272	76		30-150	1		30	A
Lindane	ND	0.357	0.252	71		0.258	72		30-150	2		30	A
Alpha-BHC	ND	0.357	0.276	77		0.275	77		30-150	0		30	A
Beta-BHC	ND	0.357	0.264	74		0.254	71		30-150	4		30	A
Heptachlor	ND	0.357	0.248	69		0.268	75		30-150	8		30	A
Aldrin	ND	0.357	0.247	69		0.254	71		30-150	3		30	A
Heptachlor epoxide	NDIP	0.357	0.251	70		0.264	74		30-150	5		30	A
Endrin	ND	0.357	0.275	77		0.286	80		30-150	4		30	A
Endrin aldehyde	ND	0.357	0.280	78		0.249	70		30-150	12		30	A
Endrin ketone	ND	0.357	0.317	89		0.291	82		30-150	9		30	A
Dieldrin	ND	0.357	0.282	79		0.293	82		30-150	4		30	A
4,4'-DDE	ND	0.357	0.238	67		0.251	70		30-150	5		30	A
4,4'-DDD	ND	0.357	0.258	72		0.278	78		30-150	7		30	A
4,4'-DDT	0.015J	0.357	0.262	73		0.279	78		30-150	6		30	A
Endosulfan I	ND	0.357	0.246	69		0.258	72		30-150	5		30	A
Endosulfan II	ND	0.357	0.281	79		0.300	84		30-150	7		30	A
Endosulfan sulfate	ND	0.357	0.323	90		0.279	78		30-150	15		30	A
Methoxychlor	ND	0.357	0.343	96		0.277	78		30-150	21		30	A
cis-Chlordane	ND	0.357	0.201	56		0.207	58		30-150	3		30	A
trans-Chlordane	ND	0.357	0.224	63		0.242	68		30-150	8		30	A

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1189138-4 WG1189138-5 QC Sample: L1850769-03 Client ID: MW-2												

Surrogate	MS		MSD		Acceptance Criteria	Column
	% Recovery	Qualifier	% Recovery	Qualifier		
2,4,5,6-Tetrachloro-m-xylene	64		64		30-150	A
Decachlorobiphenyl	77		70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	60		61		30-150	B
Decachlorobiphenyl	58		65		30-150	B

Matrix Spike Analysis*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1850769**Report Date:** 12/18/18

<i>Parameter</i>	<i>Native Sample</i>	<i>MS Added</i>	<i>MS Found</i>	<i>MS %Recovery</i>	<i>Qual</i>	<i>MSD Found</i>	<i>MSD %Recovery</i>	<i>Qual</i>	<i>Recovery Limits</i>	<i>RPD</i>	<i>Qual</i>	<i>RPD Limits</i>	<i>Column</i>
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1189745-4 WG1189745-5 QC Sample: L1850769-03 Client ID: MW-2													
2,4-D	ND	5	4.88J	98		4.75J	95		30-150	3		25	B
2,4,5-T	ND	5	4.77	95		4.51	90		30-150	6		25	B
2,4,5-TP (Silvex)	ND	5	4.35	87		4.23	85		30-150	3		25	B

<i>Surrogate</i>	<i>MS % Recovery</i>	<i>Qualifier</i>	<i>MSD % Recovery</i>	<i>Qualifier</i>	<i>Acceptance Criteria</i>	<i>Column</i>
DCAA	112		111		30-150	A
DCAA	208	Q	179	Q	30-150	B

METALS

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-01

Date Collected: 12/10/18 11:54

Client ID: MW-1

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1.01		mg/l	0.100	0.032	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Antimony, Total	0.019	J	mg/l	0.050	0.007	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Arsenic, Total	0.006		mg/l	0.005	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Barium, Total	0.037		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Calcium, Total	57.4		mg/l	0.100	0.035	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Chromium, Total	0.003	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Cobalt, Total	0.002	J	mg/l	0.020	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Copper, Total	0.009	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Iron, Total	1.76		mg/l	0.050	0.009	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Lead, Total	0.006	J	mg/l	0.010	0.003	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Magnesium, Total	14.3		mg/l	0.100	0.015	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Manganese, Total	0.073		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00006	1	12/17/18 11:54	12/17/18 16:22	EPA 7470A	1,7470A	MG
Nickel, Total	0.003	J	mg/l	0.025	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Potassium, Total	4.75		mg/l	2.50	0.237	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Sodium, Total	356		mg/l	2.00	0.120	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.020	0.003	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Vanadium, Total	0.005	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC
Zinc, Total	0.048	J	mg/l	0.050	0.002	1	12/15/18 09:18	12/17/18 17:18	EPA 3005A	1,6010D	MC



Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-02

Date Collected: 12/10/18 12:00

Client ID: BLIND DUP

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	1.34		mg/l	0.100	0.032	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.050	0.007	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Arsenic, Total	0.007		mg/l	0.005	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Barium, Total	0.039		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Calcium, Total	57.8		mg/l	0.100	0.035	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Chromium, Total	0.004	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Cobalt, Total	0.002	J	mg/l	0.020	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Copper, Total	0.009	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Iron, Total	2.24		mg/l	0.050	0.009	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Lead, Total	0.007	J	mg/l	0.010	0.003	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Magnesium, Total	14.8		mg/l	0.100	0.015	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Manganese, Total	0.085		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00006	1	12/17/18 11:54	12/17/18 16:24	EPA 7470A	1,7470A	MG
Nickel, Total	0.003	J	mg/l	0.025	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Potassium, Total	4.68		mg/l	2.50	0.237	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Sodium, Total	347		mg/l	2.00	0.120	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.020	0.003	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Vanadium, Total	0.006	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC
Zinc, Total	0.055		mg/l	0.050	0.002	1	12/15/18 09:18	12/17/18 17:22	EPA 3005A	1,6010D	MC



Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-03

Date Collected: 12/10/18 10:11

Client ID: MW-2

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.098	J	mg/l	0.100	0.032	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.050	0.007	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Arsenic, Total	ND		mg/l	0.005	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Barium, Total	0.116		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Calcium, Total	188		mg/l	0.100	0.035	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Cobalt, Total	0.002	J	mg/l	0.020	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Copper, Total	0.004	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Iron, Total	0.248		mg/l	0.050	0.009	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Lead, Total	ND		mg/l	0.010	0.003	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Magnesium, Total	60.6		mg/l	0.100	0.015	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Manganese, Total	0.170		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00006	1	12/17/18 11:54	12/17/18 16:17	EPA 7470A	1,7470A	MG
Nickel, Total	0.007	J	mg/l	0.025	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Potassium, Total	18.4		mg/l	2.50	0.237	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Sodium, Total	874		mg/l	20.0	1.20	10	12/15/18 09:18	12/17/18 22:35	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.020	0.003	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Vanadium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC
Zinc, Total	0.008	J	mg/l	0.050	0.002	1	12/15/18 09:18	12/17/18 16:49	EPA 3005A	1,6010D	MC



Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-04

Date Collected: 12/10/18 14:19

Client ID: MW-3

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.396		mg/l	0.100	0.032	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.050	0.007	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Arsenic, Total	0.007		mg/l	0.005	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Barium, Total	0.453		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Calcium, Total	197		mg/l	0.100	0.035	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Copper, Total	0.005	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Iron, Total	3.45		mg/l	0.050	0.009	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Lead, Total	0.023		mg/l	0.010	0.003	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Magnesium, Total	82.2		mg/l	0.100	0.015	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Manganese, Total	0.374		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00006	1	12/17/18 11:54	12/17/18 16:26	EPA 7470A	1,7470A	MG
Nickel, Total	ND		mg/l	0.025	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Potassium, Total	15.4		mg/l	2.50	0.237	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Sodium, Total	1100		mg/l	20.0	1.20	10	12/15/18 09:18	12/17/18 22:52	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.020	0.003	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Vanadium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC
Zinc, Total	0.023	J	mg/l	0.050	0.002	1	12/15/18 09:18	12/17/18 17:27	EPA 3005A	1,6010D	MC



Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-05

Date Collected: 12/10/18 13:16

Client ID: MW-4

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.049	J	mg/l	0.100	0.032	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.050	0.007	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Arsenic, Total	0.003	J	mg/l	0.005	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Barium, Total	0.192		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Calcium, Total	184		mg/l	0.100	0.035	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Cobalt, Total	0.002	J	mg/l	0.020	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Copper, Total	0.004	J	mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Iron, Total	0.104		mg/l	0.050	0.009	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Lead, Total	ND		mg/l	0.010	0.003	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Magnesium, Total	56.1		mg/l	0.100	0.015	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Manganese, Total	0.125		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00006	1	12/17/18 11:54	12/17/18 16:28	EPA 7470A	1,7470A	MG
Nickel, Total	0.003	J	mg/l	0.025	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Potassium, Total	10.9		mg/l	2.50	0.237	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Sodium, Total	1190		mg/l	20.0	1.20	10	12/15/18 09:18	12/17/18 22:56	EPA 3005A	1,6010D	MC
Thallium, Total	0.003	J	mg/l	0.020	0.003	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Vanadium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC
Zinc, Total	0.023	J	mg/l	0.050	0.002	1	12/15/18 09:18	12/17/18 17:31	EPA 3005A	1,6010D	MC



Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

SAMPLE RESULTS

Lab ID: L1850769-06

Date Collected: 12/10/18 09:00

Client ID: EQUIPMENT BLANK

Date Received: 12/11/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	ND		mg/l	0.100	0.032	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Antimony, Total	ND		mg/l	0.050	0.007	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Arsenic, Total	ND		mg/l	0.005	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Barium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Beryllium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Cadmium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Calcium, Total	0.352		mg/l	0.100	0.035	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Chromium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Cobalt, Total	ND		mg/l	0.020	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Copper, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Iron, Total	0.016	J	mg/l	0.050	0.009	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Lead, Total	ND		mg/l	0.010	0.003	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Magnesium, Total	0.084	J	mg/l	0.100	0.015	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Manganese, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Mercury, Total	ND		mg/l	0.00020	0.00006	1	12/17/18 11:54	12/17/18 16:30	EPA 7470A	1,7470A	MG
Nickel, Total	ND		mg/l	0.025	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Potassium, Total	0.321	J	mg/l	2.50	0.237	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Selenium, Total	ND		mg/l	0.010	0.004	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Silver, Total	ND		mg/l	0.007	0.003	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Sodium, Total	1.76	J	mg/l	2.00	0.120	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Thallium, Total	ND		mg/l	0.020	0.003	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Vanadium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC
Zinc, Total	ND		mg/l	0.050	0.002	1	12/15/18 09:18	12/17/18 17:36	EPA 3005A	1,6010D	MC



Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1189783-1										
Aluminum, Total	ND		mg/l	0.100	0.032	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Antimony, Total	ND		mg/l	0.050	0.007	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Arsenic, Total	ND		mg/l	0.005	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Barium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Beryllium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Cadmium, Total	ND		mg/l	0.005	0.001	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Calcium, Total	0.051	J	mg/l	0.100	0.035	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Chromium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Cobalt, Total	ND		mg/l	0.020	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Copper, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Iron, Total	ND		mg/l	0.050	0.009	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Lead, Total	ND		mg/l	0.010	0.003	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Magnesium, Total	ND		mg/l	0.100	0.015	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Manganese, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Nickel, Total	ND		mg/l	0.025	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Potassium, Total	ND		mg/l	2.50	0.237	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Selenium, Total	ND		mg/l	0.010	0.004	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Silver, Total	ND		mg/l	0.007	0.003	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Sodium, Total	ND		mg/l	2.00	0.120	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Thallium, Total	ND		mg/l	0.020	0.003	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Vanadium, Total	ND		mg/l	0.010	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC
Zinc, Total	ND		mg/l	0.050	0.002	1	12/15/18 09:18	12/17/18 09:54	1,6010D	LC

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1190248-1										
Mercury, Total	ND		mg/l	0.00020	0.00006	1	12/17/18 11:54	12/17/18 16:10	1,7470A	MG



Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1189783-2								
Aluminum, Total	104		-		80-120	-		
Antimony, Total	92		-		80-120	-		
Arsenic, Total	103		-		80-120	-		
Barium, Total	101		-		80-120	-		
Beryllium, Total	100		-		80-120	-		
Cadmium, Total	107		-		80-120	-		
Calcium, Total	106		-		80-120	-		
Chromium, Total	102		-		80-120	-		
Cobalt, Total	101		-		80-120	-		
Copper, Total	99		-		80-120	-		
Iron, Total	101		-		80-120	-		
Lead, Total	96		-		80-120	-		
Magnesium, Total	109		-		80-120	-		
Manganese, Total	99		-		80-120	-		
Nickel, Total	102		-		80-120	-		
Potassium, Total	102		-		80-120	-		
Selenium, Total	104		-		80-120	-		
Silver, Total	100		-		80-120	-		
Sodium, Total	107		-		80-120	-		
Thallium, Total	97		-		80-120	-		
Vanadium, Total	104		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1189783-2					
Zinc, Total	108	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1190248-2					
Mercury, Total	109	-	80-120	-	

Matrix Spike Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1189783-3 WG1189783-4 QC Sample: L1850769-03 Client ID: MW-2												
Aluminum, Total	0.098J	2	2.18	109		2.16	108		75-125	1		20
Antimony, Total	ND	0.5	0.542	108		0.544	109		75-125	0		20
Arsenic, Total	ND	0.12	0.137	114		0.137	114		75-125	0		20
Barium, Total	0.116	2	2.09	99		2.08	98		75-125	0		20
Beryllium, Total	ND	0.05	0.048	95		0.047	94		75-125	2		20
Cadmium, Total	ND	0.051	0.052	103		0.052	102		75-125	0		20
Calcium, Total	188	10	197	90		190	20	Q	75-125	4		20
Chromium, Total	ND	0.2	0.201	100		0.199	100		75-125	1		20
Cobalt, Total	0.002J	0.5	0.476	95		0.476	95		75-125	0		20
Copper, Total	0.004J	0.25	0.262	105		0.260	104		75-125	1		20
Iron, Total	0.248	1	1.26	101		1.24	99		75-125	2		20
Lead, Total	ND	0.51	0.448	88		0.449	88		75-125	0		20
Magnesium, Total	60.6	10	70.0	94		67.2	66	Q	75-125	4		20
Manganese, Total	0.170	0.5	0.646	95		0.637	93		75-125	1		20
Nickel, Total	0.007J	0.5	0.484	97		0.484	97		75-125	0		20
Potassium, Total	18.4	10	29.6	112		28.9	105		75-125	2		20
Selenium, Total	ND	0.12	0.134	112		0.135	112		75-125	1		20
Silver, Total	ND	0.05	0.055	109		0.056	111		75-125	2		20
Sodium, Total	874	10	917	430	Q	891	170	Q	75-125	3		20
Thallium, Total	ND	0.12	0.096	80		0.097	81		75-125	1		20
Vanadium, Total	ND	0.5	0.531	106		0.524	105		75-125	1		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1189783-3 WG1189783-4 QC Sample: L1850769-03 Client ID: MW-2									
Zinc, Total	0.008J	0.5	0.537	107	0.535	107	75-125	0	20

Matrix Spike Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1850769

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1189783-7 WG1189783-8 QC Sample: L1850982-03 Client ID: MS Sample									
Aluminum, Total	0.081J	2	2.22	111	2.21	110	75-125	0	20
Antimony, Total	0.014J	0.5	0.502	100	0.515	103	75-125	3	20
Arsenic, Total	ND	0.12	0.127	106	0.128	107	75-125	1	20
Barium, Total	0.022	2	2.10	104	2.09	103	75-125	0	20
Beryllium, Total	ND	0.05	0.051	102	0.051	102	75-125	0	20
Cadmium, Total	ND	0.051	0.055	107	0.055	107	75-125	0	20
Calcium, Total	29.0	10	39.3	103	39.3	103	75-125	0	20
Chromium, Total	ND	0.2	0.207	104	0.206	103	75-125	0	20
Cobalt, Total	ND	0.5	0.506	101	0.507	101	75-125	0	20
Copper, Total	ND	0.25	0.254	102	0.250	100	75-125	2	20
Iron, Total	0.102	1	1.14	104	1.15	105	75-125	1	20
Lead, Total	ND	0.51	0.499	98	0.498	98	75-125	0	20
Magnesium, Total	8.37	10	19.3	109	19.0	106	75-125	2	20
Manganese, Total	0.029	0.5	0.539	102	0.531	100	75-125	1	20
Nickel, Total	ND	0.5	0.506	101	0.507	101	75-125	0	20
Potassium, Total	1.10J	10	11.6	116	11.5	115	75-125	1	20
Selenium, Total	ND	0.12	0.125	104	0.125	104	75-125	0	20
Silver, Total	ND	0.05	0.051	101	0.051	101	75-125	0	20
Sodium, Total	2.97	10	14.0	110	13.8	108	75-125	1	20
Thallium, Total	ND	0.12	0.116	97	0.117	98	75-125	1	20
Vanadium, Total	ND	0.5	0.532	106	0.528	106	75-125	1	20

Matrix Spike Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Lab Number: L1850769

Project Number: 0136-018-001

Report Date: 12/18/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06			QC Batch ID: WG1189783-7		WG1189783-8	QC Sample: L1850982-03		Client ID: MS Sample	
Zinc, Total	ND	0.5	0.540	108	0.541	108	75-125	0	20
Total Metals - Mansfield Lab Associated sample(s): 01-06			QC Batch ID: WG1190248-3		WG1190248-4	QC Sample: L1850769-03		Client ID: MW-2	
Mercury, Total	ND	0.005	0.00504	101	0.00492	98	75-125	2	20

Project Name: 441 ELMWOOD**Lab Number:** L1850769**Project Number:** 0136-018-001**Report Date:** 12/18/18**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal

A Absent

B Absent

C Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1850769-01A	Vial HCl preserved	B	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1850769-01B	Vial HCl preserved	B	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1850769-01C	Vial HCl preserved	B	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1850769-01D	Plastic 250ml HNO3 preserved	B	<2	<2	3.7	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1850769-01E	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-01F	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-01G	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-01H	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-01I	Amber 250ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-01J	Amber 250ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-01K	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		HERB-APA(7)
L1850769-01L	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		HERB-APA(7)
L1850769-02A	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-02B	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-02C	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-02D	Plastic 250ml HNO3 preserved	B	<2	<2	3.7	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)

Project Name: 441 ELMWOOD
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1850769-02E	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-02F	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-02G	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-02H	Amber 120ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-02I	Amber 250ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-02J	Amber 250ml unpreserved	B	7	7	3.7	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-02K	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		HERB-APA(7)
L1850769-02L	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		HERB-APA(7)
L1850769-03A	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03A1	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03A2	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03B	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03B1	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03B2	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03C	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03C1	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03C2	Vial HCl preserved	C	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1850769-03D	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1850769-03D1	Plastic 250ml HNO3 preserved	B	<2	<2	3.7	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1850769-03D2	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1850769-03E	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)

*Values in parentheses indicate holding time in days

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1850769-03E1	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03E2	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03F	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03F1	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03F2	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03G	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03G1	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03G2	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8082-LVI(7)
L1850769-03H	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03H1	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03H2	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-03I	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-03I1	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-03I2	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-03J	Amber 250ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-03J1	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-03J2	Amber 250ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-03K	Amber 1000ml unpreserved	C	7	7	2.9	Y	Absent		HERB-APA(7)
L1850769-03K1	Amber 1000ml unpreserved	A	7	7	2.0	Y	Absent		HERB-APA(7)
L1850769-03K2	Amber 1000ml unpreserved	C	7	7	2.9	Y	Absent		HERB-APA(7)
L1850769-03L	Amber 1000ml unpreserved	B	7	7	3.7	Y	Absent		HERB-APA(7)
L1850769-03L1	Amber 1000ml unpreserved	C	7	7	2.9	Y	Absent		HERB-APA(7)
L1850769-03L2	Amber 1000ml unpreserved	C	7	7	2.9	Y	Absent		HERB-APA(7)
L1850769-04A	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-04B	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-04C	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1850769-04D	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1850769-04E	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-04F	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-04G	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-04H	Amber 120ml unpreserved	C	7	7	2.9	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-04I	Amber 250ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-04J	Amber 250ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-04K	Amber 1000ml unpreserved	A	7	7	2.0	Y	Absent		HERB-APA(7)
L1850769-04L	Amber 1000ml unpreserved	A	7	7	2.0	Y	Absent		HERB-APA(7)
L1850769-05A	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-05B	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-05C	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-05D	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1850769-05E	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-05F	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-05G	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-05H	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-05I	Amber 250ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-05J	Amber 250ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-05K	Amber 1000ml unpreserved	A	7	7	2.0	Y	Absent		HERB-APA(7)
L1850769-05L	Amber 1000ml unpreserved	A	7	7	2.0	Y	Absent		HERB-APA(7)
L1850769-06A	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-06B	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)

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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1850769-06C	Vial HCl preserved	A	NA		2.0	Y	Absent		NYTCL-8260-R2(14)
L1850769-06D	Plastic 250ml HNO3 preserved	A	<2	<2	2.0	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1850769-06E	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-06F	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-06G	Amber 120ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8081(7),NYTCL-8082-LVI(7)
L1850769-06I	Amber 250ml unpreserved	A	7	7	2.0	Y	Absent		NYTCL-8270-SIM-LVI(7),NYTCL-8270-LVI(7)
L1850769-06K	Amber 1000ml unpreserved	A	7	7	2.0	Y	Absent		HERB-APA(7)
L1850769-07A	Vial HCl preserved	B	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1850769-07B	Vial HCl preserved	B	NA		3.7	Y	Absent		NYTCL-8260-R2(14)

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GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
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Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1850769
Report Date: 12/18/18

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.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 12

Published Date: 10/9/2018 4:58:19 PM

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.** **EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 12/12/18		ALPHA Job # L1850769									
		Project Information Project Name: <u>446 Elmwood</u> Project Location: <u>Buffalo</u> Project # <u>0136-018-001</u> (Use Project name as Project #) ☒		Deliverables ☐ ASP-A ☐ ASP-B ☐ EQulS (1 File) ☐ EQulS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #											
Client Information Client: <u>Turnkey Environmental</u> Address: <u>2554 Hamburg Turnpike</u> <u>Lockport NY 14218</u> Phone: <u>(716) 818-8358</u> Fax: <u>(716) 858-0583</u> Email: <u>T.Beltracchi@turnkey.com</u>		Project Manager: <u>Nate Munley</u> ALPHAQuote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days:		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:											
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: CATB						ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)									
Please specify Metals or TAL.						Sample Specific Comments		Total Bottles									
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	TEL+TICS+P-51 8260	TEL+TICS+P-51 8270	TAL METALS	PCBs + Pest	Heb							
		Date	Time														
50769-01	MW-1	12/10/18	1154	water	TA3	3	2	2	4	2							12
02	Blind Dip		1200			3	2	2	4	2							12
03	MW-2 (msl/mso)		1011			9	6	3	12	6							36
04	MW-3		1419			3	2	1	4	2							12
05	MW-4		1316			3	2	1	4	2							12
06	Encounter Blank		0900			3	2	1	4	2							9
07	Trip Blank					2											2
Preservative Code: A = None, B = HCl, C = HNO ₃ , D = H ₂ SO ₄ , E = NaOH, F = MeOH, G = NaHSO ₄ , H = Na ₂ S ₂ O ₃ , K/E = Zn Ac/NaOH, O = Other Container Code: P = Plastic, A = Amber Glass, V = Vial, G = Glass, B = Bacteria Cup, C = Cube, O = Other, E = Encore, D = BOD Bottle Westboro: Certification No: MA935 Mansfield: Certification No: MA015																	
Relinquished By: <u>[Signature]</u> Date/Time: <u>12/10/18 1645</u>						Received By: <u>[Signature]</u> Date/Time: <u>12/11/18 1745</u>						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.)					



ANALYTICAL REPORT

Lab Number:	L1851191
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD AVE.
Project Number:	0136-018-001
Report Date:	12/27/18

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851191
Report Date: 12/27/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1851191-01	MW-2	WATER	BUFFALO	12/12/18 09:53	12/12/18
L1851191-02	MW-3	WATER	BUFFALO	12/12/18 10:59	12/12/18
L1851191-03	FIELD BLANK	WATER	BUFFALO	12/12/18 09:20	12/12/18

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851191
Report Date: 12/27/18

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: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851191
Report Date: 12/27/18

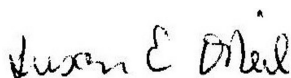
Case Narrative (continued)

Report Submission

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

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:



Susan O'Neil

Title: Technical Director/Representative

Date: 12/27/18

ORGANICS

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851191**Report Date:** 12/27/18**SAMPLE RESULTS**

Lab ID: L1851191-01

Client ID: MW-2

Sample Location: BUFFALO

Date Collected: 12/12/18 09:53

Date Received: 12/12/18

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8270D-SIM

Analytical Date: 12/21/18 02:21

Analyst: PS

Extraction Method: EPA 3510C

Extraction Date: 12/18/18 22:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	139	69.4	1
Surrogate	% Recovery		Qualifier	Acceptance Criteria		
1,4-Dioxane-d8	22			15-110		

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18**SAMPLE RESULTS****Lab ID:** L1851191-01**Date Collected:** 12/12/18 09:53**Client ID:** MW-2**Date Received:** 12/12/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:****Matrix:** Water**Extraction Method:** EPA 537**Analytical Method:** 122,537(M)**Extraction Date:** 12/17/18 15:07**Analytical Date:** 12/19/18 16:58**Analyst:** PB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	18.9		ng/l	1.77	0.331	1
Perfluoropentanoic Acid (PFPeA)	40.8		ng/l	1.77	0.411	1
Perfluorobutanesulfonic Acid (PFBS)	4.10		ng/l	1.77	0.337	1
Perfluorohexanoic Acid (PFHxA)	22.4		ng/l	1.77	0.436	1
Perfluoroheptanoic Acid (PFHpA)	9.00		ng/l	1.77	0.330	1
Perfluorohexanesulfonic Acid (PFHxS)	1.73	J	ng/l	1.77	0.386	1
Perfluorooctanoic Acid (PFOA)	8.50		ng/l	1.77	0.408	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.77	0.172	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.77	0.461	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.77	0.386	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.77	0.496	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.77	0.550	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.77	0.258	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	1.46	J	ng/l	1.77	0.222	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.77	0.376	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.77	0.342	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.77	0.493	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.67		ng/l	1.77	0.330	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.77	0.525	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.77	0.278	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.77	0.876	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18**SAMPLE RESULTS****Lab ID:** L1851191-01**Date Collected:** 12/12/18 09:53**Client ID:** MW-2**Date Received:** 12/12/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Surrogate	% Recovery			Qualifier	Acceptance Criteria	
Perfluoro[13C4]Butanoic Acid (MPFBA)	89				2-156	
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	121				16-173	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	100				31-159	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	69				21-145	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	78				30-139	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	107				47-153	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91				36-149	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	187				1-244	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93				34-146	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	102				42-146	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85				38-144	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98				7-170	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	49				1-181	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85				40-144	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32				1-87	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	43				23-146	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	62				24-161	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	60				33-143	

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851191**Report Date:** 12/27/18**SAMPLE RESULTS**

Lab ID: L1851191-02

Client ID: MW-3

Sample Location: BUFFALO

Date Collected: 12/12/18 10:59

Date Received: 12/12/18

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8270D-SIM

Analytical Date: 12/21/18 02:46

Analyst: PS

Extraction Method: EPA 3510C

Extraction Date: 12/18/18 22:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	144	72.1	1
Surrogate	% Recovery		Qualifier	Acceptance Criteria		
1,4-Dioxane-d8	28			15-110		

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18**SAMPLE RESULTS**

Lab ID: L1851191-02

Date Collected: 12/12/18 10:59

Client ID: MW-3

Date Received: 12/12/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Extraction Method: EPA 537

Analytical Method: 122,537(M)

Extraction Date: 12/17/18 15:07

Analytical Date: 12/19/18 17:31

Analyst: PB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	12.4		ng/l	1.78	0.332	1
Perfluoropentanoic Acid (PFPeA)	14.5		ng/l	1.78	0.413	1
Perfluorobutanesulfonic Acid (PFBS)	4.23		ng/l	1.78	0.338	1
Perfluorohexanoic Acid (PFHxA)	10.5		ng/l	1.78	0.438	1
Perfluoroheptanoic Acid (PFHpA)	5.38		ng/l	1.78	0.331	1
Perfluorohexanesulfonic Acid (PFHxS)	2.03		ng/l	1.78	0.388	1
Perfluorooctanoic Acid (PFOA)	9.34		ng/l	1.78	0.409	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.78	0.172	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.78	0.463	1
Perfluorononanoic Acid (PFNA)	0.758	J	ng/l	1.78	0.388	1
Perfluorooctanesulfonic Acid (PFOS)	5.99		ng/l	1.78	0.498	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.78	0.552	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.78	0.259	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.818	J	ng/l	1.78	0.223	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	0.377	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.78	0.343	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.78	0.495	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.14		ng/l	1.78	0.332	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	0.527	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	0.279	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	0.879	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18**SAMPLE RESULTS****Lab ID:** L1851191-02**Date Collected:** 12/12/18 10:59**Client ID:** MW-3**Date Received:** 12/12/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Surrogate	% Recovery			Qualifier	Acceptance Criteria	
Perfluoro[13C4]Butanoic Acid (MPFBA)	95				2-156	
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	123				16-173	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92				31-159	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	73				21-145	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77				30-139	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105				47-153	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96				36-149	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	192				1-244	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	108				34-146	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97				42-146	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93				38-144	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	148				7-170	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66				1-181	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	91				40-144	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	32				1-87	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	59				23-146	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66				24-161	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	68				33-143	

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18**SAMPLE RESULTS****Lab ID:** L1851191-03**Date Collected:** 12/12/18 09:20**Client ID:** FIELD BLANK**Date Received:** 12/12/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:****Matrix:** Water**Extraction Method:** EPA 537**Analytical Method:** 122,537(M)**Extraction Date:** 12/17/18 15:07**Analytical Date:** 12/19/18 17:48**Analyst:** PB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.92	0.359	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.92	0.446	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.92	0.365	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.92	0.473	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.92	0.358	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.92	0.419	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.92	0.442	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.92	0.186	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.92	0.500	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.92	0.419	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.92	0.538	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.92	0.596	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.92	0.280	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.619	J	ng/l	1.92	0.241	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.92	0.408	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.92	0.371	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.92	0.535	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.692	J	ng/l	1.92	0.358	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.92	0.569	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.92	0.302	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.92	0.950	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18**SAMPLE RESULTS****Lab ID:** L1851191-03**Date Collected:** 12/12/18 09:20**Client ID:** FIELD BLANK**Date Received:** 12/12/18**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Surrogate	% Recovery			Qualifier	Acceptance Criteria	
Perfluoro[13C4]Butanoic Acid (MPFBA)	61				2-156	
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100				16-173	
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	82				31-159	
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	55				21-145	
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	64				30-139	
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	99				47-153	
Perfluoro[13C8]Octanoic Acid (M8PFOA)	75				36-149	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	99				1-244	
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	85				34-146	
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99				42-146	
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	84				38-144	
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	118				7-170	
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	61				1-181	
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	109				40-144	
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18				1-87	
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	80				23-146	
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	92				24-161	
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	69				33-143	

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851191

Project Number: 0136-018-001

Report Date: 12/27/18

Method Blank Analysis Batch Quality Control

Analytical Method: 122,537(M)
 Analytical Date: 12/19/18 15:52
 Analyst: PB

Extraction Method: EPA 537
 Extraction Date: 12/17/18 15:07

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03 Batch: WG1190334-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.373
Perfluoropentanoic Acid (PFPeA)	0.520	J	ng/l	2.00	0.464
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.380
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.492
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.372
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.436
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.460
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	0.194
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.520
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.436
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.560
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.620
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	0.291
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	1.44	J	ng/l	2.00	0.250
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.424
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.386
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.556
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	1.71	J	ng/l	2.00	0.373
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.592
Perfluorotridecanoic Acid (PFTTrDA)	ND		ng/l	2.00	0.314
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.988

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851191

Project Number: 0136-018-001

Report Date: 12/27/18

Method Blank Analysis Batch Quality Control

Analytical Method: 122,537(M)
 Analytical Date: 12/19/18 15:52
 Analyst: PB

Extraction Method: EPA 537
 Extraction Date: 12/17/18 15:07

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-03 Batch: WG1190334-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	96		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	137		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	98		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	101		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	70		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	61		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	65		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	8		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	61		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83		33-143

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851191

Project Number: 0136-018-001

Report Date: 12/27/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM
 Analytical Date: 12/21/18 01:07
 Analyst: PS

Extraction Method: EPA 3510C
 Extraction Date: 12/18/18 22:00

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01-02 Batch: WG1190774-1					
1,4-Dioxane	ND		ng/l	150	75.0

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	30		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851191

Report Date: 12/27/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 Batch: WG1190334-2 WG1190334-3								
Perfluorobutanoic Acid (PFBA)	116		118		67-148	2		30
Perfluoropentanoic Acid (PFPeA)	113		114		63-161	1		30
Perfluorobutanesulfonic Acid (PFBS)	116		119		65-157	3		30
Perfluorohexanoic Acid (PFHxA)	117		120		69-168	3		30
Perfluoroheptanoic Acid (PFHpA)	105		105		58-159	0		30
Perfluorohexanesulfonic Acid (PFHxS)	109		110		69-177	1		30
Perfluorooctanoic Acid (PFOA)	108		105		63-159	3		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	126		120		49-187	5		30
Perfluoroheptanesulfonic Acid (PFHpS)	113		115		61-179	2		30
Perfluorononanoic Acid (PFNA)	112		112		68-171	0		30
Perfluorooctanesulfonic Acid (PFOS)	95		97		52-151	2		30
Perfluorodecanoic Acid (PFDA)	115		112		63-171	3		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	108		119		56-173	10		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	100		107		60-166	7		30
Perfluoroundecanoic Acid (PFUnA)	105		106		60-153	1		30
Perfluorodecanesulfonic Acid (PFDS)	121		127		38-156	5		30
Perfluorooctanesulfonamide (FOSA)	102		101		46-170	1		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	102		112		45-170	9		30
Perfluorododecanoic Acid (PFDoA)	103		106		67-153	3		30
Perfluorotridecanoic Acid (PFTrDA)	98		97		48-158	1		30
Perfluorotetradecanoic Acid (PFTA)	119		117		59-182	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851191

Project Number: 0136-018-001

Report Date: 12/27/18

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

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 Batch: WG1190334-2 WG1190334-3

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	91		95		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	130		137		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		101		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96		99		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	95		97		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100		103		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95		99		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	70		74		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94		96		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		100		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93		100		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	67		72		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	62		71		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		97		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	8		4		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	63		66		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	83		85		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	79		83		33-143

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab Associated sample(s): 01-02 Batch: WG1190774-2 WG1190774-3								
1,4-Dioxane	131		135		40-140	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	31		26		15-110

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851191

Report Date: 12/27/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1190334-4 QC Sample: L1851191-01 Client ID: MW-2												
Perfluorobutanoic Acid (PFBA)	18.9	34.1	53.3	101	-	-	-	-	67-148	-	-	30
Perfluoropentanoic Acid (PFPeA)	40.8	34.1	74.5	99	-	-	-	-	63-161	-	-	30
Perfluorobutanesulfonic Acid (PFBS)	4.10	34.1	40.3	106	-	-	-	-	65-157	-	-	30
Perfluorohexanoic Acid (PFHxA)	22.4	34.1	57.8	104	-	-	-	-	69-168	-	-	30
Perfluoroheptanoic Acid (PFHpA)	9.00	34.1	42.0	97	-	-	-	-	58-159	-	-	30
Perfluorohexanesulfonic Acid (PFHxS)	1.73J	34.1	36.5	107	-	-	-	-	69-177	-	-	30
Perfluorooctanoic Acid (PFOA)	8.50	34.1	43.0	101	-	-	-	-	63-159	-	-	30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	34.1	38.9	114	-	-	-	-	49-187	-	-	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	34.1	37.4	110	-	-	-	-	61-179	-	-	30
Perfluorononanoic Acid (PFNA)	ND	34.1	36.2	106	-	-	-	-	68-171	-	-	30
Perfluorooctanesulfonic Acid (PFOS)	ND	34.1	32.4	95	-	-	-	-	52-151	-	-	30
Perfluorodecanoic Acid (PFDA)	ND	34.1	39.4	115	-	-	-	-	63-171	-	-	30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	34.1	39.6	116	-	-	-	-	56-173	-	-	30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	1.46J	34.1	38.2	112	-	-	-	-	60-166	-	-	30
Perfluoroundecanoic Acid (PFUnA)	ND	34.1	35.5	104	-	-	-	-	60-153	-	-	30
Perfluorodecanesulfonic Acid (PFDS)	ND	34.1	37.3	109	-	-	-	-	38-156	-	-	30
Perfluorooctanesulfonamide (FOSA)	ND	34.1	33.3	98	-	-	-	-	46-170	-	-	30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.67	34.1	34.0	92	-	-	-	-	45-170	-	-	30
Perfluorododecanoic Acid (PFDoA)	ND	34.1	35.7	105	-	-	-	-	67-153	-	-	30
Perfluorotridecanoic Acid (PFTrDA)	ND	34.1	30.8	90	-	-	-	-	48-158	-	-	30
Perfluorotetradecanoic Acid (PFTA)	ND	34.1	39.0	114	-	-	-	-	59-182	-	-	30

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851191**Report Date:** 12/27/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG1190334-4 QC Sample: L1851191-01 Client ID: MW-2												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	94				7-170
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	197				1-244
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	47				23-146
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	44				1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	80				40-144
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	81				38-144
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	63				21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	74				30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101				47-153
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	58				24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	57				33-143
Perfluoro[13C4]Butanoic Acid (MPFBA)	82				2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	115				16-173
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	25				1-87
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	95				42-146
Perfluoro[13C8]Octanoic Acid (M8PFOA)	86				36-149
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90				34-146
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	92				31-159

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Serial_No:12271812:18
Lab Number: L1851191
Report Date: 12/27/18

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1851191-01A	Amber 500ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1851191-01B	Amber 500ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1851191-01C	2 Plastic/1 Plastic/1 H2O Plastic	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1851191-01D	2 Plastic/1 Plastic/1 H2O Plastic	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1851191-02A	Amber 500ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1851191-02B	Amber 500ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1851191-02C	2 Plastic/1 Plastic/1 H2O Plastic	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1851191-02D	2 Plastic/1 Plastic/1 H2O Plastic	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1851191-03A	2 Plastic/1 Plastic/1 H2O Plastic	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851191
Report Date: 12/27/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851191**Project Number:** 0136-018-001**Report Date:** 12/27/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851191
Report Date: 12/27/18

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 122 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537, EPA/600/R-08/092. Version 1.1, September 2009.

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 its 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 **12**

Published Date: 10/9/2018 4:58:19 PM

Page 1 of 1

Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

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

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

(of (

12/13/18

L1851191

Due Date:
of Days:

Top
Bottom

CA B

Please specify Metals or TAL.

[illegible]

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

PA

DA

Date/Time

Jim Acker AAL
Branch 200

12/12/14	13:00
12/12/18	18:30
12/13/18	13:20

Received By: Jim Allen AAC

12/12/18	4:30
12/13/18	0220
12/13/18	1700

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.)



ANALYTICAL REPORT

Lab Number:	L1851446
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD AVE.
Project Number:	0136-018-001
Report Date:	12/21/18

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1851446-01	TP-1 (6.5-11.0)	SOIL	BUFFALO, NY	12/13/18 10:53	12/13/18
L1851446-02	TP-2 (2.5-8.0)	SOIL	BUFFALO, NY	12/13/18 11:53	12/13/18
L1851446-03	BD#1	SOIL	BUFFALO, NY	12/13/18 12:00	12/13/18
L1851446-04	TP-3 (1-2.5)	SOIL	BUFFALO, NY	12/13/18 13:20	12/13/18
L1851446-05	TP-3 (6-12.5)	SOIL	BUFFALO, NY	12/13/18 13:13	12/13/18
L1851446-06	TP-4 (7-11)	SOIL	BUFFALO, NY	12/13/18 10:02	12/13/18
L1851446-07	TP-6 (9-11)	SOIL	BUFFALO, NY	12/13/18 13:53	12/13/18
L1851446-08	TP-8 (7-9.3)	SOIL	BUFFALO, NY	12/13/18 09:05	12/13/18

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

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: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

Case Narrative (continued)

Report Submission

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

Semivolatile Organics

L1851446-01: The sample has elevated detection limits due to the dilution required by the sample matrix.

The WG1189861-4/-5 MS/MSD recoveries, performed on L1851446-07, are outside the acceptance criteria for naphthalene (0%/0%) and 2-methylnaphthalene (0%/0%). The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the native sample.

The WG1189861-4/-5 MS/MSD recoveries, performed on L1851446-07, are below the acceptance criteria for benzaldehyde (0%/0%) due to the concentration of this compound falling below the reported detection limit.

Total Metals

L1851446-01, -02, -03, -04, -06, -07 and -08: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

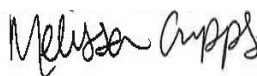
The WG1190451-3/-4 MS/MSD recoveries, performed on L1851446-07, are outside the acceptance criteria for mercury (123%/132%). A post digestion spike was performed and yielded an unacceptable recovery for mercury (122%); all other compounds were within acceptance criteria. This has been attributed to sample matrix.

The WG1190824-3/-4 MS/MSD recoveries for aluminum (406%/466%), calcium (618%/(1150%)) and iron (780%/1180%), performed on L1851446-07, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG1190824-4 MSD recovery, performed on L1851446-07, is outside the acceptance criteria for potassium (126%). A post digestion spike was performed and was within acceptance criteria.

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: 12/21/18

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02 D

Date Collected: 12/13/18 11:53

Client ID: TP-2 (2.5-8.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/18/18 22:19

Analyst: MV

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	14000	6400	50
1,1-Dichloroethane	ND		ug/kg	2800	400	50
Chloroform	ND		ug/kg	4200	390	50
Carbon tetrachloride	ND		ug/kg	2800	640	50
1,2-Dichloropropane	ND		ug/kg	2800	350	50
Dibromochloromethane	ND		ug/kg	2800	390	50
1,1,2-Trichloroethane	ND		ug/kg	2800	740	50
Tetrachloroethene	ND		ug/kg	1400	550	50
Chlorobenzene	ND		ug/kg	1400	350	50
Trichlorofluoromethane	ND		ug/kg	11000	1900	50
1,2-Dichloroethane	ND		ug/kg	2800	720	50
1,1,1-Trichloroethane	ND		ug/kg	1400	460	50
Bromodichloromethane	ND		ug/kg	1400	300	50
trans-1,3-Dichloropropene	ND		ug/kg	2800	760	50
cis-1,3-Dichloropropene	ND		ug/kg	1400	440	50
Bromoform	ND		ug/kg	11000	680	50
1,1,2,2-Tetrachloroethane	ND		ug/kg	1400	460	50
Benzene	ND		ug/kg	1400	460	50
Toluene	17000		ug/kg	2800	1500	50
Ethylbenzene	46000		ug/kg	2800	390	50
Chloromethane	ND		ug/kg	11000	2600	50
Bromomethane	ND		ug/kg	5600	1600	50
Vinyl chloride	ND		ug/kg	2800	930	50
Chloroethane	ND		ug/kg	5600	1300	50
1,1-Dichloroethene	ND		ug/kg	2800	660	50
trans-1,2-Dichloroethene	ND		ug/kg	4200	380	50
Trichloroethene	ND		ug/kg	1400	380	50
1,2-Dichlorobenzene	ND		ug/kg	5600	400	50

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02 D

Date Collected: 12/13/18 11:53

Client ID: TP-2 (2.5-8.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	5600	410	50
1,4-Dichlorobenzene	ND		ug/kg	5600	480	50
Methyl tert butyl ether	ND		ug/kg	5600	560	50
p/m-Xylene	380000		ug/kg	5600	1600	50
o-Xylene	160000		ug/kg	2800	810	50
cis-1,2-Dichloroethene	ND		ug/kg	2800	490	50
Styrene	ND		ug/kg	2800	550	50
Dichlorodifluoromethane	ND		ug/kg	28000	2600	50
Acetone	ND		ug/kg	28000	13000	50
Carbon disulfide	ND		ug/kg	28000	13000	50
2-Butanone	ND		ug/kg	28000	6200	50
4-Methyl-2-pentanone	ND		ug/kg	28000	3600	50
2-Hexanone	ND		ug/kg	28000	3300	50
Bromochloromethane	ND		ug/kg	5600	570	50
1,2-Dibromoethane	ND		ug/kg	2800	780	50
n-Butylbenzene	22000		ug/kg	2800	460	50
sec-Butylbenzene	8000		ug/kg	2800	410	50
1,2-Dibromo-3-chloropropane	ND		ug/kg	8400	2800	50
Isopropylbenzene	11000		ug/kg	2800	300	50
p-Isopropyltoluene	5000		ug/kg	2800	300	50
n-Propylbenzene	43000		ug/kg	2800	480	50
1,2,3-Trichlorobenzene	ND		ug/kg	5600	900	50
1,2,4-Trichlorobenzene	ND		ug/kg	5600	760	50
1,3,5-Trimethylbenzene	140000		ug/kg	5600	540	50
1,2,4-Trimethylbenzene	450000		ug/kg	5600	930	50
Methyl Acetate	ND		ug/kg	11000	2600	50
Cyclohexane	11000	J	ug/kg	28000	1500	50
1,4-Dioxane	ND		ug/kg	280000	98000	50
Freon-113	ND		ug/kg	11000	1900	50
Methyl cyclohexane	35000		ug/kg	11000	1700	50

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02 D

Date Collected: 12/13/18 11:53

Client ID: TP-2 (2.5-8.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	1380000	J	ug/kg	50
Unknown Aromatic	106000	J	ug/kg	50
Octane	91500	NJ	ug/kg	50
Unknown Aromatic	307000	J	ug/kg	50
Unknown Alkane	99200	J	ug/kg	50
Unknown Alkane	139000	J	ug/kg	50
Unknown Benzene	148000	J	ug/kg	50
Unknown Benzene	126000	J	ug/kg	50
Unknown Benzene	152000	J	ug/kg	50
Nonane (C9)	88600	NJ	ug/kg	50
Unknown Benzene	125000	J	ug/kg	50

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	94		70-130

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-03 D

Date Collected: 12/13/18 12:00

Client ID: BD#1

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/18/18 22:45

Analyst: MV

Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	6900	3200	25
1,1-Dichloroethane	ND		ug/kg	1400	200	25
Chloroform	ND		ug/kg	2100	190	25
Carbon tetrachloride	ND		ug/kg	1400	320	25
1,2-Dichloropropane	ND		ug/kg	1400	170	25
Dibromochloromethane	ND		ug/kg	1400	190	25
1,1,2-Trichloroethane	ND		ug/kg	1400	370	25
Tetrachloroethene	ND		ug/kg	690	270	25
Chlorobenzene	ND		ug/kg	690	180	25
Trichlorofluoromethane	ND		ug/kg	5500	960	25
1,2-Dichloroethane	ND		ug/kg	1400	360	25
1,1,1-Trichloroethane	ND		ug/kg	690	230	25
Bromodichloromethane	ND		ug/kg	690	150	25
trans-1,3-Dichloropropene	ND		ug/kg	1400	380	25
cis-1,3-Dichloropropene	ND		ug/kg	690	220	25
Bromoform	ND		ug/kg	5500	340	25
1,1,2,2-Tetrachloroethane	ND		ug/kg	690	230	25
Benzene	ND		ug/kg	690	230	25
Toluene	6900		ug/kg	1400	750	25
Ethylbenzene	21000		ug/kg	1400	200	25
Chloromethane	ND		ug/kg	5500	1300	25
Bromomethane	ND		ug/kg	2800	800	25
Vinyl chloride	ND		ug/kg	1400	460	25
Chloroethane	ND		ug/kg	2800	620	25
1,1-Dichloroethene	ND		ug/kg	1400	330	25
trans-1,2-Dichloroethene	ND		ug/kg	2100	190	25
Trichloroethene	ND		ug/kg	690	190	25
1,2-Dichlorobenzene	ND		ug/kg	2800	200	25

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-03 D**Date Collected:** 12/13/18 12:00**Client ID:** BD#1**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2800	200	25
1,4-Dichlorobenzene	ND		ug/kg	2800	240	25
Methyl tert butyl ether	ND		ug/kg	2800	280	25
p/m-Xylene	180000		ug/kg	2800	770	25
o-Xylene	75000		ug/kg	1400	400	25
cis-1,2-Dichloroethene	ND		ug/kg	1400	240	25
Styrene	ND		ug/kg	1400	270	25
Dichlorodifluoromethane	ND		ug/kg	14000	1300	25
Acetone	ND		ug/kg	14000	6600	25
Carbon disulfide	ND		ug/kg	14000	6300	25
2-Butanone	ND		ug/kg	14000	3100	25
4-Methyl-2-pentanone	ND		ug/kg	14000	1800	25
2-Hexanone	ND		ug/kg	14000	1600	25
Bromochloromethane	ND		ug/kg	2800	280	25
1,2-Dibromoethane	ND		ug/kg	1400	390	25
n-Butylbenzene	13000		ug/kg	1400	230	25
sec-Butylbenzene	4300		ug/kg	1400	200	25
1,2-Dibromo-3-chloropropane	ND		ug/kg	4200	1400	25
Isopropylbenzene	5700		ug/kg	1400	150	25
p-Isopropyltoluene	2800		ug/kg	1400	150	25
n-Propylbenzene	22000		ug/kg	1400	240	25
1,2,3-Trichlorobenzene	ND		ug/kg	2800	440	25
1,2,4-Trichlorobenzene	ND		ug/kg	2800	380	25
1,3,5-Trimethylbenzene	74000		ug/kg	2800	270	25
1,2,4-Trimethylbenzene	240000		ug/kg	2800	460	25
Methyl Acetate	ND		ug/kg	5500	1300	25
Cyclohexane	4400	J	ug/kg	14000	750	25
1,4-Dioxane	ND		ug/kg	140000	48000	25
Freon-113	ND		ug/kg	5500	960	25
Methyl cyclohexane	15000		ug/kg	5500	830	25

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-03 D

Date Collected: 12/13/18 12:00

Client ID: BD#1

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	752000	J	ug/kg	25
Unknown Benzene	79200	J	ug/kg	25
Unknown Alkane	65300	J	ug/kg	25
Unknown Benzene	72400	J	ug/kg	25
Octane	44600	NJ	ug/kg	25
Unknown Benzene	86800	J	ug/kg	25
Unknown Aromatic	61200	J	ug/kg	25
Unknown Benzene	71900	J	ug/kg	25
Nonane (C9)	47000	NJ	ug/kg	25
Unknown Aromatic	175000	J	ug/kg	25
Unknown Alkane	48900	J	ug/kg	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	95		70-130

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-06 D

Date Collected: 12/13/18 10:02

Client ID: TP-4 (7-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/19/18 10:05

Analyst: MV

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	3300	1500	10
1,1-Dichloroethane	ND		ug/kg	660	96.	10
Chloroform	ND		ug/kg	1000	93.	10
Carbon tetrachloride	ND		ug/kg	660	150	10
1,2-Dichloropropane	ND		ug/kg	660	83.	10
Dibromochloromethane	ND		ug/kg	660	93.	10
1,1,2-Trichloroethane	ND		ug/kg	660	180	10
Tetrachloroethene	ND		ug/kg	330	130	10
Chlorobenzene	ND		ug/kg	330	84.	10
Trichlorofluoromethane	ND		ug/kg	2700	460	10
1,2-Dichloroethane	ND		ug/kg	660	170	10
1,1,1-Trichloroethane	ND		ug/kg	330	110	10
Bromodichloromethane	ND		ug/kg	330	72.	10
trans-1,3-Dichloropropene	ND		ug/kg	660	180	10
cis-1,3-Dichloropropene	ND		ug/kg	330	100	10
Bromoform	ND		ug/kg	2700	160	10
1,1,2,2-Tetrachloroethane	ND		ug/kg	330	110	10
Benzene	ND		ug/kg	330	110	10
Toluene	1900		ug/kg	660	360	10
Ethylbenzene	10000		ug/kg	660	94.	10
Chloromethane	ND		ug/kg	2700	620	10
Bromomethane	ND		ug/kg	1300	390	10
Vinyl chloride	ND		ug/kg	660	220	10
Chloroethane	ND		ug/kg	1300	300	10
1,1-Dichloroethene	ND		ug/kg	660	160	10
trans-1,2-Dichloroethene	ND		ug/kg	1000	91.	10
Trichloroethene	ND		ug/kg	330	91.	10
1,2-Dichlorobenzene	ND		ug/kg	1300	96.	10

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-06 D

Date Collected: 12/13/18 10:02

Client ID: TP-4 (7-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1300	98.	10
1,4-Dichlorobenzene	ND		ug/kg	1300	110	10
Methyl tert butyl ether	ND		ug/kg	1300	130	10
p/m-Xylene	120000		ug/kg	1300	370	10
o-Xylene	46000		ug/kg	660	190	10
cis-1,2-Dichloroethene	ND		ug/kg	660	120	10
Styrene	ND		ug/kg	660	130	10
Dichlorodifluoromethane	ND		ug/kg	6600	610	10
Acetone	ND		ug/kg	6600	3200	10
Carbon disulfide	ND		ug/kg	6600	3000	10
2-Butanone	ND		ug/kg	6600	1500	10
4-Methyl-2-pentanone	ND		ug/kg	6600	850	10
2-Hexanone	ND		ug/kg	6600	780	10
Bromochloromethane	ND		ug/kg	1300	140	10
1,2-Dibromoethane	ND		ug/kg	660	180	10
n-Butylbenzene	4600		ug/kg	660	110	10
sec-Butylbenzene	1700		ug/kg	660	97.	10
1,2-Dibromo-3-chloropropane	ND		ug/kg	2000	660	10
Isopropylbenzene	1400		ug/kg	660	72.	10
p-Isopropyltoluene	1200		ug/kg	660	72.	10
n-Propylbenzene	7100		ug/kg	660	110	10
1,2,3-Trichlorobenzene	ND		ug/kg	1300	210	10
1,2,4-Trichlorobenzene	ND		ug/kg	1300	180	10
1,3,5-Trimethylbenzene	45000		ug/kg	1300	130	10
1,2,4-Trimethylbenzene	150000		ug/kg	1300	220	10
Methyl Acetate	ND		ug/kg	2700	630	10
Cyclohexane	11000		ug/kg	6600	360	10
1,4-Dioxane	ND		ug/kg	66000	23000	10
Freon-113	ND		ug/kg	2700	460	10
Methyl cyclohexane	32000		ug/kg	2700	400	10

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-06 D

Date Collected: 12/13/18 10:02

Client ID: TP-4 (7-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	319000	J	ug/kg	10
Unknown	31200	J	ug/kg	10
Unknown Benzene	39800	J	ug/kg	10
Unknown	31000	J	ug/kg	10
Unknown Aromatic	30400	J	ug/kg	10
Unknown Benzene	23300	J	ug/kg	10
Unknown Benzene	35000	J	ug/kg	10
Unknown Benzene	40700	J	ug/kg	10
Unknown Aromatic	20800	J	ug/kg	10
Unknown Alkane	25400	J	ug/kg	10
Unknown Benzene	41200	J	ug/kg	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	106		70-130

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07 D

Date Collected: 12/13/18 13:53

Client ID: TP-6 (9-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/19/18 10:31

Analyst: KJD

Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	2800	1300	10
1,1-Dichloroethane	ND		ug/kg	560	82.	10
Chloroform	ND		ug/kg	850	79.	10
Carbon tetrachloride	ND		ug/kg	560	130	10
1,2-Dichloropropane	ND		ug/kg	560	71.	10
Dibromochloromethane	ND		ug/kg	560	79.	10
1,1,2-Trichloroethane	ND		ug/kg	560	150	10
Tetrachloroethene	ND		ug/kg	280	110	10
Chlorobenzene	ND		ug/kg	280	72.	10
Trichlorofluoromethane	ND		ug/kg	2300	390	10
1,2-Dichloroethane	ND		ug/kg	560	140	10
1,1,1-Trichloroethane	ND		ug/kg	280	94.	10
Bromodichloromethane	ND		ug/kg	280	62.	10
trans-1,3-Dichloropropene	ND		ug/kg	560	150	10
cis-1,3-Dichloropropene	ND		ug/kg	280	89.	10
Bromoform	ND		ug/kg	2300	140	10
1,1,2,2-Tetrachloroethane	ND		ug/kg	280	94.	10
Benzene	ND		ug/kg	280	94.	10
Toluene	4200		ug/kg	560	310	10
Ethylbenzene	34000		ug/kg	560	80.	10
Chloromethane	ND		ug/kg	2300	530	10
Bromomethane	ND		ug/kg	1100	330	10
Vinyl chloride	ND		ug/kg	560	190	10
Chloroethane	ND		ug/kg	1100	260	10
1,1-Dichloroethene	ND		ug/kg	560	130	10
trans-1,2-Dichloroethene	ND		ug/kg	850	78.	10
Trichloroethene	ND		ug/kg	280	78.	10
1,2-Dichlorobenzene	ND		ug/kg	1100	81.	10

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07 D

Date Collected: 12/13/18 13:53

Client ID: TP-6 (9-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1100	84.	10
1,4-Dichlorobenzene	ND		ug/kg	1100	97.	10
Methyl tert butyl ether	ND		ug/kg	1100	110	10
p/m-Xylene	140000		ug/kg	1100	320	10
o-Xylene	27000		ug/kg	560	160	10
cis-1,2-Dichloroethene	ND		ug/kg	560	99.	10
Styrene	ND		ug/kg	560	110	10
Dichlorodifluoromethane	ND		ug/kg	5600	520	10
Acetone	ND		ug/kg	5600	2700	10
Carbon disulfide	ND		ug/kg	5600	2600	10
2-Butanone	ND		ug/kg	5600	1200	10
4-Methyl-2-pentanone	ND		ug/kg	5600	720	10
2-Hexanone	ND		ug/kg	5600	670	10
Bromochloromethane	ND		ug/kg	1100	120	10
1,2-Dibromoethane	ND		ug/kg	560	160	10
n-Butylbenzene	6900		ug/kg	560	94.	10
sec-Butylbenzene	2100		ug/kg	560	83.	10
1,2-Dibromo-3-chloropropane	ND		ug/kg	1700	560	10
Isopropylbenzene	3500		ug/kg	560	62.	10
p-Isopropyltoluene	1100		ug/kg	560	62.	10
n-Propylbenzene	17000		ug/kg	560	97.	10
1,2,3-Trichlorobenzene	ND		ug/kg	1100	180	10
1,2,4-Trichlorobenzene	ND		ug/kg	1100	150	10
1,3,5-Trimethylbenzene	37000		ug/kg	1100	110	10
1,2,4-Trimethylbenzene	120000		ug/kg	1100	190	10
Methyl Acetate	ND		ug/kg	2300	540	10
Cyclohexane	33000		ug/kg	5600	310	10
1,4-Dioxane	ND		ug/kg	56000	20000	10
Freon-113	ND		ug/kg	2300	390	10
Methyl cyclohexane	48000		ug/kg	2300	340	10

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07 D

Date Collected: 12/13/18 13:53

Client ID: TP-6 (9-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	328000	J	ug/kg	10
Octane	29000	NJ	ug/kg	10
Pentane, 2-methyl-	30000	NJ	ug/kg	10
Unknown Aromatic	38100	J	ug/kg	10
Heptane	39200	NJ	ug/kg	10
Unknown Benzene	30400	J	ug/kg	10
Unknown Benzene	36800	J	ug/kg	10
Hexane, 3-methyl-	30500	NJ	ug/kg	10
Unknown Aromatic	31300	J	ug/kg	10
Heptane, 3-methyl-	29100	NJ	ug/kg	10
Unknown Benzene	33100	J	ug/kg	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	101		70-130

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-08 D

Date Collected: 12/13/18 09:05

Client ID: TP-8 (7-9.3)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/19/18 11:48

Analyst: MV

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	9000	4100	25
1,1-Dichloroethane	ND		ug/kg	1800	260	25
Chloroform	ND		ug/kg	2700	250	25
Carbon tetrachloride	ND		ug/kg	1800	410	25
1,2-Dichloropropane	ND		ug/kg	1800	220	25
Dibromochloromethane	ND		ug/kg	1800	250	25
1,1,2-Trichloroethane	ND		ug/kg	1800	480	25
Tetrachloroethene	ND		ug/kg	900	350	25
Chlorobenzene	ND		ug/kg	900	230	25
Trichlorofluoromethane	ND		ug/kg	7200	1200	25
1,2-Dichloroethane	ND		ug/kg	1800	460	25
1,1,1-Trichloroethane	ND		ug/kg	900	300	25
Bromodichloromethane	ND		ug/kg	900	200	25
trans-1,3-Dichloropropene	ND		ug/kg	1800	490	25
cis-1,3-Dichloropropene	ND		ug/kg	900	280	25
Bromoform	ND		ug/kg	7200	440	25
1,1,2,2-Tetrachloroethane	ND		ug/kg	900	300	25
Benzene	ND		ug/kg	900	300	25
Toluene	ND		ug/kg	1800	980	25
Ethylbenzene	46000		ug/kg	1800	250	25
Chloromethane	ND		ug/kg	7200	1700	25
Bromomethane	ND		ug/kg	3600	1000	25
Vinyl chloride	ND		ug/kg	1800	600	25
Chloroethane	ND		ug/kg	3600	810	25
1,1-Dichloroethene	ND		ug/kg	1800	430	25
trans-1,2-Dichloroethene	ND		ug/kg	2700	250	25
Trichloroethene	ND		ug/kg	900	250	25
1,2-Dichlorobenzene	ND		ug/kg	3600	260	25

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-08 D

Date Collected: 12/13/18 09:05

Client ID: TP-8 (7-9.3)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3600	270	25
1,4-Dichlorobenzene	ND		ug/kg	3600	310	25
Methyl tert butyl ether	ND		ug/kg	3600	360	25
p/m-Xylene	260000		ug/kg	3600	1000	25
o-Xylene	25000		ug/kg	1800	520	25
cis-1,2-Dichloroethene	ND		ug/kg	1800	310	25
Styrene	ND		ug/kg	1800	350	25
Dichlorodifluoromethane	ND		ug/kg	18000	1600	25
Acetone	ND		ug/kg	18000	8600	25
Carbon disulfide	ND		ug/kg	18000	8200	25
2-Butanone	ND		ug/kg	18000	4000	25
4-Methyl-2-pentanone	ND		ug/kg	18000	2300	25
2-Hexanone	ND		ug/kg	18000	2100	25
Bromochloromethane	ND		ug/kg	3600	370	25
1,2-Dibromoethane	ND		ug/kg	1800	500	25
n-Butylbenzene	16000		ug/kg	1800	300	25
sec-Butylbenzene	5000		ug/kg	1800	260	25
1,2-Dibromo-3-chloropropane	ND		ug/kg	5400	1800	25
Isopropylbenzene	8000		ug/kg	1800	200	25
p-Isopropyltoluene	2600		ug/kg	1800	200	25
n-Propylbenzene	39000		ug/kg	1800	310	25
1,2,3-Trichlorobenzene	ND		ug/kg	3600	580	25
1,2,4-Trichlorobenzene	ND		ug/kg	3600	490	25
1,3,5-Trimethylbenzene	97000		ug/kg	3600	350	25
1,2,4-Trimethylbenzene	330000		ug/kg	3600	600	25
Methyl Acetate	ND		ug/kg	7200	1700	25
Cyclohexane	46000		ug/kg	18000	980	25
1,4-Dioxane	ND		ug/kg	180000	63000	25
Freon-113	ND		ug/kg	7200	1200	25
Methyl cyclohexane	85000		ug/kg	7200	1100	25

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-08 D

Date Collected: 12/13/18 09:05

Client ID: TP-8 (7-9.3)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	780000	J	ug/kg	25
Hexane, 3-methyl-	63800	NJ	ug/kg	25
Octane	75400	NJ	ug/kg	25
Unknown Aromatic	61900	J	ug/kg	25
Heptane, 3-methyl-	101000	NJ	ug/kg	25
Heptane	71500	NJ	ug/kg	25
Unknown Benzene	87700	J	ug/kg	25
Unknown Benzene	74900	J	ug/kg	25
Unknown Benzene	80000	J	ug/kg	25
Unknown Aromatic	81100	J	ug/kg	25
Unknown Benzene	82600	J	ug/kg	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	104		70-130

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/19/18 08:47

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06-08 Batch: WG1190705-10					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/19/18 08:47

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06-08 Batch: WG1190705-10					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	5000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/19/18 08:47

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 06-08 Batch: WG1190705-10					

Tentatively Identified Compounds

Total TIC Compounds	695	J	ug/kg
Unknown	695	J	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	110		70-130

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/18/18 17:33

Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG1191065-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/18/18 17:33

Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG1191065-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	5000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**Method Blank Analysis**
Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/18/18 17:33

Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02-03 Batch: WG1191065-5					

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-08 Batch: WG1190705-8 WG1190705-9								
Methylene chloride	104		101		70-130	3		30
1,1-Dichloroethane	100		102		70-130	2		30
Chloroform	110		112		70-130	2		30
Carbon tetrachloride	140	Q	141	Q	70-130	1		30
1,2-Dichloropropane	89		90		70-130	1		30
Dibromochloromethane	110		110		70-130	0		30
1,1,2-Trichloroethane	87		94		70-130	8		30
Tetrachloroethene	114		110		70-130	4		30
Chlorobenzene	98		96		70-130	2		30
Trichlorofluoromethane	161	Q	156	Q	70-139	3		30
1,2-Dichloroethane	115		118		70-130	3		30
1,1,1-Trichloroethane	129		128		70-130	1		30
Bromodichloromethane	111		114		70-130	3		30
trans-1,3-Dichloropropene	100		107		70-130	7		30
cis-1,3-Dichloropropene	102		102		70-130	0		30
Bromoform	104		104		70-130	0		30
1,1,2,2-Tetrachloroethane	85		83		70-130	2		30
Benzene	100		98		70-130	2		30
Toluene	98		96		70-130	2		30
Ethylbenzene	101		98		70-130	3		30
Chloromethane	129		120		52-130	7		30
Bromomethane	155	Q	139		57-147	11		30
Vinyl chloride	148	Q	144	Q	67-130	3		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-08 Batch: WG1190705-8 WG1190705-9								
Chloroethane	147		131		50-151	12		30
1,1-Dichloroethene	126		117		65-135	7		30
trans-1,2-Dichloroethene	112		107		70-130	5		30
Trichloroethene	108		107		70-130	1		30
1,2-Dichlorobenzene	99		98		70-130	1		30
1,3-Dichlorobenzene	99		97		70-130	2		30
1,4-Dichlorobenzene	99		96		70-130	3		30
Methyl tert butyl ether	109		106		66-130	3		30
p/m-Xylene	101		100		70-130	1		30
o-Xylene	101		98		70-130	3		30
cis-1,2-Dichloroethene	104		106		70-130	2		30
Styrene	99		99		70-130	0		30
Dichlorodifluoromethane	177	Q	170	Q	30-146	4		30
Acetone	119		97		54-140	20		30
Carbon disulfide	108		101		59-130	7		30
2-Butanone	86		90		70-130	5		30
4-Methyl-2-pentanone	75		81		70-130	8		30
2-Hexanone	74		78		70-130	5		30
Bromochloromethane	111		108		70-130	3		30
1,2-Dibromoethane	99		99		70-130	0		30
n-Butylbenzene	99		95		70-130	4		30
sec-Butylbenzene	102		95		70-130	7		30
1,2-Dibromo-3-chloropropane	88		87		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-08 Batch: WG1190705-8 WG1190705-9								
Isopropylbenzene	99		93		70-130	6		30
p-Isopropyltoluene	105		100		70-130	5		30
n-Propylbenzene	99		91		70-130	8		30
1,2,3-Trichlorobenzene	101		95		70-130	6		30
1,2,4-Trichlorobenzene	105		99		70-130	6		30
1,3,5-Trimethylbenzene	103		98		70-130	5		30
1,2,4-Trimethylbenzene	104		97		70-130	7		30
Methyl Acetate	94		82		51-146	14		30
Cyclohexane	95		97		59-142	2		30
1,4-Dioxane	94		96		65-136	2		30
Freon-113	124		120		50-139	3		30
Methyl cyclohexane	107		102		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	113		117		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	99		96		70-130
Dibromofluoromethane	106		111		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG1191065-3 WG1191065-4								
Methylene chloride	90		88		70-130	2		30
1,1-Dichloroethane	93		91		70-130	2		30
Chloroform	97		95		70-130	2		30
Carbon tetrachloride	103		99		70-130	4		30
1,2-Dichloropropane	89		86		70-130	3		30
Dibromochloromethane	93		93		70-130	0		30
1,1,2-Trichloroethane	95		94		70-130	1		30
Tetrachloroethene	112		106		70-130	6		30
Chlorobenzene	100		97		70-130	3		30
Trichlorofluoromethane	121		118		70-139	3		30
1,2-Dichloroethane	88		87		70-130	1		30
1,1,1-Trichloroethane	103		100		70-130	3		30
Bromodichloromethane	91		89		70-130	2		30
trans-1,3-Dichloropropene	97		95		70-130	2		30
cis-1,3-Dichloropropene	93		91		70-130	2		30
Bromoform	94		93		70-130	1		30
1,1,2,2-Tetrachloroethane	88		86		70-130	2		30
Benzene	96		92		70-130	4		30
Toluene	101		97		70-130	4		30
Ethylbenzene	97		94		70-130	3		30
Chloromethane	106		100		52-130	6		30
Bromomethane	126		120		57-147	5		30
Vinyl chloride	118		114		67-130	3		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG1191065-3 WG1191065-4								
Chloroethane	117		118		50-151	1		30
1,1-Dichloroethene	103		100		65-135	3		30
trans-1,2-Dichloroethene	98		95		70-130	3		30
Trichloroethene	100		96		70-130	4		30
1,2-Dichlorobenzene	98		96		70-130	2		30
1,3-Dichlorobenzene	102		99		70-130	3		30
1,4-Dichlorobenzene	98		98		70-130	0		30
Methyl tert butyl ether	89		88		66-130	1		30
p/m-Xylene	103		99		70-130	4		30
o-Xylene	98		95		70-130	3		30
cis-1,2-Dichloroethene	97		94		70-130	3		30
Styrene	94		92		70-130	2		30
Dichlorodifluoromethane	116		110		30-146	5		30
Acetone	80		77		54-140	4		30
Carbon disulfide	100		96		59-130	4		30
2-Butanone	70		60	Q	70-130	15		30
4-Methyl-2-pentanone	80		80		70-130	0		30
2-Hexanone	76		71		70-130	7		30
Bromochloromethane	100		99		70-130	1		30
1,2-Dibromoethane	100		98		70-130	2		30
n-Butylbenzene	101		96		70-130	5		30
sec-Butylbenzene	99		95		70-130	4		30
1,2-Dibromo-3-chloropropane	86		90		68-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02-03 Batch: WG1191065-3 WG1191065-4								
Isopropylbenzene	104		100		70-130	4		30
p-Isopropyltoluene	103		99		70-130	4		30
n-Propylbenzene	102		98		70-130	4		30
1,2,3-Trichlorobenzene	100		99		70-130	1		30
1,2,4-Trichlorobenzene	104		101		70-130	3		30
1,3,5-Trimethylbenzene	102		98		70-130	4		30
1,2,4-Trimethylbenzene	100		96		70-130	4		30
Methyl Acetate	69		67		51-146	3		30
Cyclohexane	102		96		59-142	6		30
1,4-Dioxane	107		103		65-136	4		30
Freon-113	116		112		50-139	4		30
Methyl cyclohexane	106		102		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		90		70-130
Toluene-d8	103		103		70-130
4-Bromofluorobenzene	93		94		70-130
Dibromofluoromethane	99		99		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-08 QC Batch ID: WG1190705-11 WG1190705-12 QC Sample: L1851446-07 Client ID: TP-6 (9-11)												
Methylene chloride	ND	56000	55000	99		55000	98		70-130	1		30
1,1-Dichloroethane	ND	56000	55000	98		55000	98		70-130	0		30
Chloroform	ND	56000	58000	103		56000	100		70-130	3		30
Carbon tetrachloride	ND	56000	70000	126		67000	119		70-130	6		30
1,2-Dichloropropane	ND	56000	54000	96		52000	92		70-130	5		30
Dibromochloromethane	ND	56000	57000	102		56000	100		70-130	2		30
1,1,2-Trichloroethane	ND	56000	62000	110		63000	113		70-130	2		30
Tetrachloroethene	ND	56000	55000	98		55000	98		70-130	1		30
Chlorobenzene	ND	56000	51000	92		52000	92		70-130	1		30
Trichlorofluoromethane	ND	56000	80000	143	Q	77000	137		70-139	4		30
1,2-Dichloroethane	ND	56000	56000	99		58000	104		70-130	4		30
1,1,1-Trichloroethane	ND	56000	64000	115		61000	109		70-130	5		30
Bromodichloromethane	ND	56000	59000	105		57000	102		70-130	2		30
trans-1,3-Dichloropropene	ND	56000	52000	93		53000	95		70-130	2		30
cis-1,3-Dichloropropene	ND	56000	53000	95		53000	94		70-130	1		30
Bromoform	ND	56000	64000	114		58000	104		70-130	9		30
1,1,2,2-Tetrachloroethane	ND	56000	52000	93		50000	90		70-130	4		30
Benzene	ND	56000	57000	101		59000	105		70-130	4		30
Toluene	4200	56000	54000	89		55000	91		70-130	2		30
Ethylbenzene	34000	56000	83000	87		78000	78		70-130	6		30
Chloromethane	ND	56000	59000	105		59000	105		52-130	0		30
Bromomethane	ND	56000	83000	148	Q	83000	148	Q	57-147	0		30
Vinyl chloride	ND	56000	81000	144	Q	78000	139	Q	67-130	4		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-08 QC Batch ID: WG1190705-11 WG1190705-12 QC Sample: L1851446-07 Client ID: TP-6 (9-11)												
Chloroethane	ND	56000	91000	162	Q	88000	158	Q	50-151	3		30
1,1-Dichloroethene	ND	56000	68000	121		68000	122		65-135	1		30
trans-1,2-Dichloroethene	ND	56000	61000	108		62000	111		70-130	2		30
Trichloroethene	ND	56000	60000	108		60000	107		70-130	0		30
1,2-Dichlorobenzene	ND	56000	50000	89		50000	88		70-130	0		30
1,3-Dichlorobenzene	ND	56000	48000	85		47000	84		70-130	1		30
1,4-Dichlorobenzene	ND	56000	47000	84		48000	85		70-130	1		30
Methyl tert butyl ether	ND	56000	54000	97		55000	99		66-130	2		30
p/m-Xylene	140000	110000	220000	75		210000	62	Q	70-130	7		30
o-Xylene	27000	110000	120000	87		120000	85		70-130	2		30
cis-1,2-Dichloroethene	ND	56000	59000	105		59000	105		70-130	0		30
Styrene	ND	110000	100000	94		100000	94		70-130	1		30
Dichlorodifluoromethane	ND	56000	93000	166	Q	88000	157	Q	30-146	5		30
Acetone	ND	56000	42000	75		42000	74		54-140	1		30
Carbon disulfide	ND	56000	59000	106		59000	105		59-130	1		30
2-Butanone	ND	56000	70000	125		62000	111		70-130	12		30
4-Methyl-2-pentanone	ND	56000	44000	78		43000	76		70-130	3		30
2-Hexanone	ND	56000	49000	88		38000	68	Q	70-130	25		30
Bromochloromethane	ND	56000	61000	109		59000	105		70-130	4		30
1,2-Dibromoethane	ND	56000	56000	100		54000	96		70-130	4		30
n-Butylbenzene	6900	56000	50000	77		50000	78		70-130	1		30
sec-Butylbenzene	2100	56000	50000	85		46000	78		70-130	8		30
1,2-Dibromo-3-chloropropane	ND	56000	52000	93		49000	88		68-130	6		30

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 06-08 QC Batch ID: WG1190705-11 WG1190705-12 QC Sample: L1851446-07 Client ID: TP-6 (9-11)												
Isopropylbenzene	3500	56000	57000	95		53000	89		70-130	6		30
p-Isopropyltoluene	1100	56000	51000	89		47000	83		70-130	7		30
n-Propylbenzene	17000	56000	63000	83		60000	76		70-130	6		30
1,2,3-Trichlorobenzene	ND	56000	47000	84		44000	79		70-130	6		30
1,2,4-Trichlorobenzene	ND	56000	48000	85		46000	83		70-130	2		30
1,3,5-Trimethylbenzene	37000	56000	83000	81		75000	68	Q	70-130	10		30
1,2,4-Trimethylbenzene	120000	56000	160000	64	Q	140000	34	Q	70-130	12		30
Methyl Acetate	ND	56000	38000	68		40000	71		51-146	5		30
Cyclohexane	33000	56000	82000	87		78000	80		59-142	5		30
1,4-Dioxane	ND	2800000	2600000	91		2500000	91		65-136	1		30
Freon-113	ND	56000	66000	117		65000	115		50-139	2		30
Methyl cyclohexane	48000	56000	110000	105		100000	95		70-130	6		30

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		105		70-130
4-Bromofluorobenzene	107		110		70-130
Dibromofluoromethane	103		99		70-130
Toluene-d8	94		97		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-01 D

Date Collected: 12/13/18 10:53

Client ID: TP-1 (6.5-11.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: EPA 3546

Analytical Method: 1,8270D

Extraction Date: 12/15/18 13:13

Analytical Date: 12/19/18 17:37

Analyst: JG

Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	100	J	ug/kg	720	93.	5
Hexachlorobenzene	ND		ug/kg	540	100	5
Bis(2-chloroethyl)ether	ND		ug/kg	810	120	5
2-Chloronaphthalene	ND		ug/kg	900	89.	5
3,3'-Dichlorobenzidine	ND		ug/kg	900	240	5
2,4-Dinitrotoluene	ND		ug/kg	900	180	5
2,6-Dinitrotoluene	ND		ug/kg	900	150	5
Fluoranthene	ND		ug/kg	540	100	5
4-Chlorophenyl phenyl ether	ND		ug/kg	900	96.	5
4-Bromophenyl phenyl ether	ND		ug/kg	900	140	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	1100	150	5
Bis(2-chloroethoxy)methane	ND		ug/kg	970	90.	5
Hexachlorobutadiene	ND		ug/kg	900	130	5
Hexachlorocyclopentadiene	ND		ug/kg	2600	820	5
Hexachloroethane	ND		ug/kg	720	140	5
Isophorone	ND		ug/kg	810	120	5
Naphthalene	13000		ug/kg	900	110	5
Nitrobenzene	ND		ug/kg	810	130	5
NDPA/DPA	ND		ug/kg	720	100	5
n-Nitrosodi-n-propylamine	ND		ug/kg	900	140	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	900	310	5
Butyl benzyl phthalate	ND		ug/kg	900	230	5
Di-n-butylphthalate	ND		ug/kg	900	170	5
Di-n-octylphthalate	ND		ug/kg	900	310	5
Diethyl phthalate	ND		ug/kg	900	83.	5
Dimethyl phthalate	ND		ug/kg	900	190	5
Benzo(a)anthracene	ND		ug/kg	540	100	5
Benzo(a)pyrene	ND		ug/kg	720	220	5

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-01 D

Date Collected: 12/13/18 10:53

Client ID: TP-1 (6.5-11.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	540	150	5
Benzo(k)fluoranthene	ND		ug/kg	540	140	5
Chrysene	100	J	ug/kg	540	94.	5
Acenaphthylene	ND		ug/kg	720	140	5
Anthracene	ND		ug/kg	540	180	5
Benzo(ghi)perylene	ND		ug/kg	720	110	5
Fluorene	360	J	ug/kg	900	88.	5
Phenanthrene	940		ug/kg	540	110	5
Dibenzo(a,h)anthracene	ND		ug/kg	540	100	5
Indeno(1,2,3-cd)pyrene	ND		ug/kg	720	120	5
Pyrene	ND		ug/kg	540	90.	5
Biphenyl	410	J	ug/kg	2000	210	5
4-Chloroaniline	ND		ug/kg	900	160	5
2-Nitroaniline	ND		ug/kg	900	170	5
3-Nitroaniline	ND		ug/kg	900	170	5
4-Nitroaniline	ND		ug/kg	900	370	5
Dibenzofuran	ND		ug/kg	900	85.	5
2-Methylnaphthalene	17000		ug/kg	1100	110	5
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	900	94.	5
Acetophenone	ND		ug/kg	900	110	5
2,4,6-Trichlorophenol	ND		ug/kg	540	170	5
p-Chloro-m-cresol	ND		ug/kg	900	130	5
2-Chlorophenol	ND		ug/kg	900	110	5
2,4-Dichlorophenol	ND		ug/kg	810	140	5
2,4-Dimethylphenol	ND		ug/kg	900	300	5
2-Nitrophenol	ND		ug/kg	1900	340	5
4-Nitrophenol	ND		ug/kg	1300	370	5
2,4-Dinitrophenol	ND		ug/kg	4300	420	5
4,6-Dinitro-o-cresol	ND		ug/kg	2300	430	5
Pentachlorophenol	ND		ug/kg	720	200	5
Phenol	ND		ug/kg	900	140	5
2-Methylphenol	ND		ug/kg	900	140	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1300	140	5
2,4,5-Trichlorophenol	ND		ug/kg	900	170	5
Carbazole	ND		ug/kg	900	88.	5
Atrazine	ND		ug/kg	720	320	5
Benzaldehyde	ND		ug/kg	1200	240	5

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-01 D

Date Collected: 12/13/18 10:53

Client ID: TP-1 (6.5-11.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	900	270	5
2,3,4,6-Tetrachlorophenol	ND		ug/kg	900	180	5

Tentatively Identified Compounds

Total TIC Compounds	481000	J	ug/kg			5
Indane	16600	NJ	ug/kg			5
Unknown Benzene	11600	J	ug/kg			5
Unknown Benzene	45500	J	ug/kg			5
Unknown Benzene	34200	J	ug/kg			5
Unknown	60400	J	ug/kg			5
Unknown Alkane	13300	J	ug/kg			5
Unknown Benzene	58200	J	ug/kg			5
Unknown	16000	J	ug/kg			5
Unknown Benzene	25200	J	ug/kg			5
Unknown	26100	J	ug/kg			5
Unknown Alkane	11600	J	ug/kg			5
Unknown Benzene	24400	J	ug/kg			5
Unknown Benzene	90000	J	ug/kg			5
Unknown Benzene	34500	J	ug/kg			5
Unknown Benzene	13800	J	ug/kg			5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	64		25-120
Phenol-d6	67		10-120
Nitrobenzene-d5	78		23-120
2-Fluorobiphenyl	66		30-120
2,4,6-Tribromophenol	79		10-136
4-Terphenyl-d14	59		18-120

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02
 Client ID: TP-2 (2.5-8.0)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 11:53
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/19/18 04:14
 Analyst: SZ
 Percent Solids: 94%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	33	J	ug/kg	140	18.	1
Hexachlorobenzene	ND		ug/kg	100	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	24.	1
2-Chloronaphthalene	ND		ug/kg	170	17.	1
3,3'-Dichlorobenzidine	ND		ug/kg	170	46.	1
2,4-Dinitrotoluene	ND		ug/kg	170	35.	1
2,6-Dinitrotoluene	ND		ug/kg	170	30.	1
Fluoranthene	20	J	ug/kg	100	20.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	170	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	170	27.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	30.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	170	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	500	160	1
Hexachloroethane	ND		ug/kg	140	28.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	6400		ug/kg	170	21.	1
Nitrobenzene	ND		ug/kg	160	26.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	170	27.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	60.	1
Butyl benzyl phthalate	ND		ug/kg	170	44.	1
Di-n-butylphthalate	ND		ug/kg	170	33.	1
Di-n-octylphthalate	ND		ug/kg	170	59.	1
Diethyl phthalate	ND		ug/kg	170	16.	1
Dimethyl phthalate	ND		ug/kg	170	37.	1
Benzo(a)anthracene	ND		ug/kg	100	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-02**Date Collected:** 12/13/18 11:53**Client ID:** TP-2 (2.5-8.0)**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	100	29.	1
Benzo(k)fluoranthene	ND		ug/kg	100	28.	1
Chrysene	ND		ug/kg	100	18.	1
Acenaphthylene	ND		ug/kg	140	27.	1
Anthracene	ND		ug/kg	100	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	20.	1
Fluorene	55	J	ug/kg	170	17.	1
Phenanthrene	68	J	ug/kg	100	21.	1
Dibenzo(a,h)anthracene	ND		ug/kg	100	20.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	24.	1
Pyrene	22	J	ug/kg	100	17.	1
Biphenyl	180	J	ug/kg	400	40.	1
4-Chloroaniline	ND		ug/kg	170	32.	1
2-Nitroaniline	ND		ug/kg	170	34.	1
3-Nitroaniline	ND		ug/kg	170	33.	1
4-Nitroaniline	ND		ug/kg	170	72.	1
Dibenzofuran	ND		ug/kg	170	16.	1
2-Methylnaphthalene	7700	E	ug/kg	210	21.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	170	18.	1
Acetophenone	ND		ug/kg	170	22.	1
2,4,6-Trichlorophenol	ND		ug/kg	100	33.	1
p-Chloro-m-cresol	ND		ug/kg	170	26.	1
2-Chlorophenol	ND		ug/kg	170	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	28.	1
2,4-Dimethylphenol	ND		ug/kg	170	58.	1
2-Nitrophenol	ND		ug/kg	380	66.	1
4-Nitrophenol	ND		ug/kg	240	71.	1
2,4-Dinitrophenol	ND		ug/kg	840	82.	1
4,6-Dinitro-o-cresol	ND		ug/kg	450	84.	1
Pentachlorophenol	ND		ug/kg	140	38.	1
Phenol	ND		ug/kg	170	26.	1
2-Methylphenol	ND		ug/kg	170	27.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	250	27.	1
2,4,5-Trichlorophenol	ND		ug/kg	170	34.	1
Carbazole	ND		ug/kg	170	17.	1
Atrazine	ND		ug/kg	140	61.	1
Benzaldehyde	ND		ug/kg	230	47.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-02**Date Collected:** 12/13/18 11:53**Client ID:** TP-2 (2.5-8.0)**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	170	53.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	170	35.	1

Tentatively Identified Compounds

Total TIC Compounds	231000	J	ug/kg			1
Unknown Benzene	8980	J	ug/kg			1
Unknown Alkane	6780	J	ug/kg			1
Unknown Benzene	14600	J	ug/kg			1
Indane	9610	NJ	ug/kg			1
Unknown Benzene	15300	J	ug/kg			1
Unknown Benzene	35500	J	ug/kg			1
Unknown	10200	J	ug/kg			1
Unknown Benzene	18600	J	ug/kg			1
Unknown Benzene	26600	J	ug/kg			1
Unknown	24500	J	ug/kg			1
Unknown Benzene	8410	J	ug/kg			1
Unknown Benzene	10400	J	ug/kg			1
Unknown Alkane	9720	J	ug/kg			1
Unknown Benzene	25200	J	ug/kg			1
Benzene, Propyl-	6900	NJ	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	53		25-120
Phenol-d6	62		10-120
Nitrobenzene-d5	70		23-120
2-Fluorobiphenyl	74		30-120
2,4,6-Tribromophenol	41		10-136
4-Terphenyl-d14	60		18-120

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02 D

Client ID: TP-2 (2.5-8.0)

Sample Location: BUFFALO, NY

Date Collected: 12/13/18 11:53

Date Received: 12/13/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8270D

Analytical Date: 12/19/18 18:03

Analyst: JG

Percent Solids: 94%

Extraction Method: EPA 3546

Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

2-Methylnaphthalene	8800		ug/kg	1000	100	5

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-03
 Client ID: BD#1
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 12:00
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/19/18 01:41
 Analyst: SZ
 Percent Solids: 92%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

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	27.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	510	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	3600		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	45.	1
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	61.	1
Diethyl phthalate	ND		ug/kg	180	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

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-03

Date Collected: 12/13/18 12:00

Client ID: BD#1

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	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	28	J	ug/kg	180	17.	1
Phenanthrene	39	J	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
Biphenyl	90	J	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	74.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	4100		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	59.	1
2-Nitrophenol	ND		ug/kg	390	68.	1
4-Nitrophenol	ND		ug/kg	250	73.	1
2,4-Dinitrophenol	ND		ug/kg	860	84.	1
4,6-Dinitro-o-cresol	ND		ug/kg	470	86.	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	34.	1
Carbazole	ND		ug/kg	180	17.	1
Atrazine	ND		ug/kg	140	63.	1
Benzaldehyde	ND		ug/kg	240	48.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-03**Date Collected:** 12/13/18 12:00**Client ID:** BD#1**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	55.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	36.	1

Tentatively Identified Compounds

Total TIC Compounds	118000	J	ug/kg			1
Unknown Benzene	8330	J	ug/kg			1
Unknown Alkane	3500	J	ug/kg			1
Unknown Alkane	4800	J	ug/kg			1
Unknown Benzene	20600	J	ug/kg			1
Unknown Benzene	4270	J	ug/kg			1
Unknown Benzene	4830	J	ug/kg			1
Indane	4650	NJ	ug/kg			1
Unknown Benzene	8120	J	ug/kg			1
Unknown Benzene	7560	J	ug/kg			1
Unknown	11600	J	ug/kg			1
Unknown Benzene	13400	J	ug/kg			1
Unknown Benzene	14000	J	ug/kg			1
Unknown Benzene	4160	J	ug/kg			1
Unknown	3310	J	ug/kg			1
Unknown	4690	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	54		25-120
Phenol-d6	65		10-120
Nitrobenzene-d5	71		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	49		10-136
4-Terphenyl-d14	60		18-120

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-04
 Client ID: TP-3 (1-2.5)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 13:20
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/19/18 05:30
 Analyst: SZ
 Percent Solids: 89%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

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	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	37.	1
2,6-Dinitrotoluene	ND		ug/kg	180	32.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	170	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	64.	1
Butyl benzyl phthalate	ND		ug/kg	180	47.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	63.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	39.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-04**Date Collected:** 12/13/18 13:20**Client ID:** TP-3 (1-2.5)**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	56	J	ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	43.	1
4-Chloroaniline	ND		ug/kg	180	34.	1
2-Nitroaniline	ND		ug/kg	180	36.	1
3-Nitroaniline	ND		ug/kg	180	35.	1
4-Nitroaniline	ND		ug/kg	180	77.	1
Dibenzofuran	ND		ug/kg	180	18.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	28.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	180	61.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	890	86.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	89.	1
Pentachlorophenol	ND		ug/kg	150	41.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	150	65.	1
Benzaldehyde	ND		ug/kg	240	50.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-04

Date Collected: 12/13/18 13:20

Client ID: TP-3 (1-2.5)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1

Tentatively Identified Compounds

Total TIC Compounds	170	J	ug/kg			1
Unknown	170	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	65		25-120
Phenol-d6	71		10-120
Nitrobenzene-d5	75		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	82		10-136
4-Terphenyl-d14	53		18-120

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-06
 Client ID: TP-4 (7-11)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 10:02
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/19/18 01:16
 Analyst: SZ
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

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	120	22.	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	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	ND		ug/kg	120	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	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	3500		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	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	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	65.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-06**Date Collected:** 12/13/18 10:02**Client ID:** TP-4 (7-11)**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	32.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	23	J	ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	ND		ug/kg	120	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	23.	1
Fluorene	83	J	ug/kg	190	19.	1
Phenanthrene	220		ug/kg	120	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	27.	1
Pyrene	ND		ug/kg	120	19.	1
Biphenyl	120	J	ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	5300		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	420	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	ND		ug/kg	190	19.	1
Atrazine	ND		ug/kg	150	67.	1
Benzaldehyde	ND		ug/kg	250	52.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-06

Date Collected: 12/13/18 10:02

Client ID: TP-4 (7-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Tentatively Identified Compounds

Total TIC Compounds	88700	J	ug/kg			1
Unknown	7570	J	ug/kg			1
Unknown Benzene	3830	J	ug/kg			1
Unknown Benzene	5990	J	ug/kg			1
Unknown Benzene	6970	J	ug/kg			1
Unknown Benzene	10200	J	ug/kg			1
Unknown	2260	J	ug/kg			1
Unknown	2900	J	ug/kg			1
Unknown Benzene	3080	J	ug/kg			1
Unknown Benzene	5140	J	ug/kg			1
Unknown Benzene	10000	J	ug/kg			1
Unknown Benzene	17800	J	ug/kg			1
Indane	3540	NJ	ug/kg			1
Unknown Benzene	3000	J	ug/kg			1
Unknown Benzene	2760	J	ug/kg			1
Unknown Alkane	3660	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		25-120
Phenol-d6	68		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	58		30-120
2,4,6-Tribromophenol	81		10-136
4-Terphenyl-d14	50		18-120

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07
 Client ID: TP-6 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 13:53
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/19/18 02:57
 Analyst: SZ
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

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	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	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	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	8100	E	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	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	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	65.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	ND		ug/kg	110	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-07**Date Collected:** 12/13/18 13:53**Client ID:** TP-6 (9-11)**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	31.	1
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	39	J	ug/kg	190	19.	1
Phenanthrene	41	J	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	27.	1
Pyrene	ND		ug/kg	110	19.	1
Biphenyl	210	J	ug/kg	440	44.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	10000	E	ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	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	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	ND		ug/kg	190	19.	1
Atrazine	ND		ug/kg	150	67.	1
Benzaldehyde	ND		ug/kg	250	52.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07

Date Collected: 12/13/18 13:53

Client ID: TP-6 (9-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Tentatively Identified Compounds

Total TIC Compounds	211000	J	ug/kg			1
Unknown Benzene	15800	J	ug/kg			1
Unknown	10300	J	ug/kg			1
Benzene, Propyl-	10100	NJ	ug/kg			1
Ethylbenzene	12600	NJ	ug/kg			1
Unknown Benzene	6690	J	ug/kg			1
Unknown Alkane	6880	J	ug/kg			1
Unknown Benzene	28300	J	ug/kg			1
Indane	9110	NJ	ug/kg			1
Unknown Benzene	8580	J	ug/kg			1
Unknown Benzene	16300	J	ug/kg			1
Unknown Benzene	11800	J	ug/kg			1
Unknown Benzene	36300	J	ug/kg			1
Unknown	6860	J	ug/kg			1
Unknown Benzene	8890	J	ug/kg			1
Unknown Benzene	22400	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		25-120
Phenol-d6	56		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	69		30-120
2,4,6-Tribromophenol	43		10-136
4-Terphenyl-d14	53		18-120

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07 D

Client ID: TP-6 (9-11)

Sample Location: BUFFALO, NY

Date Collected: 12/13/18 13:53

Date Received: 12/13/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8270D

Analytical Date: 12/19/18 18:28

Analyst: SZ

Percent Solids: 86%

Extraction Method: EPA 3546

Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Naphthalene	11000		ug/kg	960	120	5
2-Methylnaphthalene	13000		ug/kg	1100	120	5

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-08
 Client ID: TP-8 (7-9.3)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 09:05
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/19/18 06:46
 Analyst: SZ
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	56	J	ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	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	52.	1
2,4-Dinitrotoluene	ND		ug/kg	190	39.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	90	J	ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	180	1
Hexachloroethane	ND		ug/kg	160	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	9800	E	ug/kg	190	24.	1
Nitrobenzene	ND		ug/kg	170	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	190	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	67.	1
Butyl benzyl phthalate	ND		ug/kg	190	49.	1
Di-n-butylphthalate	ND		ug/kg	190	37.	1
Di-n-octylphthalate	ND		ug/kg	190	66.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	41.	1
Benzo(a)anthracene	32	J	ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	47.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-08**Date Collected:** 12/13/18 09:05**Client ID:** TP-8 (7-9.3)**Date Received:** 12/13/18**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	36	J	ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	34	J	ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	77	J	ug/kg	190	19.	1
Phenanthrene	140		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	27.	1
Pyrene	76	J	ug/kg	120	19.	1
Biphenyl	270	J	ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	13000	E	ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	64.	1
2-Nitrophenol	ND		ug/kg	420	73.	1
4-Nitrophenol	ND		ug/kg	270	79.	1
2,4-Dinitrophenol	ND		ug/kg	930	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	93.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	ND		ug/kg	190	19.	1
Atrazine	ND		ug/kg	160	68.	1
Benzaldehyde	ND		ug/kg	260	52.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-08

Date Collected: 12/13/18 09:05

Client ID: TP-8 (7-9.3)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	59.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Tentatively Identified Compounds

Total TIC Compounds	271000	J	ug/kg			1
Unknown	15300	J	ug/kg			1
Indane	11300	NJ	ug/kg			1
Unknown	8690	J	ug/kg			1
Unknown Alkane	8120	J	ug/kg			1
Unknown Benzene	7790	J	ug/kg			1
Unknown Benzene	12100	J	ug/kg			1
Ethylbenzene	12400	NJ	ug/kg			1
Unknown Benzene	22100	J	ug/kg			1
Unknown Benzene	27000	J	ug/kg			1
Unknown Benzene	37800	J	ug/kg			1
Unknown Benzene	22600	J	ug/kg			1
Benzene, Propyl-	14400	NJ	ug/kg			1
Unknown Benzene	49500	J	ug/kg			1
Unknown	13200	J	ug/kg			1
Unknown Benzene	8930	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	68		25-120
Phenol-d6	57		10-120
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	61		30-120
2,4,6-Tribromophenol	86		10-136
4-Terphenyl-d14	43		18-120

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-08 D

Client ID: TP-8 (7-9.3)

Sample Location: BUFFALO, NY

Date Collected: 12/13/18 09:05

Date Received: 12/13/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8270D

Analytical Date: 12/19/18 18:53

Analyst: JG

Percent Solids: 84%

Extraction Method: EPA 3546

Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Naphthalene	12000		ug/kg	970	120	5
2-Methylnaphthalene	16000		ug/kg	1200	120	5

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/18/18 23:09
 Analyst: SZ

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-08 Batch: WG1189861-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	33.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	27.

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/18/18 23:09
 Analyst: SZ

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-08 Batch: WG1189861-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/18/18 23:09
 Analyst: SZ

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 13:13

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04,06-08 Batch: WG1189861-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	220	44.
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	69		25-120
Phenol-d6	75		10-120
Nitrobenzene-d5	73		23-120
2-Fluorobiphenyl	73		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	71		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 Batch: WG1189861-2 WG1189861-3								
Acenaphthene	86		81		31-137	6		50
Hexachlorobenzene	93		87		40-140	7		50
Bis(2-chloroethyl)ether	77		72		40-140	7		50
2-Chloronaphthalene	81		76		40-140	6		50
3,3'-Dichlorobenzidine	56		54		40-140	4		50
2,4-Dinitrotoluene	105		100		40-132	5		50
2,6-Dinitrotoluene	96		88		40-140	9		50
Fluoranthene	86		82		40-140	5		50
4-Chlorophenyl phenyl ether	85		80		40-140	6		50
4-Bromophenyl phenyl ether	89		83		40-140	7		50
Bis(2-chloroisopropyl)ether	74		69		40-140	7		50
Bis(2-chloroethoxy)methane	84		77		40-117	9		50
Hexachlorobutadiene	73		68		40-140	7		50
Hexachlorocyclopentadiene	61		56		40-140	9		50
Hexachloroethane	76		71		40-140	7		50
Isophorone	88		81		40-140	8		50
Naphthalene	76		70		40-140	8		50
Nitrobenzene	82		76		40-140	8		50
NDPA/DPA	93		87		36-157	7		50
n-Nitrosodi-n-propylamine	86		78		32-121	10		50
Bis(2-ethylhexyl)phthalate	88		85		40-140	3		50
Butyl benzyl phthalate	96		91		40-140	5		50
Di-n-butylphthalate	96		91		40-140	5		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 Batch: WG1189861-2 WG1189861-3								
Di-n-octylphthalate	90		86		40-140	5		50
Diethyl phthalate	97		92		40-140	5		50
Dimethyl phthalate	90		83		40-140	8		50
Benzo(a)anthracene	82		78		40-140	5		50
Benzo(a)pyrene	91		86		40-140	6		50
Benzo(b)fluoranthene	92		86		40-140	7		50
Benzo(k)fluoranthene	84		83		40-140	1		50
Chrysene	82		79		40-140	4		50
Acenaphthylene	89		82		40-140	8		50
Anthracene	84		79		40-140	6		50
Benzo(ghi)perylene	85		81		40-140	5		50
Fluorene	92		86		40-140	7		50
Phenanthrene	78		74		40-140	5		50
Dibenzo(a,h)anthracene	84		80		40-140	5		50
Indeno(1,2,3-cd)pyrene	84		80		40-140	5		50
Pyrene	84		80		35-142	5		50
Biphenyl	86		79		54-104	8		50
4-Chloroaniline	77		75		40-140	3		50
2-Nitroaniline	96		87		47-134	10		50
3-Nitroaniline	68		64		26-129	6		50
4-Nitroaniline	93		87		41-125	7		50
Dibenzofuran	86		82		40-140	5		50
2-Methylnaphthalene	79		74		40-140	7		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 Batch: WG1189861-2 WG1189861-3								
1,2,4,5-Tetrachlorobenzene	81		76		40-117	6		50
Acetophenone	87		81		14-144	7		50
2,4,6-Trichlorophenol	92		85		30-130	8		50
p-Chloro-m-cresol	94		86		26-103	9		50
2-Chlorophenol	81		76		25-102	6		50
2,4-Dichlorophenol	87		82		30-130	6		50
2,4-Dimethylphenol	87		82		30-130	6		50
2-Nitrophenol	85		80		30-130	6		50
4-Nitrophenol	114		108		11-114	5		50
2,4-Dinitrophenol	87		79		4-130	10		50
4,6-Dinitro-o-cresol	100		94		10-130	6		50
Pentachlorophenol	79		76		17-109	4		50
Phenol	76		71		26-90	7		50
2-Methylphenol	84		78		30-130.	7		50
3-Methylphenol/4-Methylphenol	86		80		30-130	7		50
2,4,5-Trichlorophenol	92		85		30-130	8		50
Carbazole	85		81		54-128	5		50
Atrazine	90		84		40-140	7		50
Benzaldehyde	67		61		40-140	9		50
Caprolactam	120		111		15-130	8		50
2,3,4,6-Tetrachlorophenol	93		88		40-140	6		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 Batch: WG1189861-2 WG1189861-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	79		70		25-120
Phenol-d6	83		74		10-120
Nitrobenzene-d5	81		72		23-120
2-Fluorobiphenyl	79		70		30-120
2,4,6-Tribromophenol	104		92		10-136
4-Terphenyl-d14	74		64		18-120

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1189861-4 WG1189861-5 QC Sample: L1851446-07 Client ID: TP-6 (9-11)												
Acenaphthene	ND	1510	1100	73		1100	73		31-137	0		50
Hexachlorobenzene	ND	1510	1200	80		1100	73		40-140	9		50
Bis(2-chloroethyl)ether	ND	1510	1000	66		1000	66		40-140	0		50
2-Chloronaphthalene	ND	1510	1100	73		1100	73		40-140	0		50
3,3'-Dichlorobenzidine	ND	1510	760	50		700	46		40-140	8		50
2,4-Dinitrotoluene	ND	1510	1400	93		1300	86		40-132	7		50
2,6-Dinitrotoluene	ND	1510	1200	80		1100	73		40-140	9		50
Fluoranthene	ND	1510	1000	66		1000	66		40-140	0		50
4-Chlorophenyl phenyl ether	ND	1510	1100	73		1100	73		40-140	0		50
4-Bromophenyl phenyl ether	ND	1510	1100	73		1100	73		40-140	0		50
Bis(2-chloroisopropyl)ether	ND	1510	880	58		880	58		40-140	0		50
Bis(2-chloroethoxy)methane	ND	1510	1100	73		1100	73		40-117	0		50
Hexachlorobutadiene	ND	1510	1000	66		980	65		40-140	2		50
Hexachlorocyclopentadiene	ND	1510	780	52		740	49		40-140	5		50
Hexachloroethane	ND	1510	3700	250	Q	3600	240	Q	40-140	3		50
Isophorone	ND	1510	1000	66		1000	66		40-140	0		50
Naphthalene	8100E	1510	8200E	0	Q	7700E	0	Q	40-140	6		50
Nitrobenzene	ND	1510	1000	66		940	62		40-140	6		50
NDPA/DPA	ND	1510	1200	80		1200	80		36-157	0		50
n-Nitrosodi-n-propylamine	ND	1510	1300	86		1200	80		32-121	8		50
Bis(2-ethylhexyl)phthalate	ND	1510	1100	73		1100	73		40-140	0		50
Butyl benzyl phthalate	ND	1510	1200	80		1100	73		40-140	9		50
Di-n-butylphthalate	ND	1510	1200	80		1100	73		40-140	9		50

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1189861-4 WG1189861-5 QC Sample: L1851446-07 Client ID: TP-6 (9-11)												
Di-n-octylphthalate	ND	1510	1100	73		1100	73		40-140	0		50
Diethyl phthalate	ND	1510	1200	80		1100	73		40-140	9		50
Dimethyl phthalate	ND	1510	1100	73		1100	73		40-140	0		50
Benzo(a)anthracene	ND	1510	1000	66		970	64		40-140	3		50
Benzo(a)pyrene	ND	1510	1100	73		1100	73		40-140	0		50
Benzo(b)fluoranthene	ND	1510	1100	73		1000	66		40-140	10		50
Benzo(k)fluoranthene	ND	1510	1000	66		1000	66		40-140	0		50
Chrysene	ND	1510	1000	66		970	64		40-140	3		50
Acenaphthylene	ND	1510	1200	80		1200	80		40-140	0		50
Anthracene	ND	1510	1000	66		990	66		40-140	1		50
Benzo(ghi)perylene	ND	1510	1000	66		1000	66		40-140	0		50
Fluorene	39J	1510	1200	80		1200	80		40-140	0		50
Phenanthrene	41J	1510	990	66		960	64		40-140	3		50
Dibenzo(a,h)anthracene	ND	1510	1000	66		980	65		40-140	2		50
Indeno(1,2,3-cd)pyrene	ND	1510	1000	66		970	64		40-140	3		50
Pyrene	ND	1510	1000	66		1000	66		35-142	0		50
Biphenyl	210J	1510	1300	86		1300	86		54-104	0		50
4-Chloroaniline	ND	1510	950	63		880	58		40-140	8		50
2-Nitroaniline	ND	1510	1200	80		1200	80		47-134	0		50
3-Nitroaniline	ND	1510	960	64		890	59		26-129	8		50
4-Nitroaniline	ND	1510	1300	86		1200	80		41-125	8		50
Dibenzofuran	ND	1510	1100	73		1100	73		40-140	0		50
2-Methylnaphthalene	10000E	1510	9700E	0	Q	9100E	0	Q	40-140	6		50

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1189861-4 WG1189861-5 QC Sample: L1851446-07 Client ID: TP-6 (9-11)												
1,2,4,5-Tetrachlorobenzene	ND	1510	1100	73		1100	73		40-117	0		50
Acetophenone	ND	1510	6800	450	Q	6400	430	Q	14-144	6		50
2,4,6-Trichlorophenol	ND	1510	1200	80		1200	80		30-130	0		50
p-Chloro-m-cresol	ND	1510	1200	80		1100	73		26-103	9		50
2-Chlorophenol	ND	1510	1000	66		1000	66		25-102	0		50
2,4-Dichlorophenol	ND	1510	1100	73		1100	73		30-130	0		50
2,4-Dimethylphenol	ND	1510	1200	80		1100	73		30-130	9		50
2-Nitrophenol	ND	1510	980	65		960	64		30-130	2		50
4-Nitrophenol	ND	1510	1400	93		1300	86		11-114	7		50
2,4-Dinitrophenol	ND	1510	300J	20		270J	18		4-130	11		50
4,6-Dinitro-o-cresol	ND	1510	680	45		620	41		10-130	9		50
Pentachlorophenol	ND	1510	970	64		1000	66		17-109	3		50
Phenol	ND	1510	950	63		950	63		26-90	0		50
2-Methylphenol	ND	1510	1000	66		1000	66		30-130.	0		50
3-Methylphenol/4-Methylphenol	ND	1510	1100	73		1000	66		30-130	10		50
2,4,5-Trichlorophenol	ND	1510	1100	73		1100	73		30-130	0		50
Carbazole	ND	1510	1000	66		1000	66		54-128	0		50
Atrazine	ND	1510	1200	80		1100	73		40-140	9		50
Benzaldehyde	ND	1510	ND	0	Q	ND	0	Q	40-140	NC		50
Caprolactam	ND	1510	1900	130		1700	110		15-130	11		50
2,3,4,6-Tetrachlorophenol	ND	1510	1100	73		1100	73		40-140	0		50

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1189861-4 WG1189861-5 QC Sample: L1851446-07
 Client ID: TP-6 (9-11)

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
2,4,6-Tribromophenol	82		79		10-136
2-Fluorobiphenyl	66		64		30-120
2-Fluorophenol	68		68		25-120
4-Terphenyl-d14	55		51		18-120
Nitrobenzene-d5	62		60		23-120
Phenol-d6	61		60		10-120

PCBS

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-01
Client ID: TP-1 (6.5-11.0)
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 10:53
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 16:55
Analyst: AWS
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/15/18 04:42
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.6	3.25	1	A
Aroclor 1221	ND		ug/kg	36.6	3.66	1	A
Aroclor 1232	ND		ug/kg	36.6	7.75	1	A
Aroclor 1242	ND		ug/kg	36.6	4.93	1	A
Aroclor 1248	ND		ug/kg	36.6	5.48	1	A
Aroclor 1254	42.9		ug/kg	36.6	4.00	1	B
Aroclor 1260	ND		ug/kg	36.6	6.76	1	A
Aroclor 1262	ND		ug/kg	36.6	4.64	1	A
Aroclor 1268	ND		ug/kg	36.6	3.79	1	A
PCBs, Total	42.9		ug/kg	36.6	3.25	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	88		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	125		30-150	B

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-02
Client ID: TP-2 (2.5-8.0)
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 11:53
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 17:08
Analyst: AWS
Percent Solids: 94%

Extraction Method: EPA 3546
Extraction Date: 12/15/18 04:42
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.2	3.04	1	A
Aroclor 1221	ND		ug/kg	34.2	3.43	1	A
Aroclor 1232	ND		ug/kg	34.2	7.26	1	A
Aroclor 1242	ND		ug/kg	34.2	4.61	1	A
Aroclor 1248	ND		ug/kg	34.2	5.14	1	A
Aroclor 1254	ND		ug/kg	34.2	3.74	1	A
Aroclor 1260	ND		ug/kg	34.2	6.33	1	A
Aroclor 1262	ND		ug/kg	34.2	4.35	1	A
Aroclor 1268	ND		ug/kg	34.2	3.55	1	A
PCBs, Total	ND		ug/kg	34.2	3.04	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	96		30-150	A
Decachlorobiphenyl	93		30-150	A
2,4,5,6-Tetrachloro-m-xylene	94		30-150	B
Decachlorobiphenyl	120		30-150	B

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-03
Client ID: BD#1
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 12:00
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 13:54
Analyst: AWS
Percent Solids: 92%

Extraction Method: EPA 3546
Extraction Date: 12/15/18 04:42
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	34.7	3.08	1	A
Aroclor 1221	ND		ug/kg	34.7	3.48	1	A
Aroclor 1232	ND		ug/kg	34.7	7.36	1	A
Aroclor 1242	ND		ug/kg	34.7	4.68	1	A
Aroclor 1248	ND		ug/kg	34.7	5.21	1	A
Aroclor 1254	ND		ug/kg	34.7	3.80	1	A
Aroclor 1260	ND		ug/kg	34.7	6.42	1	A
Aroclor 1262	ND		ug/kg	34.7	4.41	1	A
Aroclor 1268	ND		ug/kg	34.7	3.60	1	A
PCBs, Total	ND		ug/kg	34.7	3.08	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	95		30-150	A
Decachlorobiphenyl	91		30-150	A
2,4,5,6-Tetrachloro-m-xylene	97		30-150	B
Decachlorobiphenyl	116		30-150	B

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-04
Client ID: TP-3 (1-2.5)
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 13:20
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 14:07
Analyst: AWS
Percent Solids: 89%

Extraction Method: EPA 3546
Extraction Date: 12/15/18 04:42
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.2	3.30	1	A
Aroclor 1221	ND		ug/kg	37.2	3.72	1	A
Aroclor 1232	ND		ug/kg	37.2	7.88	1	A
Aroclor 1242	ND		ug/kg	37.2	5.01	1	A
Aroclor 1248	ND		ug/kg	37.2	5.58	1	A
Aroclor 1254	ND		ug/kg	37.2	4.07	1	A
Aroclor 1260	ND		ug/kg	37.2	6.87	1	A
Aroclor 1262	ND		ug/kg	37.2	4.72	1	A
Aroclor 1268	ND		ug/kg	37.2	3.85	1	A
PCBs, Total	ND		ug/kg	37.2	3.30	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	87		30-150	B

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-06
Client ID: TP-4 (7-11)
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 10:02
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 14:20
Analyst: AWS
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/15/18 04:42
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.3	3.40	1	A
Aroclor 1221	ND		ug/kg	38.3	3.84	1	A
Aroclor 1232	ND		ug/kg	38.3	8.13	1	A
Aroclor 1242	ND		ug/kg	38.3	5.17	1	A
Aroclor 1248	ND		ug/kg	38.3	5.75	1	A
Aroclor 1254	21.1	J	ug/kg	38.3	4.19	1	B
Aroclor 1260	ND		ug/kg	38.3	7.08	1	A
Aroclor 1262	ND		ug/kg	38.3	4.87	1	A
Aroclor 1268	ND		ug/kg	38.3	3.97	1	A
PCBs, Total	21.1	J	ug/kg	38.3	3.40	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	92		30-150	A
Decachlorobiphenyl	89		30-150	A
2,4,5,6-Tetrachloro-m-xylene	92		30-150	B
Decachlorobiphenyl	123		30-150	B

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-07
Client ID: TP-6 (9-11)
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 13:53
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 13:15
Analyst: HT
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/15/18 04:42
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.7	3.44	1	A
Aroclor 1221	ND		ug/kg	38.7	3.88	1	A
Aroclor 1232	ND		ug/kg	38.7	8.20	1	A
Aroclor 1242	ND		ug/kg	38.7	5.22	1	A
Aroclor 1248	ND		ug/kg	38.7	5.80	1	A
Aroclor 1254	ND		ug/kg	38.7	4.23	1	A
Aroclor 1260	ND		ug/kg	38.7	7.15	1	A
Aroclor 1262	ND		ug/kg	38.7	4.91	1	A
Aroclor 1268	ND		ug/kg	38.7	4.01	1	A
PCBs, Total	ND		ug/kg	38.7	3.44	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	94		30-150	A
Decachlorobiphenyl	80		30-150	A
2,4,5,6-Tetrachloro-m-xylene	95		30-150	B
Decachlorobiphenyl	104		30-150	B

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-08
Client ID: TP-8 (7-9.3)
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 09:05
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 14:33
Analyst: AWS
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 12/15/18 04:42
Cleanup Method: EPA 3665A
Cleanup Date: 12/15/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	38.5	3.42	1	A
Aroclor 1221	ND		ug/kg	38.5	3.86	1	A
Aroclor 1232	ND		ug/kg	38.5	8.16	1	A
Aroclor 1242	ND		ug/kg	38.5	5.19	1	A
Aroclor 1248	ND		ug/kg	38.5	5.77	1	A
Aroclor 1254	ND		ug/kg	38.5	4.21	1	A
Aroclor 1260	ND		ug/kg	38.5	7.11	1	A
Aroclor 1262	ND		ug/kg	38.5	4.89	1	A
Aroclor 1268	ND		ug/kg	38.5	3.99	1	A
PCBs, Total	ND		ug/kg	38.5	3.42	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	A
Decachlorobiphenyl	78		30-150	A
2,4,5,6-Tetrachloro-m-xylene	86		30-150	B
Decachlorobiphenyl	100		30-150	B

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A
 Analytical Date: 12/18/18 16:03
 Analyst: AWS

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 04:42
 Cleanup Method: EPA 3665A
 Cleanup Date: 12/15/18
 Cleanup Method: EPA 3660B
 Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-04,06-08 Batch: WG1189739-1						
Aroclor 1016	ND		ug/kg	31.7	2.81	A
Aroclor 1221	ND		ug/kg	31.7	3.17	A
Aroclor 1232	ND		ug/kg	31.7	6.72	A
Aroclor 1242	ND		ug/kg	31.7	4.27	A
Aroclor 1248	ND		ug/kg	31.7	4.75	A
Aroclor 1254	ND		ug/kg	31.7	3.47	A
Aroclor 1260	ND		ug/kg	31.7	5.86	A
Aroclor 1262	ND		ug/kg	31.7	4.02	A
Aroclor 1268	ND		ug/kg	31.7	3.28	A
PCBs, Total	ND		ug/kg	31.7	2.81	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	93		30-150	A
Decachlorobiphenyl	75		30-150	A
2,4,5,6-Tetrachloro-m-xylene	94		30-150	B
Decachlorobiphenyl	92		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-04,06-08 Batch: WG1189739-2 WG1189739-3									
Aroclor 1016	86		89		40-140	3		50	A
Aroclor 1260	86		86		40-140	0		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	102		99		30-150	A
Decachlorobiphenyl	85		84		30-150	A
2,4,5,6-Tetrachloro-m-xylene	99		97		30-150	B
Decachlorobiphenyl	102		101		30-150	B

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1189739-4 WG1189739-5 QC Sample: L1851446-07 Client ID: TP-6 (9-11)													
Aroclor 1016	ND	230	142	62		138	59		40-140	3		50	A
Aroclor 1260	ND	230	141	61		133	57		40-140	6		50	A

Surrogate	MS		MSD		Acceptance Criteria	Column
	% Recovery	Qualifier	% Recovery	Qualifier		
2,4,5,6-Tetrachloro-m-xylene	78		74		30-150	A
Decachlorobiphenyl	77		69		30-150	A
2,4,5,6-Tetrachloro-m-xylene	78		74		30-150	B
Decachlorobiphenyl	99		89		30-150	B

PESTICIDES

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02
 Client ID: TP-2 (2.5-8.0)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 11:53
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8081B
 Analytical Date: 12/18/18 04:55
 Analyst: KB
 Percent Solids: 94%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 12:03
 Cleanup Method: EPA 3620B
 Cleanup Date: 12/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.70	0.332	1	A
Lindane	ND		ug/kg	0.707	0.316	1	A
Alpha-BHC	ND		ug/kg	0.707	0.201	1	A
Beta-BHC	ND		ug/kg	1.70	0.644	1	A
Heptachlor	ND		ug/kg	0.849	0.380	1	A
Aldrin	ND		ug/kg	1.70	0.598	1	A
Heptachlor epoxide	ND		ug/kg	3.18	0.955	1	A
Endrin	ND		ug/kg	0.707	0.290	1	A
Endrin aldehyde	ND		ug/kg	2.12	0.743	1	A
Endrin ketone	ND		ug/kg	1.70	0.437	1	A
Dieldrin	ND		ug/kg	1.06	0.530	1	A
4,4'-DDE	ND		ug/kg	1.70	0.393	1	A
4,4'-DDD	ND		ug/kg	1.70	0.606	1	A
4,4'-DDT	ND		ug/kg	3.18	1.36	1	A
Endosulfan I	ND		ug/kg	1.70	0.401	1	A
Endosulfan II	ND		ug/kg	1.70	0.567	1	A
Endosulfan sulfate	ND		ug/kg	0.707	0.337	1	A
Methoxychlor	ND		ug/kg	3.18	0.990	1	A
Toxaphene	ND		ug/kg	31.8	8.91	1	A
cis-Chlordane	ND		ug/kg	2.12	0.591	1	A
trans-Chlordane	ND		ug/kg	2.12	0.560	1	A
Chlordane	ND		ug/kg	13.8	5.62	1	A

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02

Date Collected: 12/13/18 11:53

Client ID: TP-2 (2.5-8.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	53		30-150	B
Decachlorobiphenyl	57		30-150	B
2,4,5,6-Tetrachloro-m-xylene	112		30-150	A
Decachlorobiphenyl	96		30-150	A

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02
 Client ID: TP-2 (2.5-8.0)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 11:53
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8151A
 Analytical Date: 12/18/18 21:33
 Analyst: DGM
 Percent Solids: 94%
 Methylation Date: 12/15/18 20:28

Extraction Method: EPA 8151A
 Extraction Date: 12/15/18 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/kg	174	11.0	1	B
2,4,5-T	ND		ug/kg	174	5.40	1	B
2,4,5-TP (Silvex)	ND		ug/kg	174	4.64	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	100		30-150	A
DCAA	98		30-150	B

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-03
 Client ID: BD#1
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 12:00
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8081B
 Analytical Date: 12/18/18 04:43
 Analyst: KB
 Percent Solids: 92%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 12:03
 Cleanup Method: EPA 3620B
 Cleanup Date: 12/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.65	0.324	1	A
Lindane	ND		ug/kg	0.689	0.308	1	A
Alpha-BHC	ND		ug/kg	0.689	0.196	1	A
Beta-BHC	ND		ug/kg	1.65	0.627	1	A
Heptachlor	ND		ug/kg	0.827	0.371	1	A
Aldrin	ND		ug/kg	1.65	0.582	1	A
Heptachlor epoxide	ND		ug/kg	3.10	0.930	1	A
Endrin	ND		ug/kg	0.689	0.283	1	A
Endrin aldehyde	ND		ug/kg	2.07	0.724	1	A
Endrin ketone	ND		ug/kg	1.65	0.426	1	A
Dieldrin	ND		ug/kg	1.03	0.517	1	A
4,4'-DDE	ND		ug/kg	1.65	0.382	1	A
4,4'-DDD	ND		ug/kg	1.65	0.590	1	A
4,4'-DDT	ND		ug/kg	3.10	1.33	1	A
Endosulfan I	ND		ug/kg	1.65	0.391	1	A
Endosulfan II	ND		ug/kg	1.65	0.553	1	A
Endosulfan sulfate	ND		ug/kg	0.689	0.328	1	A
Methoxychlor	ND		ug/kg	3.10	0.965	1	A
Toxaphene	ND		ug/kg	31.0	8.68	1	A
cis-Chlordane	ND		ug/kg	2.07	0.576	1	A
trans-Chlordane	ND		ug/kg	2.07	0.546	1	A
Chlordane	ND		ug/kg	13.4	5.48	1	A

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-03

Date Collected: 12/13/18 12:00

Client ID: BD#1

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	56		30-150	B
Decachlorobiphenyl	44		30-150	B
2,4,5,6-Tetrachloro-m-xylene	144		30-150	A
Decachlorobiphenyl	109		30-150	A

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-03
Client ID: BD#1
Sample Location: BUFFALO, NY

Date Collected: 12/13/18 12:00
Date Received: 12/13/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8151A
Analytical Date: 12/18/18 21:51
Analyst: DGM
Percent Solids: 92%
Methylation Date: 12/15/18 20:28

Extraction Method: EPA 8151A
Extraction Date: 12/15/18 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/kg	176	11.1	1	B
2,4,5-T	ND		ug/kg	176	5.45	1	B
2,4,5-TP (Silvex)	ND		ug/kg	176	4.68	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	93		30-150	A
DCAA	117		30-150	B

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07
 Client ID: TP-6 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 12/13/18 13:53
 Date Received: 12/13/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8081B
 Analytical Date: 12/18/18 04:30
 Analyst: KB
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 12/15/18 12:03
 Cleanup Method: EPA 3620B
 Cleanup Date: 12/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							
Delta-BHC	ND		ug/kg	1.76	0.345	1	A
Lindane	ND		ug/kg	0.735	0.328	1	A
Alpha-BHC	ND		ug/kg	0.735	0.209	1	A
Beta-BHC	ND		ug/kg	1.76	0.669	1	A
Heptachlor	ND		ug/kg	0.882	0.395	1	A
Aldrin	ND		ug/kg	1.76	0.621	1	A
Heptachlor epoxide	ND		ug/kg	3.31	0.992	1	A
Endrin	ND		ug/kg	0.735	0.301	1	A
Endrin aldehyde	ND		ug/kg	2.20	0.772	1	A
Endrin ketone	ND		ug/kg	1.76	0.454	1	A
Dieldrin	ND		ug/kg	1.10	0.551	1	A
4,4'-DDE	ND		ug/kg	1.76	0.408	1	A
4,4'-DDD	ND		ug/kg	1.76	0.629	1	A
4,4'-DDT	ND		ug/kg	3.31	1.42	1	A
Endosulfan I	ND		ug/kg	1.76	0.417	1	A
Endosulfan II	ND		ug/kg	1.76	0.589	1	A
Endosulfan sulfate	ND		ug/kg	0.735	0.350	1	A
Methoxychlor	ND		ug/kg	3.31	1.03	1	A
Toxaphene	ND		ug/kg	33.1	9.26	1	A
cis-Chlordane	ND		ug/kg	2.20	0.614	1	A
trans-Chlordane	ND		ug/kg	2.20	0.582	1	A
Chlordane	ND		ug/kg	14.3	5.84	1	A

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07

Date Collected: 12/13/18 13:53

Client ID: TP-6 (9-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Organochlorine Pesticides by GC - Westborough Lab							

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	91		30-150	B
Decachlorobiphenyl	59		30-150	B
2,4,5,6-Tetrachloro-m-xylene	10500	Q	30-150	A
Decachlorobiphenyl	115		30-150	A

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07

Client ID: TP-6 (9-11)

Sample Location: BUFFALO, NY

Date Collected: 12/13/18 13:53

Date Received: 12/13/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8151A

Analytical Date: 12/18/18 22:10

Analyst: DGM

Percent Solids: 86%

Methylation Date: 12/15/18 20:28

Extraction Method: EPA 8151A

Extraction Date: 12/15/18 02:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column

Chlorinated Herbicides by GC - Westborough Lab

2,4-D	ND		ug/kg	190	12.0	1	B
2,4,5-T	ND		ug/kg	190	5.89	1	B
2,4,5-TP (Silvex)	ND		ug/kg	190	5.05	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DCAA	92		30-150	A
DCAA	81		30-150	B

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 12/16/18 19:09
 Analyst: SL

Extraction Method: EPA 3546
 Extraction Date: 12/14/18 14:17
 Cleanup Method: EPA 3620B
 Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 02-03,07 Batch: WG1189549-1						
Delta-BHC	ND		ug/kg	1.52	0.299	A
Lindane	ND		ug/kg	0.636	0.284	A
Alpha-BHC	ND		ug/kg	0.636	0.180	A
Beta-BHC	ND		ug/kg	1.52	0.578	A
Heptachlor	ND		ug/kg	0.763	0.342	A
Aldrin	ND		ug/kg	1.52	0.537	A
Heptachlor epoxide	ND		ug/kg	2.86	0.858	A
Endrin	ND		ug/kg	0.636	0.261	A
Endrin aldehyde	ND		ug/kg	1.91	0.668	A
Endrin ketone	ND		ug/kg	1.52	0.393	A
Dieldrin	ND		ug/kg	0.954	0.477	A
4,4'-DDE	ND		ug/kg	1.52	0.353	A
4,4'-DDD	ND		ug/kg	1.52	0.544	A
4,4'-DDT	ND		ug/kg	2.86	1.23	A
Endosulfan I	ND		ug/kg	1.52	0.360	A
Endosulfan II	ND		ug/kg	1.52	0.510	A
Endosulfan sulfate	ND		ug/kg	0.636	0.303	A
Methoxychlor	ND		ug/kg	2.86	0.890	A
Toxaphene	ND		ug/kg	28.6	8.01	A
cis-Chlordane	ND		ug/kg	1.91	0.531	A
trans-Chlordane	ND		ug/kg	1.91	0.503	A
Chlordane	ND		ug/kg	12.4	5.05	A

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8081B
 Analytical Date: 12/16/18 19:09
 Analyst: SL

Extraction Method: EPA 3546
 Extraction Date: 12/14/18 14:17
 Cleanup Method: EPA 3620B
 Cleanup Date: 12/15/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Organochlorine Pesticides by GC - Westborough Lab for sample(s): 02-03,07 Batch: WG1189549-1						

Surrogate	%Recovery	Qualifier	Acceptance	
			Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	81		30-150	B
Decachlorobiphenyl	89		30-150	B
2,4,5,6-Tetrachloro-m-xylene	72		30-150	A
Decachlorobiphenyl	91		30-150	A

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8151A
 Analytical Date: 12/18/18 11:29
 Analyst: DGM

Extraction Method: EPA 8151A
 Extraction Date: 12/15/18 02:26

Methylation Date: 12/15/18 20:28

Parameter	Result	Qualifier	Units	RL	MDL	Column
Chlorinated Herbicides by GC - Westborough Lab for sample(s): 02-03,07 Batch: WG1189732-1						
2,4-D	ND		ug/kg	163	10.3	B
2,4,5-T	ND		ug/kg	163	5.06	B
2,4,5-TP (Silvex)	ND		ug/kg	163	4.34	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DCAA	103		30-150	A
DCAA	93		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 02-03,07 Batch: WG1189549-2 WG1189549-3									
Delta-BHC	87		82		30-150	6		30	A
Lindane	87		83		30-150	5		30	A
Alpha-BHC	93		90		30-150	3		30	A
Beta-BHC	81		76		30-150	6		30	A
Heptachlor	91		87		30-150	4		30	A
Aldrin	81		77		30-150	5		30	A
Heptachlor epoxide	91		87		30-150	4		30	A
Endrin	90		88		30-150	2		30	A
Endrin aldehyde	50		46		30-150	8		30	A
Endrin ketone	74		70		30-150	6		30	A
Dieldrin	94		90		30-150	4		30	A
4,4'-DDE	75		76		30-150	1		30	A
4,4'-DDD	88		83		30-150	6		30	A
4,4'-DDT	94		91		30-150	3		30	A
Endosulfan I	80		76		30-150	5		30	A
Endosulfan II	81		77		30-150	5		30	A
Endosulfan sulfate	53		46		30-150	14		30	A
Methoxychlor	97		92		30-150	5		30	A
cis-Chlordane	67		64		30-150	5		30	A
trans-Chlordane	69		56		30-150	21		30	A

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

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

Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 02-03,07 Batch: WG1189549-2 WG1189549-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	78		76		30-150	B
Decachlorobiphenyl	87		88		30-150	B
2,4,5,6-Tetrachloro-m-xylene	67		66		30-150	A
Decachlorobiphenyl	81		90		30-150	A

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 02-03,07 Batch: WG1189732-2 WG1189732-3									
2,4-D	89		95		30-150	7		30	B
2,4,5-T	88		93		30-150	6		30	B
2,4,5-TP (Silvex)	84		79		30-150	6		30	B

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DCAA	93		101		30-150	A
DCAA	95		106		30-150	B

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 02-03,07 QC Batch ID: WG1189549-4 WG1189549-5 QC Sample: L1851446-07 Client ID: TP-6 (9-11)													
Delta-BHC	ND	36.5	30.7P	84		42.6	116		30-150	32		50	A
Lindane	ND	36.5	33.9P	93		64.6P	176	Q	30-150	62	Q	50	A
Alpha-BHC	ND	36.5	37.5P	103		51.9	141		30-150	32		50	A
Beta-BHC	ND	36.5	50.0P	137		41.4P	113		30-150	19		50	A
Heptachlor	ND	36.5	41.5P	114		51.5P	140		30-150	22		50	A
Aldrin	ND	36.5	41.2	113		43.8	119		30-150	6		50	A
Heptachlor epoxide	ND	36.5	46.5	127		59.4P	162	Q	30-150	24		50	A
Endrin	ND	36.5	40.6	111		50.8P	138		30-150	22		50	A
Endrin aldehyde	ND	36.5	20.6	56		28.4P	77		30-150	32		50	A
Endrin ketone	ND	36.5	29.2P	80		38.8P	106		30-150	28		50	A
Dieldrin	ND	36.5	43.6	119		49.3P	134		30-150	12		50	A
4,4'-DDE	ND	36.5	44.8	123		46.3	126		30-150	3		50	A
4,4'-DDD	ND	36.5	40.3	110		41.6	113		30-150	3		50	A
4,4'-DDT	ND	36.5	25.9	71		42.7P	116		30-150	49		50	A
Endosulfan I	ND	36.5	34.8	95		55.1P	150		30-150	45		50	A
Endosulfan II	ND	36.5	27.8	76		40.1	109		30-150	36		50	A
Endosulfan sulfate	ND	36.5	14.3	39		29.2	80		30-150	69	Q	50	A
Methoxychlor	ND	36.5	25.8	71		39.1P	106		30-150	41		50	A
cis-Chlordane	ND	36.5	32.0	88		36.2	99		30-150	12		50	A
trans-Chlordane	ND	36.5	31.6	87		35.3	96		30-150	11		50	A

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Organochlorine Pesticides by GC - Westborough Lab Associated sample(s): 02-03,07 QC Batch ID: WG1189549-4 WG1189549-5 QC Sample: L1851446-07
 Client ID: TP-6 (9-11)

Surrogate	MS		MSD		Acceptance Criteria	Column
	% Recovery	Qualifier	% Recovery	Qualifier		
2,4,5,6-Tetrachloro-m-xylene	70		78		30-150	B
Decachlorobiphenyl	54		55		30-150	B
2,4,5,6-Tetrachloro-m-xylene	1444	Q	8994	Q	30-150	A
Decachlorobiphenyl	96		110		30-150	A

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
Chlorinated Herbicides by GC - Westborough Lab Associated sample(s): 02-03,07 QC Batch ID: WG1189732-4 WG1189732-5 QC Sample: L1851446-07 Client ID: TP-6 (9-11)													
2,4-D	ND	192	94.7J	49		190	101		30-150	67	Q	30	B
2,4,5-T	ND	192	93.6J	49		186J	98		30-150	66	Q	30	B
2,4,5-TP (Silvex)	ND	192	85.9J	45		174J	92		30-150	68	Q	30	B

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria	Column
DCAA	44		106		30-150	A
DCAA	47		91		30-150	B

METALS

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-01

Date Collected: 12/13/18 10:53

Client ID: TP-1 (6.5-11.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

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											
Aluminum, Total	1820		mg/kg	8.47	2.29	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.23	0.322	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Arsenic, Total	0.923		mg/kg	0.847	0.176	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Barium, Total	7.80		mg/kg	0.847	0.147	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.423	0.028	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.847	0.083	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Calcium, Total	61200		mg/kg	42.3	14.8	10	12/18/18 21:17	12/19/18 20:43	EPA 3050B	1,6010D	MC
Chromium, Total	3.45		mg/kg	0.847	0.081	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Cobalt, Total	1.89		mg/kg	1.69	0.140	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Copper, Total	7.70		mg/kg	0.847	0.218	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Iron, Total	5530		mg/kg	4.23	0.765	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Lead, Total	15.0		mg/kg	4.23	0.227	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Magnesium, Total	22700		mg/kg	8.47	1.30	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Manganese, Total	203		mg/kg	0.847	0.135	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.070	0.015	1	12/18/18 06:30	12/19/18 20:38	EPA 7471B	1,7471B	EA
Nickel, Total	2.96		mg/kg	2.12	0.205	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Potassium, Total	328		mg/kg	212	12.2	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Selenium, Total	0.246	J	mg/kg	1.69	0.218	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.847	0.240	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Sodium, Total	430		mg/kg	169	2.67	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.69	0.267	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Vanadium, Total	8.41		mg/kg	0.847	0.172	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC
Zinc, Total	63.0		mg/kg	4.23	0.248	2	12/18/18 21:17	12/19/18 17:19	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-02

Date Collected: 12/13/18 11:53

Client ID: TP-2 (2.5-8.0)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 94%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	2100		mg/kg	8.09	2.18	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.05	0.308	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Arsenic, Total	1.78		mg/kg	0.809	0.168	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Barium, Total	11.4		mg/kg	0.809	0.141	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.405	0.027	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.809	0.079	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Calcium, Total	60300		mg/kg	40.5	14.2	10	12/18/18 21:17	12/19/18 20:47	EPA 3050B	1,6010D	MC
Chromium, Total	3.74		mg/kg	0.809	0.078	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Cobalt, Total	2.19		mg/kg	1.62	0.134	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Copper, Total	7.43		mg/kg	0.809	0.209	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Iron, Total	6540		mg/kg	4.05	0.731	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Lead, Total	29.6		mg/kg	4.05	0.217	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Magnesium, Total	21900		mg/kg	8.09	1.25	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Manganese, Total	210		mg/kg	0.809	0.129	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.068	0.014	1	12/18/18 06:30	12/19/18 20:40	EPA 7471B	1,7471B	EA
Nickel, Total	3.65		mg/kg	2.02	0.196	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Potassium, Total	331		mg/kg	202	11.6	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Selenium, Total	0.291	J	mg/kg	1.62	0.209	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.809	0.229	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Sodium, Total	177		mg/kg	162	2.55	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.62	0.255	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Vanadium, Total	8.73		mg/kg	0.809	0.164	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC
Zinc, Total	58.3		mg/kg	4.05	0.237	2	12/18/18 21:17	12/19/18 17:23	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-03

Date Collected: 12/13/18 12:00

Client ID: BD#1

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

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											
Aluminum, Total	1830		mg/kg	8.12	2.19	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.06	0.308	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Arsenic, Total	1.74		mg/kg	0.812	0.169	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Barium, Total	10.3		mg/kg	0.812	0.141	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.406	0.027	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.812	0.080	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Calcium, Total	30900		mg/kg	40.6	14.2	10	12/18/18 21:17	12/19/18 22:12	EPA 3050B	1,6010D	MC
Chromium, Total	3.42		mg/kg	0.812	0.078	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Cobalt, Total	2.09		mg/kg	1.62	0.135	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Copper, Total	6.64		mg/kg	0.812	0.209	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Iron, Total	5900		mg/kg	4.06	0.733	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Lead, Total	47.0		mg/kg	4.06	0.218	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Magnesium, Total	22300		mg/kg	8.12	1.25	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Manganese, Total	214		mg/kg	0.812	0.129	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.069	0.015	1	12/18/18 06:30	12/19/18 20:42	EPA 7471B	1,7471B	EA
Nickel, Total	3.20		mg/kg	2.03	0.196	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Potassium, Total	289		mg/kg	203	11.7	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Selenium, Total	0.260	J	mg/kg	1.62	0.209	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.812	0.230	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Sodium, Total	167		mg/kg	162	2.56	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.62	0.256	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Vanadium, Total	8.14		mg/kg	0.812	0.165	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC
Zinc, Total	57.1		mg/kg	4.06	0.238	2	12/18/18 21:17	12/19/18 17:27	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-04

Date Collected: 12/13/18 13:20

Client ID: TP-3 (1-2.5)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	3460		mg/kg	8.48	2.29	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Antimony, Total	0.475	J	mg/kg	4.24	0.322	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Arsenic, Total	2.46		mg/kg	0.848	0.176	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Barium, Total	26.8		mg/kg	0.848	0.148	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Beryllium, Total	0.085	J	mg/kg	0.424	0.028	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.848	0.083	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Calcium, Total	28100		mg/kg	42.4	14.8	10	12/18/18 21:17	12/19/18 22:16	EPA 3050B	1,6010D	MC
Chromium, Total	6.08		mg/kg	0.848	0.081	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Cobalt, Total	3.13		mg/kg	1.70	0.141	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Copper, Total	13.1		mg/kg	0.848	0.219	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Iron, Total	8510		mg/kg	4.24	0.766	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Lead, Total	358		mg/kg	4.24	0.227	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Magnesium, Total	19500		mg/kg	8.48	1.30	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Manganese, Total	276		mg/kg	0.848	0.135	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.071	0.015	1	12/18/18 06:30	12/19/18 20:44	EPA 7471B	1,7471B	EA
Nickel, Total	6.16		mg/kg	2.12	0.205	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Potassium, Total	516		mg/kg	212	12.2	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Selenium, Total	0.543	J	mg/kg	1.70	0.219	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.848	0.240	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Sodium, Total	500		mg/kg	170	2.67	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.70	0.267	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Vanadium, Total	12.6		mg/kg	0.848	0.172	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC
Zinc, Total	78.5		mg/kg	4.24	0.248	2	12/18/18 21:17	12/19/18 17:32	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-06

Date Collected: 12/13/18 10:02

Client ID: TP-4 (7-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

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											
Aluminum, Total	1900		mg/kg	8.78	2.37	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.39	0.334	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Arsenic, Total	0.940		mg/kg	0.878	0.183	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Barium, Total	8.17		mg/kg	0.878	0.153	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.439	0.029	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.878	0.086	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Calcium, Total	60300		mg/kg	43.9	15.4	10	12/18/18 21:17	12/19/18 22:20	EPA 3050B	1,6010D	MC
Chromium, Total	3.31		mg/kg	0.878	0.084	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Cobalt, Total	2.28		mg/kg	1.76	0.146	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Copper, Total	6.96		mg/kg	0.878	0.226	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Iron, Total	5670		mg/kg	4.39	0.793	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Lead, Total	16.9		mg/kg	4.39	0.235	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Magnesium, Total	23600		mg/kg	8.78	1.35	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Manganese, Total	200		mg/kg	0.878	0.140	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.074	0.016	1	12/18/18 06:30	12/19/18 20:45	EPA 7471B	1,7471B	EA
Nickel, Total	3.05		mg/kg	2.20	0.212	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Potassium, Total	352		mg/kg	220	12.6	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Selenium, Total	0.272	J	mg/kg	1.76	0.226	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.878	0.248	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Sodium, Total	497		mg/kg	176	2.77	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.76	0.277	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Vanadium, Total	7.46		mg/kg	0.878	0.178	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC
Zinc, Total	54.6		mg/kg	4.39	0.257	2	12/18/18 21:17	12/19/18 17:36	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-07

Date Collected: 12/13/18 13:53

Client ID: TP-6 (9-11)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

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											
Aluminum, Total	1920		mg/kg	8.88	2.40	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.44	0.337	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Arsenic, Total	0.950		mg/kg	0.888	0.185	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Barium, Total	11.1		mg/kg	0.888	0.154	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.444	0.029	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.888	0.087	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Calcium, Total	58700		mg/kg	44.4	15.5	10	12/18/18 21:17	12/19/18 20:27	EPA 3050B	1,6010D	MC
Chromium, Total	3.61		mg/kg	0.888	0.085	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Cobalt, Total	2.01		mg/kg	1.78	0.147	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Copper, Total	7.28		mg/kg	0.888	0.229	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Iron, Total	6140		mg/kg	4.44	0.802	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Lead, Total	12.3		mg/kg	4.44	0.238	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Magnesium, Total	22800		mg/kg	8.88	1.37	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Manganese, Total	222		mg/kg	0.888	0.141	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.073	0.015	1	12/18/18 06:30	12/19/18 20:25	EPA 7471B	1,7471B	EA
Nickel, Total	3.17		mg/kg	2.22	0.215	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Potassium, Total	317		mg/kg	222	12.8	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Selenium, Total	0.240	J	mg/kg	1.78	0.229	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.888	0.251	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Sodium, Total	506		mg/kg	178	2.80	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.78	0.280	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Vanadium, Total	8.43		mg/kg	0.888	0.180	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC
Zinc, Total	62.1		mg/kg	4.44	0.260	2	12/18/18 21:17	12/19/18 16:27	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851446-08

Date Collected: 12/13/18 09:05

Client ID: TP-8 (7-9.3)

Date Received: 12/13/18

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	2240		mg/kg	9.45	2.55	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Antimony, Total	ND		mg/kg	4.72	0.359	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Arsenic, Total	1.04		mg/kg	0.945	0.196	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Barium, Total	13.9		mg/kg	0.945	0.164	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.472	0.031	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.945	0.093	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Calcium, Total	61900		mg/kg	47.2	16.5	10	12/18/18 21:17	12/19/18 22:24	EPA 3050B	1,6010D	MC
Chromium, Total	3.82		mg/kg	0.945	0.091	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Cobalt, Total	2.21		mg/kg	1.89	0.157	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Copper, Total	7.66		mg/kg	0.945	0.244	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Iron, Total	6210		mg/kg	4.72	0.853	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Lead, Total	23.3		mg/kg	4.72	0.253	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Magnesium, Total	21700		mg/kg	9.45	1.46	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Manganese, Total	228		mg/kg	0.945	0.150	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Mercury, Total	ND		mg/kg	0.074	0.016	1	12/18/18 06:30	12/19/18 20:47	EPA 7471B	1,7471B	EA
Nickel, Total	4.03		mg/kg	2.36	0.229	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Potassium, Total	323		mg/kg	236	13.6	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Selenium, Total	0.425	J	mg/kg	1.89	0.244	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Silver, Total	ND		mg/kg	0.945	0.267	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Sodium, Total	318		mg/kg	189	2.98	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Thallium, Total	ND		mg/kg	1.89	0.298	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Vanadium, Total	8.76		mg/kg	0.945	0.192	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC
Zinc, Total	77.2		mg/kg	4.72	0.277	2	12/18/18 21:17	12/19/18 17:40	EPA 3050B	1,6010D	MC



Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-04,06-08 Batch: WG1190451-1										
Mercury, Total	ND		mg/kg	0.083	0.018	1	12/18/18 06:30	12/19/18 20:21	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): 01-04,06-08 Batch: WG1190824-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Antimony, Total	ND		mg/kg	2.00	0.152	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Arsenic, Total	ND		mg/kg	0.400	0.083	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Barium, Total	ND		mg/kg	0.400	0.070	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Beryllium, Total	ND		mg/kg	0.200	0.013	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Calcium, Total	ND		mg/kg	4.00	1.40	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Chromium, Total	ND		mg/kg	0.400	0.038	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Cobalt, Total	ND		mg/kg	0.800	0.066	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Copper, Total	ND		mg/kg	0.400	0.103	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Iron, Total	ND		mg/kg	2.00	0.361	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Lead, Total	ND		mg/kg	2.00	0.107	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Magnesium, Total	ND		mg/kg	4.00	0.616	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Manganese, Total	ND		mg/kg	0.400	0.064	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Nickel, Total	ND		mg/kg	1.00	0.097	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Potassium, Total	ND		mg/kg	100	5.76	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Selenium, Total	ND		mg/kg	0.800	0.103	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Silver, Total	ND		mg/kg	0.400	0.113	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Sodium, Total	1.35	J	mg/kg	80.0	1.26	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Thallium, Total	ND		mg/kg	0.800	0.126	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Vanadium, Total	ND		mg/kg	0.400	0.081	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC
Zinc, Total	ND		mg/kg	2.00	0.117	1	12/18/18 21:17	12/19/18 17:06	1,6010D	MC

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,06-08 Batch: WG1190451-2 SRM Lot Number: D102-540								
Mercury, Total	127		-		65-134	-		

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,06-08 Batch: WG1190824-2 SRM Lot Number: D102-540					
Aluminum, Total	82	-	49-150	-	
Antimony, Total	174	-	1-199	-	
Arsenic, Total	109	-	83-117	-	
Barium, Total	101	-	83-118	-	
Beryllium, Total	104	-	83-116	-	
Cadmium, Total	100	-	83-118	-	
Calcium, Total	106	-	82-118	-	
Chromium, Total	102	-	83-117	-	
Cobalt, Total	102	-	84-116	-	
Copper, Total	102	-	84-116	-	
Iron, Total	114	-	61-139	-	
Lead, Total	103	-	82-118	-	
Magnesium, Total	97	-	76-124	-	
Manganese, Total	101	-	82-118	-	
Nickel, Total	102	-	83-117	-	
Potassium, Total	93	-	70-130	-	
Selenium, Total	109	-	79-121	-	
Silver, Total	106	-	80-120	-	
Sodium, Total	108	-	74-126	-	
Thallium, Total	102	-	81-119	-	
Vanadium, Total	101	-	80-120	-	

Lab Control Sample Analysis
Batch Quality Control**Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,06-08 Batch: WG1190824-2 SRM Lot Number: D102-540					
Zinc, Total	103	-	81-118	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1190451-3 WG1190451-4 QC Sample: L1851446-07 Client ID: TP-6 (9-11)												
Mercury, Total	ND	0.147	0.180	123	Q	0.194	132	Q	80-120	7		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery		Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1190824-3 WG1190824-4 QC Sample: L1851446-07 Client ID: TP-6 (9-11)											
Aluminum, Total	1920	184	2670	406	Q	2740	466	Q	75-125	3	20
Antimony, Total	ND	46.1	46.3	100		44.4	101		75-125	4	20
Arsenic, Total	0.950	11.1	12.9	108		12.5	109		75-125	3	20
Barium, Total	11.1	184	202	103		195	104		75-125	4	20
Beryllium, Total	ND	4.61	4.35	94		4.25	97		75-125	2	20
Cadmium, Total	ND	4.71	4.52	96		4.33	96		75-125	4	20
Calcium, Total	58700	923	64400	618	Q	68800	1150	Q	75-125	7	20
Chromium, Total	3.61	18.4	22.0	100		21.6	102		75-125	2	20
Cobalt, Total	2.01	46.1	45.4	94		43.9	95		75-125	3	20
Copper, Total	7.28	23.1	31.3	104		30.4	105		75-125	3	20
Iron, Total	6140	92.3	6860	780	Q	7180	1180	Q	75-125	5	20
Lead, Total	12.3	47.1	57.7	96		55.3	96		75-125	4	20
Magnesium, Total	22800	923	23700	98		23500	80		75-125	1	20
Manganese, Total	222	46.1	275	115		270	109		75-125	2	20
Nickel, Total	3.17	46.1	46.0	93		44.5	94		75-125	3	20
Potassium, Total	317	923	1450	123		1430	126	Q	75-125	1	20
Selenium, Total	0.240J	11.1	12.1	109		11.0	104		75-125	10	20
Silver, Total	ND	27.7	30.2	109		29.2	111		75-125	3	20
Sodium, Total	506	923	1570	115		1550	119		75-125	1	20
Thallium, Total	ND	11.1	9.04	82		8.79	83		75-125	3	20
Vanadium, Total	8.43	46.1	57.0	105		55.7	107		75-125	2	20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1851446

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-04,06-08 QC Batch ID: WG1190824-3 WG1190824-4 QC Sample: L1851446-07 Client ID: TP-6 (9-11)									
Zinc, Total	62.1	46.1	112	108	113	116	75-125	1	20

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-01**Client ID:** TP-1 (6.5-11.0)**Sample Location:** BUFFALO, NY**Date Collected:** 12/13/18 10:53**Date Received:** 12/13/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.8		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-02**Client ID:** TP-2 (2.5-8.0)**Sample Location:** BUFFALO, NY**Date Collected:** 12/13/18 11:53**Date Received:** 12/13/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.8		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Project Name: 441 ELMWOOD AVE.

Project Number: 0136-018-001

Lab Number: L1851446

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851446-03

Client ID: BD#1

Sample Location: BUFFALO, NY

Date Collected: 12/13/18 12:00

Date Received: 12/13/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.4		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-04**Client ID:** TP-3 (1-2.5)**Sample Location:** BUFFALO, NY**Date Collected:** 12/13/18 13:20**Date Received:** 12/13/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-05**Client ID:** TP-3 (6-12.5)**Sample Location:** BUFFALO, NY**Date Collected:** 12/13/18 13:13**Date Received:** 12/13/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.3		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-06**Client ID:** TP-4 (7-11)**Sample Location:** BUFFALO, NY**Date Collected:** 12/13/18 10:02**Date Received:** 12/13/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.2		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-07**Client ID:** TP-6 (9-11)**Sample Location:** BUFFALO, NY**Date Collected:** 12/13/18 13:53**Date Received:** 12/13/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Project Name: 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851446-08**Client ID:** TP-8 (7-9.3)**Sample Location:** BUFFALO, NY**Date Collected:** 12/13/18 09:05**Date Received:** 12/13/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	12/16/18 22:06	121,2540G	CG



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE.**Project Number:** 0136-018-001**Lab Number:** L1851446**Report Date:** 12/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1190029-1 QC Sample: L1851446-07 Client ID: TP-6 (9-11)						
Solids, Total	85.8	85.8	%	0		20

Project Name: 441 ELMWOOD AVE.
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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(*)
L1851446-01A	5 gram Encore Sampler	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-01B	5 gram Encore Sampler	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-01C	5 gram Encore Sampler	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-01D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851446-01E	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),TS(7)
L1851446-01X	Vial MeOH preserved split	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-01Y	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	HOLD-8260(14)
L1851446-01Z	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	HOLD-8260(14)
L1851446-02A	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-02B	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-02C	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-02D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851446-02E	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-02F	Glass 250ml/8oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-02X	Vial MeOH preserved split	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-02Y	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	NYTCL-8260HLW(14)
L1851446-02Z	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	NYTCL-8260HLW(14)

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Serial_No:12211817:02
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1851446-03A	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-03B	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-03C	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-03D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1851446-03E	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-03F	Glass 250ml/8oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-03X	Vial MeOH preserved split	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-03Y	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	NYTCL-8260HLW(14)
L1851446-03Z	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	NYTCL-8260HLW(14)
L1851446-04A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1851446-04B	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),TS(7),NYTCL-8082(14)
L1851446-04D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		-
L1851446-04E	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		-
L1851446-05A	5 gram Encore Sampler	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-05B	5 gram Encore Sampler	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-05C	5 gram Encore Sampler	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-05D	Plastic 2oz unpreserved for TS	A	NA		5.1	Y	Absent		TS(7)
L1851446-05X	Vial MeOH preserved split	A	NA		5.1	Y	Absent		HOLD-8260(14)
L1851446-05Y	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	HOLD-8260(14)
L1851446-05Z	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	HOLD-8260(14)
L1851446-06A	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-06B	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-06C	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)

Project Name: 441 ELMWOOD AVE.
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Lab Number: L1851446
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Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1851446-06D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851446-06E	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),TS(7)
L1851446-06X	Vial MeOH preserved split	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-06Y	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	NYTCL-8260HLW(14)
L1851446-06Z	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 09:02	NYTCL-8260HLW(14)
L1851446-07A	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07A1	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07A2	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07B	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07B1	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07B2	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07C	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07C1	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07C2	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851446-07D1	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851446-07D2	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851446-07E	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)

Project Name: 441 ELMWOOD AVE.
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Serial_No:12211817:02
Lab Number: L1851446
Report Date: 12/21/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1851446-07E1	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-07E2	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-07F	Glass 250ml/8oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-07F1	Glass 250ml/8oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-07F2	Glass 250ml/8oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),HERB-APA(14),TS(7),NYTCL-8081(14),NYTCL-8082(14)
L1851446-07X	Vial MeOH preserved split	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07X1	Vial MeOH preserved split	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07X2	Vial MeOH preserved split	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-07Y	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)
L1851446-07Y1	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)
L1851446-07Y2	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)
L1851446-07Z	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)
L1851446-07Z1	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)
L1851446-07Z2	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)
L1851446-08A	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-08B	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-08C	5 gram Encore Sampler	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-08D	Metals Only-Glass 60mL/2oz unpreserved	A	NA		5.1	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851446-08E	Glass 120ml/4oz unpreserved	A	NA		5.1	Y	Absent		NYTCL-8270(14),TS(7)
L1851446-08X	Vial MeOH preserved split	A	NA		5.1	Y	Absent		NYTCL-8260HLW(14)
L1851446-08Y	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)
L1851446-08Z	Vial Water preserved split	A	NA		5.1	Y	Absent	15-DEC-18 08:40	NYTCL-8260HLW(14)

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE.**Lab Number:** L1851446**Project Number:** 0136-018-001**Report Date:** 12/21/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Project Name: 441 ELMWOOD AVE.
Project Number: 0136-018-001

Lab Number: L1851446
Report Date: 12/21/18

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.

ID No.:17873

Facility: **Company-wide**

Revision 12

Department: **Quality Assurance**

Published Date: 10/9/2018 4:58:19 PM

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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

 NEW YORK CHAIN OF CUSTODY		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 2		Date Rec'd in Lab 12/14/18		ALPHA Job # L1851446	
Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Project Information Project Name: 441 Ely Road Ave Project Location: Bulkley NY Project # 0136-018-001 (Use Project name as Project #) ☒		Deliverables ☐ ASP-A ☐ ASP-B ☐ EQUIS (1 File) ☐ EQUIS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #	
Client Information Client: ~~Berkshire Co.~~ Address: 2558 Housley Turnpike Bulkley NY 14218 Phone: (416) 818-8358 Fax: (716) 576-0583 Email: T.Berkley@CTeknyllc.com		Project Manager: Nate Munley ALPHAQuote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days:		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:			
These samples have been previously analyzed by Alpha ☐				ANALYSIS				Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)	
Other project specific requirements/comments: CAT B				Please specify Metals or TAL.				Total Bottles	
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection Date Time		Sample Matrix		Sampler's Initials	
51446 -01		TP-1 (6.5-11.0)		12/13/18 10:53		Soil		TAB	
-02		TP-2 (2.5-8.0)		11:53					
-03		~~TP-3~~ BDI#1		12:00					
-04		TP-3 (1-2.5)		13:20					
-05		TP-3 (6-12.5)		13:13					
-06		TP-4 (7-11)		10:02					
-07		TP-6 (9-11) (msl/msp)		13:53					
-08		TP-8 (7-9.3)		9:05					
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type E A A A A		Preservative A A A A A	
Relinquished By:		Date/Time		Received By:		Date/Time		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.)	
[Signature]		12/13/18 15:41		[Signature]		12/14/18 12:15			
[Signature]		12/14/18 16:20							



ANALYTICAL REPORT

Lab Number:	L1851758
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD
Project Number:	0136-018-001
Report Date:	12/21/18

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1851758-01	TP-1 (2.5-6.5)	SOIL	BUFFALO	12/14/18 14:45	12/14/18
L1851758-02	TP-3 (2.5-5.5)	SOIL	BUFFALO	12/14/18 14:43	12/14/18
L1851758-03	TP-9 (1-8)	SOIL	BUFFALO	12/14/18 14:37	12/14/18
L1851758-04	TP-10 (6-10.5)	SOIL	BUFFALO	12/14/18 14:21	12/14/18
L1851758-05	TP-12 (5.5-8.0)	SOIL	BUFFALO	12/14/18 14:51	12/14/18
L1851758-06	TP-11 (10-11)	SOIL	BUFFALO	12/14/18 14:26	12/14/18

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

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: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

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 analyses performed were specified by the client.

The collection dates were specified by the client.

Volatile Organics

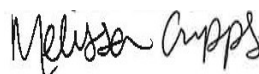
L1851758-04: The analysis of Volatile Organics by EPA Method 5035/8260 Low Level could not be performed due to the elevated concentrations of non-target compounds in the sample.

Total Metals

L1851758-01 and -02: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

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: 12/21/18

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD**Lab Number:** L1851758**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851758-01

Date Collected: 12/14/18 14:45

Client ID: TP-1 (2.5-6.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/20/18 11:04

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	9.7	4.4	1
1,1-Dichloroethane	ND		ug/kg	1.9	0.28	1
Chloroform	ND		ug/kg	2.9	0.27	1
Carbon tetrachloride	ND		ug/kg	1.9	0.45	1
1,2-Dichloropropane	ND		ug/kg	1.9	0.24	1
Dibromochloromethane	ND		ug/kg	1.9	0.27	1
1,1,2-Trichloroethane	ND		ug/kg	1.9	0.52	1
Tetrachloroethene	ND		ug/kg	0.97	0.38	1
Chlorobenzene	ND		ug/kg	0.97	0.25	1
Trichlorofluoromethane	ND		ug/kg	7.8	1.4	1
1,2-Dichloroethane	ND		ug/kg	1.9	0.50	1
1,1,1-Trichloroethane	ND		ug/kg	0.97	0.32	1
Bromodichloromethane	ND		ug/kg	0.97	0.21	1
trans-1,3-Dichloropropene	ND		ug/kg	1.9	0.53	1
cis-1,3-Dichloropropene	ND		ug/kg	0.97	0.31	1
Bromoform	ND		ug/kg	7.8	0.48	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.97	0.32	1
Benzene	ND		ug/kg	0.97	0.32	1
Toluene	ND		ug/kg	1.9	1.0	1
Ethylbenzene	ND		ug/kg	1.9	0.27	1
Chloromethane	ND		ug/kg	7.8	1.8	1
Bromomethane	ND		ug/kg	3.9	1.1	1
Vinyl chloride	ND		ug/kg	1.9	0.65	1
Chloroethane	ND		ug/kg	3.9	0.88	1
1,1-Dichloroethene	ND		ug/kg	1.9	0.46	1
trans-1,2-Dichloroethene	ND		ug/kg	2.9	0.27	1
Trichloroethene	ND		ug/kg	0.97	0.27	1
1,2-Dichlorobenzene	ND		ug/kg	3.9	0.28	1

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-01

Date Collected: 12/14/18 14:45

Client ID: TP-1 (2.5-6.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	3.9	0.29	1
1,4-Dichlorobenzene	ND		ug/kg	3.9	0.33	1
Methyl tert butyl ether	ND		ug/kg	3.9	0.39	1
p/m-Xylene	ND		ug/kg	3.9	1.1	1
o-Xylene	ND		ug/kg	1.9	0.56	1
cis-1,2-Dichloroethene	ND		ug/kg	1.9	0.34	1
Styrene	ND		ug/kg	1.9	0.38	1
Dichlorodifluoromethane	ND		ug/kg	19	1.8	1
Acetone	21		ug/kg	19	9.4	1
Carbon disulfide	ND		ug/kg	19	8.8	1
2-Butanone	ND		ug/kg	19	4.3	1
4-Methyl-2-pentanone	ND		ug/kg	19	2.5	1
2-Hexanone	ND		ug/kg	19	2.3	1
Bromochloromethane	ND		ug/kg	3.9	0.40	1
1,2-Dibromoethane	ND		ug/kg	1.9	0.54	1
n-Butylbenzene	ND		ug/kg	1.9	0.32	1
sec-Butylbenzene	ND		ug/kg	1.9	0.28	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	5.8	1.9	1
Isopropylbenzene	ND		ug/kg	1.9	0.21	1
p-Isopropyltoluene	ND		ug/kg	1.9	0.21	1
n-Propylbenzene	ND		ug/kg	1.9	0.33	1
1,2,3-Trichlorobenzene	ND		ug/kg	3.9	0.63	1
1,2,4-Trichlorobenzene	ND		ug/kg	3.9	0.53	1
1,3,5-Trimethylbenzene	0.64	J	ug/kg	3.9	0.38	1
1,2,4-Trimethylbenzene	1.7	J	ug/kg	3.9	0.65	1
Methyl Acetate	ND		ug/kg	7.8	1.8	1
Cyclohexane	ND		ug/kg	19	1.0	1
1,4-Dioxane	ND		ug/kg	190	68.	1
Freon-113	ND		ug/kg	7.8	1.3	1
Methyl cyclohexane	ND		ug/kg	7.8	1.2	1

Tentatively Identified Compounds

Total TIC Compounds	4.88	J	ug/kg	1
Unknown	4.88	J	ug/kg	1

Project Name: 441 ELMWOOD**Lab Number:** L1851758**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851758-01

Date Collected: 12/14/18 14:45

Client ID: TP-1 (2.5-6.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-04

Date Collected: 12/14/18 14:21

Client ID: TP-10 (6-10.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/19/18 13:07

Analyst: MV

Percent Solids: 85%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	340	160	1
1,1-Dichloroethane	ND		ug/kg	69	10.	1
Chloroform	ND		ug/kg	100	9.6	1
Carbon tetrachloride	ND		ug/kg	69	16.	1
1,2-Dichloropropane	ND		ug/kg	69	8.6	1
Dibromochloromethane	ND		ug/kg	69	9.6	1
1,1,2-Trichloroethane	ND		ug/kg	69	18.	1
Tetrachloroethene	ND		ug/kg	34	14.	1
Chlorobenzene	ND		ug/kg	34	8.8	1
Trichlorofluoromethane	ND		ug/kg	280	48.	1
1,2-Dichloroethane	ND		ug/kg	69	18.	1
1,1,1-Trichloroethane	ND		ug/kg	34	12.	1
Bromodichloromethane	ND		ug/kg	34	7.5	1
trans-1,3-Dichloropropene	ND		ug/kg	69	19.	1
cis-1,3-Dichloropropene	ND		ug/kg	34	11.	1
Bromoform	ND		ug/kg	280	17.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	34	11.	1
Benzene	ND		ug/kg	34	11.	1
Toluene	ND		ug/kg	69	37.	1
Ethylbenzene	ND		ug/kg	69	9.7	1
Chloromethane	ND		ug/kg	280	64.	1
Bromomethane	ND		ug/kg	140	40.	1
Vinyl chloride	ND		ug/kg	69	23.	1
Chloroethane	ND		ug/kg	140	31.	1
1,1-Dichloroethene	ND		ug/kg	69	16.	1
trans-1,2-Dichloroethene	ND		ug/kg	100	9.4	1
Trichloroethene	ND		ug/kg	34	9.4	1
1,2-Dichlorobenzene	ND		ug/kg	140	9.9	1

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-04

Date Collected: 12/14/18 14:21

Client ID: TP-10 (6-10.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	140	10.	1
1,4-Dichlorobenzene	ND		ug/kg	140	12.	1
Methyl tert butyl ether	ND		ug/kg	140	14.	1
p/m-Xylene	ND		ug/kg	140	39.	1
o-Xylene	ND		ug/kg	69	20.	1
cis-1,2-Dichloroethene	ND		ug/kg	69	12.	1
Styrene	ND		ug/kg	69	14.	1
Dichlorodifluoromethane	ND		ug/kg	690	63.	1
Acetone	ND		ug/kg	690	330	1
Carbon disulfide	ND		ug/kg	690	310	1
2-Butanone	ND		ug/kg	690	150	1
4-Methyl-2-pentanone	ND		ug/kg	690	88.	1
2-Hexanone	ND		ug/kg	690	81.	1
Bromochloromethane	ND		ug/kg	140	14.	1
1,2-Dibromoethane	ND		ug/kg	69	19.	1
n-Butylbenzene	21	J	ug/kg	69	12.	1
sec-Butylbenzene	16	J	ug/kg	69	10.	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	210	69.	1
Isopropylbenzene	ND		ug/kg	69	7.5	1
p-Isopropyltoluene	13	J	ug/kg	69	7.5	1
n-Propylbenzene	ND		ug/kg	69	12.	1
1,2,3-Trichlorobenzene	ND		ug/kg	140	22.	1
1,2,4-Trichlorobenzene	ND		ug/kg	140	19.	1
1,3,5-Trimethylbenzene	34	J	ug/kg	140	13.	1
1,2,4-Trimethylbenzene	120	J	ug/kg	140	23.	1
Methyl Acetate	ND		ug/kg	280	65.	1
Cyclohexane	ND		ug/kg	690	38.	1
1,4-Dioxane	ND		ug/kg	6900	2400	1
Freon-113	ND		ug/kg	280	48.	1
Methyl cyclohexane	ND		ug/kg	280	42.	1

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-04

Date Collected: 12/14/18 14:21

Client ID: TP-10 (6-10.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	6760	J	ug/kg	1
Unknown Aromatic	605	J	ug/kg	1
Benzene, (1-methyl-1-butenyl)-	576	NJ	ug/kg	1
Unknown Alkane	774	J	ug/kg	1
Unknown	628	J	ug/kg	1
Unknown Benzene	864	J	ug/kg	1
Unknown Benzene	614	J	ug/kg	1
Unknown Aromatic	671	J	ug/kg	1
Unknown	546	J	ug/kg	1
Unknown	777	J	ug/kg	1
Unknown Aromatic	707	J	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	106		70-130

Project Name: 441 ELMWOOD**Lab Number:** L1851758**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851758-05 D

Date Collected: 12/14/18 14:51

Client ID: TP-12 (5.5-8.0)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/20/18 11:30

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	660	300	2
1,1-Dichloroethane	ND		ug/kg	130	19.	2
Chloroform	ND		ug/kg	200	18.	2
Carbon tetrachloride	ND		ug/kg	130	30.	2
1,2-Dichloropropane	ND		ug/kg	130	16.	2
Dibromochloromethane	ND		ug/kg	130	18.	2
1,1,2-Trichloroethane	ND		ug/kg	130	35.	2
Tetrachloroethene	ND		ug/kg	66	26.	2
Chlorobenzene	ND		ug/kg	66	17.	2
Trichlorofluoromethane	ND		ug/kg	530	92.	2
1,2-Dichloroethane	ND		ug/kg	130	34.	2
1,1,1-Trichloroethane	ND		ug/kg	66	22.	2
Bromodichloromethane	ND		ug/kg	66	14.	2
trans-1,3-Dichloropropene	ND		ug/kg	130	36.	2
cis-1,3-Dichloropropene	ND		ug/kg	66	21.	2
Bromoform	ND		ug/kg	530	33.	2
1,1,2,2-Tetrachloroethane	ND		ug/kg	66	22.	2
Benzene	34	J	ug/kg	66	22.	2
Toluene	80	J	ug/kg	130	72.	2
Ethylbenzene	1100		ug/kg	130	19.	2
Chloromethane	ND		ug/kg	530	120	2
Bromomethane	ND		ug/kg	260	77.	2
Vinyl chloride	ND		ug/kg	130	44.	2
Chloroethane	ND		ug/kg	260	60.	2
1,1-Dichloroethene	ND		ug/kg	130	32.	2
trans-1,2-Dichloroethene	ND		ug/kg	200	18.	2
Trichloroethene	ND		ug/kg	66	18.	2
1,2-Dichlorobenzene	ND		ug/kg	260	19.	2

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-05 D

Date Collected: 12/14/18 14:51

Client ID: TP-12 (5.5-8.0)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	260	20.	2
1,4-Dichlorobenzene	ND		ug/kg	260	23.	2
Methyl tert butyl ether	ND		ug/kg	260	27.	2
p/m-Xylene	8900		ug/kg	260	74.	2
o-Xylene	1100		ug/kg	130	39.	2
cis-1,2-Dichloroethene	ND		ug/kg	130	23.	2
Styrene	ND		ug/kg	130	26.	2
Dichlorodifluoromethane	ND		ug/kg	1300	120	2
Acetone	ND		ug/kg	1300	640	2
Carbon disulfide	ND		ug/kg	1300	600	2
2-Butanone	ND		ug/kg	1300	290	2
4-Methyl-2-pentanone	ND		ug/kg	1300	170	2
2-Hexanone	ND		ug/kg	1300	160	2
Bromochloromethane	ND		ug/kg	260	27.	2
1,2-Dibromoethane	ND		ug/kg	130	37.	2
n-Butylbenzene	530		ug/kg	130	22.	2
sec-Butylbenzene	200		ug/kg	130	19.	2
1,2-Dibromo-3-chloropropane	ND		ug/kg	400	130	2
Isopropylbenzene	180		ug/kg	130	14.	2
p-Isopropyltoluene	130		ug/kg	130	14.	2
n-Propylbenzene	800		ug/kg	130	23.	2
1,2,3-Trichlorobenzene	ND		ug/kg	260	43.	2
1,2,4-Trichlorobenzene	ND		ug/kg	260	36.	2
1,3,5-Trimethylbenzene	5200		ug/kg	260	26.	2
1,2,4-Trimethylbenzene	16000		ug/kg	260	44.	2
Methyl Acetate	ND		ug/kg	530	130	2
Cyclohexane	870	J	ug/kg	1300	72.	2
1,4-Dioxane	ND		ug/kg	13000	4700	2
Freon-113	ND		ug/kg	530	92.	2
Methyl cyclohexane	2500		ug/kg	530	80.	2

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-05 D

Date Collected: 12/14/18 14:51

Client ID: TP-12 (5.5-8.0)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	54900	J	ug/kg	2
Unknown Aromatic	2300	J	ug/kg	2
Unknown Benzene	5220	J	ug/kg	2
Unknown Aromatic	3770	J	ug/kg	2
Unknown Aromatic	6710	J	ug/kg	2
Unknown Benzene	3080	J	ug/kg	2
Unknown	4040	J	ug/kg	2
Unknown Aromatic	2240	J	ug/kg	2
Unknown Benzene	4030	J	ug/kg	2
Heptane, 3-methyl-	3130	NJ	ug/kg	2
Unknown	2530	J	ug/kg	2
Unknown Alkane	2260	J	ug/kg	2
Unknown Alkene	2560	J	ug/kg	2
Unknown Benzene	5510	J	ug/kg	2
Unknown Aromatic	4040	J	ug/kg	2
Unknown	3450	J	ug/kg	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	106		70-130

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/19/18 08:47

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1190705-10					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/19/18 08:47

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1190705-10					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	5000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/19/18 08:47

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 04 Batch: WG1190705-10					

Tentatively Identified Compounds

Total TIC Compounds	695	J	ug/kg
Unknown	695	J	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	110		70-130

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 08:28

Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1191636-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/20/18 08:28
 Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1191636-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	0.20	J	ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	100	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 08:28

Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 01 Batch: WG1191636-5					

Tentatively Identified Compounds

Total TIC Compounds	9.27	J	ug/kg
Unknown	9.27	J	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/20/18 08:28
 Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05 Batch: WG1191756-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 08:28

Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05 Batch: WG1191756-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	10	J	ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	5000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 08:28

Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 05 Batch: WG1191756-5					

Tentatively Identified Compounds

Total TIC Compounds	464	J	ug/kg
Unknown	464	J	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1190705-8 WG1190705-9								
Methylene chloride	104		101		70-130	3		30
1,1-Dichloroethane	100		102		70-130	2		30
Chloroform	110		112		70-130	2		30
Carbon tetrachloride	140	Q	141	Q	70-130	1		30
1,2-Dichloropropane	89		90		70-130	1		30
Dibromochloromethane	110		110		70-130	0		30
1,1,2-Trichloroethane	87		94		70-130	8		30
Tetrachloroethene	114		110		70-130	4		30
Chlorobenzene	98		96		70-130	2		30
Trichlorofluoromethane	161	Q	156	Q	70-139	3		30
1,2-Dichloroethane	115		118		70-130	3		30
1,1,1-Trichloroethane	129		128		70-130	1		30
Bromodichloromethane	111		114		70-130	3		30
trans-1,3-Dichloropropene	100		107		70-130	7		30
cis-1,3-Dichloropropene	102		102		70-130	0		30
Bromoform	104		104		70-130	0		30
1,1,2,2-Tetrachloroethane	85		83		70-130	2		30
Benzene	100		98		70-130	2		30
Toluene	98		96		70-130	2		30
Ethylbenzene	101		98		70-130	3		30
Chloromethane	129		120		52-130	7		30
Bromomethane	155	Q	139		57-147	11		30
Vinyl chloride	148	Q	144	Q	67-130	3		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1190705-8 WG1190705-9								
Chloroethane	147		131		50-151	12		30
1,1-Dichloroethene	126		117		65-135	7		30
trans-1,2-Dichloroethene	112		107		70-130	5		30
Trichloroethene	108		107		70-130	1		30
1,2-Dichlorobenzene	99		98		70-130	1		30
1,3-Dichlorobenzene	99		97		70-130	2		30
1,4-Dichlorobenzene	99		96		70-130	3		30
Methyl tert butyl ether	109		106		66-130	3		30
p/m-Xylene	101		100		70-130	1		30
o-Xylene	101		98		70-130	3		30
cis-1,2-Dichloroethene	104		106		70-130	2		30
Styrene	99		99		70-130	0		30
Dichlorodifluoromethane	177	Q	170	Q	30-146	4		30
Acetone	119		97		54-140	20		30
Carbon disulfide	108		101		59-130	7		30
2-Butanone	86		90		70-130	5		30
4-Methyl-2-pentanone	75		81		70-130	8		30
2-Hexanone	74		78		70-130	5		30
Bromochloromethane	111		108		70-130	3		30
1,2-Dibromoethane	99		99		70-130	0		30
n-Butylbenzene	99		95		70-130	4		30
sec-Butylbenzene	102		95		70-130	7		30
1,2-Dibromo-3-chloropropane	88		87		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 04 Batch: WG1190705-8 WG1190705-9								
Isopropylbenzene	99		93		70-130	6		30
p-Isopropyltoluene	105		100		70-130	5		30
n-Propylbenzene	99		91		70-130	8		30
1,2,3-Trichlorobenzene	101		95		70-130	6		30
1,2,4-Trichlorobenzene	105		99		70-130	6		30
1,3,5-Trimethylbenzene	103		98		70-130	5		30
1,2,4-Trimethylbenzene	104		97		70-130	7		30
Methyl Acetate	94		82		51-146	14		30
Cyclohexane	95		97		59-142	2		30
1,4-Dioxane	94		96		65-136	2		30
Freon-113	124		120		50-139	3		30
Methyl cyclohexane	107		102		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	113		117		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	99		96		70-130
Dibromofluoromethane	106		111		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG1191636-3 WG1191636-4								
Methylene chloride	108		106		70-130	2		30
1,1-Dichloroethane	106		90		70-130	16		30
Chloroform	107		98		70-130	9		30
Carbon tetrachloride	126		116		70-130	8		30
1,2-Dichloropropane	94		84		70-130	11		30
Dibromochloromethane	99		98		70-130	1		30
1,1,2-Trichloroethane	94		90		70-130	4		30
Tetrachloroethene	113		106		70-130	6		30
Chlorobenzene	98		93		70-130	5		30
Trichlorofluoromethane	144	Q	140	Q	70-139	3		30
1,2-Dichloroethane	101		100		70-130	1		30
1,1,1-Trichloroethane	119		108		70-130	10		30
Bromodichloromethane	102		92		70-130	10		30
trans-1,3-Dichloropropene	102		97		70-130	5		30
cis-1,3-Dichloropropene	99		90		70-130	10		30
Bromoform	100		95		70-130	5		30
1,1,2,2-Tetrachloroethane	90		84		70-130	7		30
Benzene	105		98		70-130	7		30
Toluene	104		92		70-130	12		30
Ethylbenzene	105		96		70-130	9		30
Chloromethane	129		101		52-130	24		30
Bromomethane	151	Q	142		57-147	6		30
Vinyl chloride	165	Q	147	Q	67-130	12		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG1191636-3 WG1191636-4								
Chloroethane	152	Q	145		50-151	5		30
1,1-Dichloroethene	129		120		65-135	7		30
trans-1,2-Dichloroethene	116		110		70-130	5		30
Trichloroethene	109		105		70-130	4		30
1,2-Dichlorobenzene	95		96		70-130	1		30
1,3-Dichlorobenzene	99		93		70-130	6		30
1,4-Dichlorobenzene	98		93		70-130	5		30
Methyl tert butyl ether	104		101		66-130	3		30
p/m-Xylene	103		94		70-130	9		30
o-Xylene	98		90		70-130	9		30
cis-1,2-Dichloroethene	105		99		70-130	6		30
Styrene	97		89		70-130	9		30
Dichlorodifluoromethane	170	Q	160	Q	30-146	6		30
Acetone	96		91		54-140	5		30
Carbon disulfide	114		109		59-130	4		30
2-Butanone	86		71		70-130	19		30
4-Methyl-2-pentanone	84		80		70-130	5		30
2-Hexanone	77		72		70-130	7		30
Bromochloromethane	106		103		70-130	3		30
1,2-Dibromoethane	96		94		70-130	2		30
n-Butylbenzene	103		101		70-130	2		30
sec-Butylbenzene	105		95		70-130	10		30
1,2-Dibromo-3-chloropropane	84		83		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 01 Batch: WG1191636-3 WG1191636-4								
Isopropylbenzene	107		94		70-130	13		30
p-Isopropyltoluene	106		97		70-130	9		30
n-Propylbenzene	104		91		70-130	13		30
1,2,3-Trichlorobenzene	87		86		70-130	1		30
1,2,4-Trichlorobenzene	95		93		70-130	2		30
1,3,5-Trimethylbenzene	105		95		70-130	10		30
1,2,4-Trimethylbenzene	104		95		70-130	9		30
Methyl Acetate	79		77		51-146	3		30
Cyclohexane	107		87		59-142	21		30
1,4-Dioxane	91		90		65-136	1		30
Freon-113	129		128		50-139	1		30
Methyl cyclohexane	114		109		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		99		70-130
Toluene-d8	104		97		70-130
4-Bromofluorobenzene	105		97		70-130
Dibromofluoromethane	103		101		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05 Batch: WG1191756-3 WG1191756-4								
Methylene chloride	108		106		70-130	2		30
1,1-Dichloroethane	106		90		70-130	16		30
Chloroform	107		98		70-130	9		30
Carbon tetrachloride	126		116		70-130	8		30
1,2-Dichloropropane	94		84		70-130	11		30
Dibromochloromethane	99		98		70-130	1		30
1,1,2-Trichloroethane	94		90		70-130	4		30
Tetrachloroethene	113		106		70-130	6		30
Chlorobenzene	98		93		70-130	5		30
Trichlorofluoromethane	144	Q	140	Q	70-139	3		30
1,2-Dichloroethane	101		100		70-130	1		30
1,1,1-Trichloroethane	119		108		70-130	10		30
Bromodichloromethane	102		92		70-130	10		30
trans-1,3-Dichloropropene	102		97		70-130	5		30
cis-1,3-Dichloropropene	99		90		70-130	10		30
Bromoform	100		95		70-130	5		30
1,1,2,2-Tetrachloroethane	90		84		70-130	7		30
Benzene	105		98		70-130	7		30
Toluene	104		92		70-130	12		30
Ethylbenzene	105		96		70-130	9		30
Chloromethane	129		101		52-130	24		30
Bromomethane	151	Q	142		57-147	6		30
Vinyl chloride	165	Q	147	Q	67-130	12		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05 Batch: WG1191756-3 WG1191756-4								
Chloroethane	152	Q	145		50-151	5		30
1,1-Dichloroethene	129		120		65-135	7		30
trans-1,2-Dichloroethene	116		110		70-130	5		30
Trichloroethene	109		105		70-130	4		30
1,2-Dichlorobenzene	95		96		70-130	1		30
1,3-Dichlorobenzene	99		93		70-130	6		30
1,4-Dichlorobenzene	98		93		70-130	5		30
Methyl tert butyl ether	104		101		66-130	3		30
p/m-Xylene	103		94		70-130	9		30
o-Xylene	98		90		70-130	9		30
cis-1,2-Dichloroethene	105		99		70-130	6		30
Styrene	97		89		70-130	9		30
Dichlorodifluoromethane	170	Q	160	Q	30-146	6		30
Acetone	96		91		54-140	5		30
Carbon disulfide	114		109		59-130	4		30
2-Butanone	86		71		70-130	19		30
4-Methyl-2-pentanone	84		80		70-130	5		30
2-Hexanone	77		72		70-130	7		30
Bromochloromethane	106		103		70-130	3		30
1,2-Dibromoethane	96		94		70-130	2		30
n-Butylbenzene	103		101		70-130	2		30
sec-Butylbenzene	105		95		70-130	10		30
1,2-Dibromo-3-chloropropane	84		83		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 05 Batch: WG1191756-3 WG1191756-4								
Isopropylbenzene	107		94		70-130	13		30
p-Isopropyltoluene	106		97		70-130	9		30
n-Propylbenzene	104		91		70-130	13		30
1,2,3-Trichlorobenzene	87		86		70-130	1		30
1,2,4-Trichlorobenzene	95		93		70-130	2		30
1,3,5-Trimethylbenzene	105		95		70-130	10		30
1,2,4-Trimethylbenzene	104		95		70-130	9		30
Methyl Acetate	79		77		51-146	3		30
Cyclohexane	107		87		59-142	21		30
1,4-Dioxane	91		90		65-136	1		30
Freon-113	129		128		50-139	1		30
Methyl cyclohexane	114		109		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		99		70-130
Toluene-d8	104		97		70-130
4-Bromofluorobenzene	105		97		70-130
Dibromofluoromethane	103		101		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-01
Client ID: TP-1 (2.5-6.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 14:45
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/19/18 06:31
Analyst: SZ
Percent Solids: 90%

Extraction Method: EPA 3546
Extraction Date: 12/18/18 13:41

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	20.	1
Bis(2-chloroethyl)ether	ND		ug/kg	160	25.	1
2-Chloronaphthalene	ND		ug/kg	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	37.	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	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	160	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	63.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-01

Date Collected: 12/14/18 14:45

Client ID: TP-1 (2.5-6.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	42.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	76.	1
Dibenzofuran	ND		ug/kg	180	17.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	27.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	400	69.	1
4-Nitrophenol	ND		ug/kg	260	75.	1
2,4-Dinitrophenol	ND		ug/kg	880	85.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	88.	1
Pentachlorophenol	ND		ug/kg	150	40.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	150	64.	1
Benzaldehyde	ND		ug/kg	240	49.	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-01
Client ID: TP-1 (2.5-6.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 14:45
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	82		25-120
Phenol-d6	85		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	83		30-120
2,4,6-Tribromophenol	79		10-136
4-Terphenyl-d14	76		18-120

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-02
Client ID: TP-3 (2.5-5.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 14:43
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/19/18 06:57
Analyst: SZ
Percent Solids: 91%

Extraction Method: EPA 3546
Extraction Date: 12/18/18 13:41

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	27.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	31.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	510	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	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	45.	1
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	61.	1
Diethyl phthalate	ND		ug/kg	180	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

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-02

Date Collected: 12/14/18 14:43

Client ID: TP-3 (2.5-5.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	30.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	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
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	74.	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	59.	1
2-Nitrophenol	ND		ug/kg	390	68.	1
4-Nitrophenol	ND		ug/kg	250	73.	1
2,4-Dinitrophenol	ND		ug/kg	860	84.	1
4,6-Dinitro-o-cresol	ND		ug/kg	470	86.	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	34.	1
Carbazole	ND		ug/kg	180	17.	1
Atrazine	ND		ug/kg	140	63.	1
Benzaldehyde	ND		ug/kg	240	48.	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-02
Client ID: TP-3 (2.5-5.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 14:43
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	55.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	36.	1

Tentatively Identified Compounds

Total TIC Compounds	406	J	ug/kg	1
Unknown	184	J	ug/kg	1
Unknown Amide	222	J	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	93		25-120
Phenol-d6	94		10-120
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	90		30-120
2,4,6-Tribromophenol	85		10-136
4-Terphenyl-d14	79		18-120

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-05
 Client ID: TP-12 (5.5-8.0)
 Sample Location: BUFFALO

Date Collected: 12/14/18 14:51
 Date Received: 12/14/18
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 12/19/18 23:43
 Analyst: JG
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 12/18/18 13:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	19	J	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	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	41	J	ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	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	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	540	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	2100		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	72	J	ug/kg	190	65.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1
Di-n-butylphthalate	ND		ug/kg	190	35.	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

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-05
 Client ID: TP-12 (5.5-8.0)
 Sample Location: BUFFALO

Date Collected: 12/14/18 14:51
 Date Received: 12/14/18
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	19	J	ug/kg	190	18.	1
Phenanthrene	46	J	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	37	J	ug/kg	110	19.	1
Biphenyl	54	J	ug/kg	430	43.	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	77.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	3200		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	35.	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	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	900	87.	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	50.	1

Project Name: 441 ELMWOOD**Lab Number:** L1851758**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851758-05
 Client ID: TP-12 (5.5-8.0)
 Sample Location: BUFFALO

Date Collected: 12/14/18 14:51
 Date Received: 12/14/18
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Tentatively Identified Compounds

Total TIC Compounds	45300	J	ug/kg			1
Unknown Benzene	2640	J	ug/kg			1
Unknown Benzene	1260	J	ug/kg			1
Unknown Benzene	1340	J	ug/kg			1
Unknown Benzene	9830	J	ug/kg			1
Unknown	2200	J	ug/kg			1
Unknown Benzene	4130	J	ug/kg			1
Indane	1720	NJ	ug/kg			1
Unknown Benzene	1490	J	ug/kg			1
Unknown	1160	J	ug/kg			1
Unknown Benzene	3600	J	ug/kg			1
Benzene, Propyl-	1330	NJ	ug/kg			1
Unknown Benzene	2200	J	ug/kg			1
Unknown Benzene	5830	J	ug/kg			1
Unknown	5460	J	ug/kg			1
Unknown Benzene	1150	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	79		25-120
Phenol-d6	76		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	76		30-120
2,4,6-Tribromophenol	78		10-136
4-Terphenyl-d14	65		18-120

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/19/18 03:26
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 12/18/18 09:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,05 Batch: WG1190563-1					
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	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/19/18 03:26
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 12/18/18 09:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,05 Batch: WG1190563-1					
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/19/18 03:26
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 12/18/18 09:14

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,05 Batch: WG1190563-1					
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	44.
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	71		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	83		30-120
2,4,6-Tribromophenol	60		10-136
4-Terphenyl-d14	91		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,05 Batch: WG1190563-2 WG1190563-3								
Acenaphthene	82		82		31-137	0		50
Hexachlorobenzene	86		86		40-140	0		50
Bis(2-chloroethyl)ether	74		74		40-140	0		50
2-Chloronaphthalene	94		95		40-140	1		50
3,3'-Dichlorobenzidine	52		57		40-140	9		50
2,4-Dinitrotoluene	93		95		40-132	2		50
2,6-Dinitrotoluene	104		105		40-140	1		50
Fluoranthene	98		97		40-140	1		50
4-Chlorophenyl phenyl ether	88		89		40-140	1		50
4-Bromophenyl phenyl ether	89		87		40-140	2		50
Bis(2-chloroisopropyl)ether	82		82		40-140	0		50
Bis(2-chloroethoxy)methane	81		81		40-117	0		50
Hexachlorobutadiene	87		88		40-140	1		50
Hexachlorocyclopentadiene	77		80		40-140	4		50
Hexachloroethane	76		76		40-140	0		50
Isophorone	82		82		40-140	0		50
Naphthalene	85		84		40-140	1		50
Nitrobenzene	79		80		40-140	1		50
NDPA/DPA	90		89		36-157	1		50
n-Nitrosodi-n-propylamine	78		81		32-121	4		50
Bis(2-ethylhexyl)phthalate	97		98		40-140	1		50
Butyl benzyl phthalate	97		100		40-140	3		50
Di-n-butylphthalate	93		94		40-140	1		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,05 Batch: WG1190563-2 WG1190563-3								
Di-n-octylphthalate	99		100		40-140	1		50
Diethyl phthalate	90		89		40-140	1		50
Dimethyl phthalate	103		102		40-140	1		50
Benzo(a)anthracene	85		84		40-140	1		50
Benzo(a)pyrene	98		100		40-140	2		50
Benzo(b)fluoranthene	95		95		40-140	0		50
Benzo(k)fluoranthene	98		99		40-140	1		50
Chrysene	94		94		40-140	0		50
Acenaphthylene	96		97		40-140	1		50
Anthracene	93		92		40-140	1		50
Benzo(ghi)perylene	90		90		40-140	0		50
Fluorene	86		85		40-140	1		50
Phenanthrene	87		86		40-140	1		50
Dibenzo(a,h)anthracene	93		95		40-140	2		50
Indeno(1,2,3-cd)pyrene	91		93		40-140	2		50
Pyrene	96		96		35-142	0		50
Biphenyl	97		98		54-104	1		50
4-Chloroaniline	86		85		40-140	1		50
2-Nitroaniline	99		104		47-134	5		50
3-Nitroaniline	56		57		26-129	2		50
4-Nitroaniline	80		81		41-125	1		50
Dibenzofuran	84		84		40-140	0		50
2-Methylnaphthalene	87		88		40-140	1		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,05 Batch: WG1190563-2 WG1190563-3								
1,2,4,5-Tetrachlorobenzene	97		98		40-117	1		50
Acetophenone	88		88		14-144	0		50
2,4,6-Trichlorophenol	103		103		30-130	0		50
p-Chloro-m-cresol	98		97		26-103	1		50
2-Chlorophenol	88		89		25-102	1		50
2,4-Dichlorophenol	101		99		30-130	2		50
2,4-Dimethylphenol	100		101		30-130	1		50
2-Nitrophenol	97		98		30-130	1		50
4-Nitrophenol	79		84		11-114	6		50
2,4-Dinitrophenol	13		20		4-130	42		50
4,6-Dinitro-o-cresol	19		34		10-130	57	Q	50
Pentachlorophenol	53		70		17-109	28		50
Phenol	82		82		26-90	0		50
2-Methylphenol	86		86		30-130	0		50
3-Methylphenol/4-Methylphenol	91		94		30-130	3		50
2,4,5-Trichlorophenol	109		108		30-130	1		50
Carbazole	93		93		54-128	0		50
Atrazine	109		108		40-140	1		50
Benzaldehyde	71		73		40-140	3		50
Caprolactam	87		89		15-130	2		50
2,3,4,6-Tetrachlorophenol	90		92		40-140	2		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1851758**Report Date:** 12/21/18

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,05 Batch: WG1190563-2 WG1190563-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	85		83		25-120
Phenol-d6	86		85		10-120
Nitrobenzene-d5	79		80		23-120
2-Fluorobiphenyl	92		94		30-120
2,4,6-Tribromophenol	88		89		10-136
4-Terphenyl-d14	86		85		18-120

METALS

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-01

Date Collected: 12/14/18 14:45

Client ID: TP-1 (2.5-6.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

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											
Aluminum, Total	1970		mg/kg	8.63	2.33	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Antimony, Total	0.380	J	mg/kg	4.32	0.328	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Arsenic, Total	1.46		mg/kg	0.863	0.180	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Barium, Total	12.6		mg/kg	0.863	0.150	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Beryllium, Total	0.095	J	mg/kg	0.432	0.029	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Cadmium, Total	0.216	J	mg/kg	0.863	0.085	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Calcium, Total	46100		mg/kg	8.63	3.02	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Chromium, Total	3.75		mg/kg	0.863	0.083	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Cobalt, Total	2.11		mg/kg	1.73	0.143	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Copper, Total	7.15		mg/kg	0.863	0.223	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Iron, Total	5520		mg/kg	4.32	0.780	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Lead, Total	9.32		mg/kg	4.32	0.231	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Magnesium, Total	21600		mg/kg	8.63	1.33	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Manganese, Total	216		mg/kg	0.863	0.137	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.070	0.015	1	12/19/18 05:45	12/21/18 12:14	EPA 7471B	1,7471B	MG
Nickel, Total	3.85		mg/kg	2.16	0.209	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Potassium, Total	361		mg/kg	216	12.4	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Selenium, Total	ND		mg/kg	1.73	0.223	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.863	0.244	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Sodium, Total	330		mg/kg	173	2.72	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.73	0.272	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Vanadium, Total	8.16		mg/kg	0.863	0.175	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC
Zinc, Total	53.8		mg/kg	4.32	0.253	2	12/19/18 08:30	12/19/18 14:00	EPA 3050B	1,6010D	LC



Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-02

Date Collected: 12/14/18 14:43

Client ID: TP-3 (2.5-5.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 91%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	2450		mg/kg	8.58	2.32	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Antimony, Total	0.472	J	mg/kg	4.29	0.326	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Arsenic, Total	1.48		mg/kg	0.858	0.178	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Barium, Total	14.4		mg/kg	0.858	0.149	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Beryllium, Total	0.112	J	mg/kg	0.429	0.028	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Cadmium, Total	0.275	J	mg/kg	0.858	0.084	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Calcium, Total	53000		mg/kg	8.58	3.00	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Chromium, Total	4.17		mg/kg	0.858	0.082	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Cobalt, Total	2.53		mg/kg	1.72	0.142	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Copper, Total	8.98		mg/kg	0.858	0.221	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Iron, Total	6020		mg/kg	4.29	0.775	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Lead, Total	9.33		mg/kg	4.29	0.230	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Magnesium, Total	25100		mg/kg	8.58	1.32	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Manganese, Total	220		mg/kg	0.858	0.136	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.070	0.015	1	12/19/18 05:45	12/21/18 12:15	EPA 7471B	1,7471B	MG
Nickel, Total	4.89		mg/kg	2.15	0.208	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Potassium, Total	456		mg/kg	215	12.4	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Selenium, Total	ND		mg/kg	1.72	0.221	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.858	0.243	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Sodium, Total	353		mg/kg	172	2.70	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.72	0.270	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Vanadium, Total	8.58		mg/kg	0.858	0.174	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC
Zinc, Total	68.2		mg/kg	4.29	0.252	2	12/19/18 08:30	12/19/18 14:05	EPA 3050B	1,6010D	LC



Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1190937-1										
Mercury, Total	ND		mg/kg	0.083	0.018	1	12/19/18 05:45	12/21/18 11:37	1,7471B	MG

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-02 Batch: WG1190971-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Antimony, Total	ND		mg/kg	2.00	0.152	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	0.083	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Barium, Total	ND		mg/kg	0.400	0.070	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	0.013	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Calcium, Total	1.58	J	mg/kg	4.00	1.40	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Chromium, Total	0.068	J	mg/kg	0.400	0.038	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Cobalt, Total	ND		mg/kg	0.800	0.066	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Copper, Total	ND		mg/kg	0.400	0.103	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Iron, Total	1.15	J	mg/kg	2.00	0.361	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Lead, Total	ND		mg/kg	2.00	0.107	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Magnesium, Total	ND		mg/kg	4.00	0.616	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Manganese, Total	0.184	J	mg/kg	0.400	0.064	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Nickel, Total	ND		mg/kg	1.00	0.097	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Potassium, Total	ND		mg/kg	100	5.76	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Selenium, Total	ND		mg/kg	0.800	0.103	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Silver, Total	ND		mg/kg	0.400	0.113	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Sodium, Total	ND		mg/kg	80.0	1.26	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Thallium, Total	ND		mg/kg	0.800	0.126	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	0.081	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC
Zinc, Total	ND		mg/kg	2.00	0.117	1	12/19/18 08:30	12/19/18 09:51	1,6010D	LC

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1190937-2 SRM Lot Number: D102-540								
Mercury, Total	105		-		65-134	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1190971-2 SRM Lot Number: D102-540					
Aluminum, Total	64	-	49-150	-	
Antimony, Total	160	-	1-199	-	
Arsenic, Total	104	-	83-117	-	
Barium, Total	97	-	83-118	-	
Beryllium, Total	96	-	83-116	-	
Cadmium, Total	96	-	83-118	-	
Calcium, Total	88	-	82-118	-	
Chromium, Total	107	-	83-117	-	
Cobalt, Total	98	-	84-116	-	
Copper, Total	103	-	84-116	-	
Iron, Total	85	-	61-139	-	
Lead, Total	100	-	82-118	-	
Magnesium, Total	76	-	76-124	-	
Manganese, Total	94	-	82-118	-	
Nickel, Total	100	-	83-117	-	
Potassium, Total	80	-	70-130	-	
Selenium, Total	104	-	79-121	-	
Silver, Total	98	-	80-120	-	
Sodium, Total	104	-	74-126	-	
Thallium, Total	100	-	81-119	-	
Vanadium, Total	93	-	80-120	-	

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 Batch: WG1190971-2 SRM Lot Number: D102-540					
Zinc, Total	94	-	81-118	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1190937-3 WG1190937-4 QC Sample: L1851682-19 Client ID: MS Sample												
Mercury, Total	0.027J	0.153	0.223	146	Q	0.241	158	Q	80-120	8		20

Matrix Spike Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02			QC Batch ID: WG1190971-3			QC Sample: L1852141-01		Client ID: MS Sample		
Aluminum, Total	2410	179	2370	0	Q	-	-	75-125	-	20
Antimony, Total	0.403J	44.8	34.7	77		-	-	75-125	-	20
Arsenic, Total	1.41	10.8	9.96	79		-	-	75-125	-	20
Barium, Total	10.6	179	147	76		-	-	75-125	-	20
Beryllium, Total	0.193J	4.48	3.45	77		-	-	75-125	-	20
Cadmium, Total	0.158J	4.57	3.32	73	Q	-	-	75-125	-	20
Calcium, Total	26000	896	24800	0	Q	-	-	75-125	-	20
Chromium, Total	3.40	17.9	16.2	71	Q	-	-	75-125	-	20
Cobalt, Total	2.23	44.8	33.6	70	Q	-	-	75-125	-	20
Copper, Total	5.56	22.4	23.8	81		-	-	75-125	-	20
Iron, Total	8140	89.6	7900	0	Q	-	-	75-125	-	20
Lead, Total	2.04J	45.7	34.4	75		-	-	75-125	-	20
Magnesium, Total	2210	896	2830	69	Q	-	-	75-125	-	20
Manganese, Total	135	44.8	161	58	Q	-	-	75-125	-	20
Nickel, Total	3.78	44.8	34.2	68	Q	-	-	75-125	-	20
Potassium, Total	336	896	950	68	Q	-	-	75-125	-	20
Selenium, Total	ND	10.8	8.20	76		-	-	75-125	-	20
Silver, Total	ND	26.9	21.1	78		-	-	75-125	-	20
Sodium, Total	95.5	896	838	83		-	-	75-125	-	20
Thallium, Total	ND	10.8	7.29	68	Q	-	-	75-125	-	20
Vanadium, Total	10.5	44.8	42.1	70	Q	-	-	75-125	-	20

Matrix Spike Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1851758

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1190971-3 QC Sample: L1852141-01 Client ID: MS Sample									
Zinc, Total	14.9	44.8	46.1	70	Q	-	-	75-125	- 20

Lab Duplicate Analysis *Batch Quality Control*

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1190971-4 QC Sample: L1852141-01 Client ID: DUP Sample						
Arsenic, Total	1.41	1.47	mg/kg	4		20
Barium, Total	10.6	11.6	mg/kg	9		20
Beryllium, Total	0.193J	0.194J	mg/kg	NC		20
Cadmium, Total	0.158J	0.149J	mg/kg	NC		20
Chromium, Total	3.40	3.48	mg/kg	2		20
Copper, Total	5.56	6.05	mg/kg	8		20
Lead, Total	2.04J	2.08J	mg/kg	NC		20
Manganese, Total	135	139	mg/kg	3		20
Nickel, Total	3.78	4.14	mg/kg	9		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Zinc, Total	14.9	17.7	mg/kg	17		20

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-01

Client ID: TP-1 (2.5-6.5)

Sample Location: BUFFALO

Date Collected: 12/14/18 14:45

Date Received: 12/14/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	90.2		%	0.100	NA	1	-	12/18/18 15:01	121,2540G	RI



Project Name: 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1851758**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851758-02**Client ID:** TP-3 (2.5-5.5)**Sample Location:** BUFFALO**Date Collected:** 12/14/18 14:43**Date Received:** 12/14/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	91.0		%	0.100	NA	1	-	12/18/18 15:01	121,2540G	RI



Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-04

Client ID: TP-10 (6-10.5)

Sample Location: BUFFALO

Date Collected: 12/14/18 14:21

Date Received: 12/14/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.2		%	0.100	NA	1	-	12/18/18 15:01	121,2540G	RI



Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851758

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851758-05

Client ID: TP-12 (5.5-8.0)

Sample Location: BUFFALO

Date Collected: 12/14/18 14:51

Date Received: 12/14/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.7		%	0.100	NA	1	-	12/18/18 15:01	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1851758**Report Date:** 12/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02,04-05 QC Batch ID: WG1190713-1 QC Sample: L1851927-02 Client ID: DUP Sample						
Solids, Total	60.4	68.3	%	12		20

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Serial_No:12211815:54
Lab Number: L1851758
Report Date: 12/21/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1851758-01A	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-01B	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-01C	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-01D	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		NYTCL-8270(14),TS(7)
L1851758-01W	Glass 60ml unpreserved split	A	NA		3.6	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851758-01X	Vial MeOH preserved split	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-01Y	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851758-01Z	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851758-02A	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		NYTCL-8270(14),TS(7)
L1851758-02W	Glass 60ml unpreserved split	A	NA		3.6	Y	Absent		BE-Ti(180),AS-Ti(180),BA-Ti(180),AG-Ti(180),AL-Ti(180),CR-Ti(180),NI-Ti(180),TL-Ti(180),CU-Ti(180),PB-Ti(180),SB-Ti(180),SE-Ti(180),ZN-Ti(180),CO-Ti(180),V-Ti(180),FE-Ti(180),HG-T(28),MG-Ti(180),MN-Ti(180),CA-Ti(180),CD-Ti(180),K-Ti(180),NA-Ti(180)
L1851758-03A	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		HOLD-METAL(180)
L1851758-03B	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		HOLD-CONTINGENCY(14)
L1851758-04A	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-04B	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-04C	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-04D	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		HOLD-CONTINGENCY(14),TS(7)
L1851758-04X	Vial MeOH preserved split	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-04Y	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Serial_No:12211815:54
Lab Number: L1851758
Report Date: 12/21/18

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1851758-04Z	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851758-05A	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-05B	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-05C	5 gram Encore Sampler	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-05D	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		NYTCL-8270(14),TS(7)
L1851758-05X	Vial MeOH preserved split	A	NA		3.6	Y	Absent		NYTCL-8260HLW-R2(14)
L1851758-05Y	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851758-05Z	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851758-06A	5 gram Encore Sampler	A	NA		3.6	Y	Absent		HOLD-8260HLW(14)
L1851758-06B	5 gram Encore Sampler	A	NA		3.6	Y	Absent		HOLD-8260HLW(14)
L1851758-06C	5 gram Encore Sampler	A	NA		3.6	Y	Absent		HOLD-8260HLW(14)
L1851758-06D	Glass 250ml/8oz unpreserved	A	NA		3.6	Y	Absent		HOLD-CONTINGENCY(14)
L1851758-06X	Vial MeOH preserved split	A	NA		3.6	Y	Absent		HOLD-8260HLW(14)
L1851758-06Y	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	HOLD-8260HLW(14)
L1851758-06Z	Vial Water preserved split	A	NA		3.6	Y	Absent	15-DEC-18 12:15	HOLD-8260HLW(14)

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD**Lab Number:** L1851758**Project Number:** 0136-018-001**Report Date:** 12/21/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851758
Report Date: 12/21/18

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 12

Published Date: 10/9/2018 4:58:19 PM

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193 Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 12/15/18		ALPHA Job # 21851768																																																																																																																																																																																																																																																																																																												
		Project Information Project Name: 441 Elmwood Project Location: Bldg. 1 Project # 0136-018-001 (Use Project name as Project #) ☒ Project Manager: Nate Munley ALPHAQuote #: Turn-Around Time Standard ☒ Due Date: Rush (only if pre approved) ☐ # of Days:		Deliverables ☐ ASP-A ☐ ASP-B ☐ EQUIS (1 File) ☐ EQUIS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #																																																																																																																																																																																																																																																																																																														
Client Information Client: Turnkey Environmental Address: 2558 Humber-Town Leek NY 14218 Phone: (716) 856-0583 Fax: (716) 856-0583 Email: T.Behrens@turnkeyllc.com		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:																																																																																																																																																																																																																																																																																																																
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: CAT B Please specify Metals or TAL.		ANALYSIS TAL+PCB+T+H+VOC 8260 TAL-8270 T+H+CS TAL METALS PCBs Pest + Herb		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below) Sample Specific Comments																																																																																																																																																																																																																																																																																																																
<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">Total Bottles</th> </tr> <tr> <th>Date</th> <th>Time</th> <th colspan="10"></th> </tr> </thead> <tbody> <tr> <td>51768-01</td> <td>TP-1 (2.5-6.5)</td> <td>12/15/18</td> <td>1445</td> <td>Soil</td> <td>TAB</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4</td> </tr> <tr> <td>-02</td> <td>TP-3 (2.5-5.5)</td> <td></td> <td>1423</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>-03</td> <td>TP-9 (1-8)</td> <td></td> <td>1427</td> <td></td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2</td> </tr> <tr> <td>-04</td> <td>TP-10 (6-10.5)</td> <td></td> <td>1421</td> <td></td> <td></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>4</td> </tr> <tr> <td>-05</td> <td>TP-12 (5.5-8.0)</td> <td></td> <td>1451</td> <td></td> <td></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>4</td> </tr> <tr> <td>-06</td> <td>TP-11 (10-11)</td> <td></td> <td>1426</td> <td></td> <td></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>4</td> </tr> <tr><td> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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> </td><td></td><td></td><td></td><td></td><td></td><td></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											Total Bottles	Date	Time											51768-01	TP-1 (2.5-6.5)	12/15/18	1445	Soil	TAB	X	X	X									4	-02	TP-3 (2.5-5.5)		1423				X	X									1	-03	TP-9 (1-8)		1427				X	X	X	X							2	-04	TP-10 (6-10.5)		1421			X	X										4	-05	TP-12 (5.5-8.0)		1451			X	X										4	-06	TP-11 (10-11)		1426			X	X										4																																																																																																																																																																			Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other Container Code: P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type Preservative E A A A A A A A A A		Relinquished By: [Signature] Date/Time: 12/15/18 16:20 Received By: [Signature] Date/Time: 12/14/18 17:00		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.)	
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ANALYTICAL REPORT

Lab Number:	L1851759
Client:	Turnkey Environmental Restoration, LLC 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 856-0599
Project Name:	441 ELMWOOD
Project Number:	0136-018-001
Report Date:	12/21/18

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

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



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1851759-01	TP-5 (1-2.5)	SOIL	BUFFALO	12/14/18 09:01	12/14/18
L1851759-02	TP-5 (5-13)	SOIL	BUFFALO	12/14/18 08:56	12/14/18
L1851759-03	TP-7 (1-3)	SOIL	BUFFALO	12/14/18 09:45	12/14/18
L1851759-04	TP-7 (5-9.5)	SOIL	BUFFALO	12/14/18 09:44	12/14/18

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

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: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

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

L1851759-01 through -04: The Collection Date was specified by the client.

Total Metals

L1851759-01 and -03: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by matrix interferences encountered during analysis.

The WG1191297-3 MS recovery for aluminum (56%), performed on L1851759-01, does not apply because the sample concentration is greater than four times the spike amount added.

The WG1191297-3 MS recoveries for calcium (496%), iron (0%), magnesium (158%) and manganese (0%), performed on L1851759-01, do not apply because the sample concentrations are greater than four times the spike amounts added.

The WG1191297-3 MS recoveries, performed on L1851759-01, are outside the acceptance criteria for lead (32%) and zinc (61%). A post digestion spike was performed and was within acceptance criteria.

The WG1191297-4 Laboratory Duplicate RPDs for calcium (22%), lead (59%) and potassium (24%), performed on L1851759-01, are above the acceptance criteria; however, the sample and duplicate results are less than five times the reporting limit. Therefore, the RPD is valid.

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

Authorized Signature:

 Amita Naik

Title: Technical Director/Representative

Date: 12/21/18

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-02 D

Date Collected: 12/14/18 08:56

Client ID: TP-5 (5-13)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 12/20/18 23:26

Analyst: MV

Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	520	240	2
1,1-Dichloroethane	ND		ug/kg	100	15.	2
Chloroform	21	J	ug/kg	160	14.	2
Carbon tetrachloride	ND		ug/kg	100	24.	2
1,2-Dichloropropane	ND		ug/kg	100	13.	2
Dibromochloromethane	ND		ug/kg	100	14.	2
1,1,2-Trichloroethane	ND		ug/kg	100	28.	2
Tetrachloroethene	ND		ug/kg	52	20.	2
Chlorobenzene	ND		ug/kg	52	13.	2
Trichlorofluoromethane	ND		ug/kg	420	72.	2
1,2-Dichloroethane	ND		ug/kg	100	27.	2
1,1,1-Trichloroethane	ND		ug/kg	52	17.	2
Bromodichloromethane	ND		ug/kg	52	11.	2
trans-1,3-Dichloropropene	ND		ug/kg	100	28.	2
cis-1,3-Dichloropropene	ND		ug/kg	52	16.	2
Bromoform	ND		ug/kg	420	26.	2
1,1,2,2-Tetrachloroethane	ND		ug/kg	52	17.	2
Benzene	ND		ug/kg	52	17.	2
Toluene	200		ug/kg	100	56.	2
Ethylbenzene	3900		ug/kg	100	15.	2
Chloromethane	ND		ug/kg	420	97.	2
Bromomethane	ND		ug/kg	210	60.	2
Vinyl chloride	ND		ug/kg	100	35.	2
Chloroethane	ND		ug/kg	210	47.	2
1,1-Dichloroethene	ND		ug/kg	100	25.	2
trans-1,2-Dichloroethene	ND		ug/kg	160	14.	2
Trichloroethene	ND		ug/kg	52	14.	2
1,2-Dichlorobenzene	ND		ug/kg	210	15.	2

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-02 D

Date Collected: 12/14/18 08:56

Client ID: TP-5 (5-13)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	210	15.	2
1,4-Dichlorobenzene	ND		ug/kg	210	18.	2
Methyl tert butyl ether	ND		ug/kg	210	21.	2
p/m-Xylene	19000		ug/kg	210	58.	2
o-Xylene	4200		ug/kg	100	30.	2
cis-1,2-Dichloroethene	ND		ug/kg	100	18.	2
Styrene	ND		ug/kg	100	20.	2
Dichlorodifluoromethane	ND		ug/kg	1000	95.	2
Acetone	ND		ug/kg	1000	500	2
Carbon disulfide	ND		ug/kg	1000	470	2
2-Butanone	ND		ug/kg	1000	230	2
4-Methyl-2-pentanone	ND		ug/kg	1000	130	2
2-Hexanone	ND		ug/kg	1000	120	2
Bromochloromethane	ND		ug/kg	210	21.	2
1,2-Dibromoethane	ND		ug/kg	100	29.	2
n-Butylbenzene	1000		ug/kg	100	17.	2
sec-Butylbenzene	330		ug/kg	100	15.	2
1,2-Dibromo-3-chloropropane	ND		ug/kg	310	100	2
Isopropylbenzene	490		ug/kg	100	11.	2
p-Isopropyltoluene	240		ug/kg	100	11.	2
n-Propylbenzene	2200		ug/kg	100	18.	2
1,2,3-Trichlorobenzene	ND		ug/kg	210	33.	2
1,2,4-Trichlorobenzene	ND		ug/kg	210	28.	2
1,3,5-Trimethylbenzene	5200		ug/kg	210	20.	2
1,2,4-Trimethylbenzene	18000		ug/kg	210	35.	2
Methyl Acetate	ND		ug/kg	420	99.	2
Cyclohexane	930	J	ug/kg	1000	56.	2
1,4-Dioxane	ND		ug/kg	10000	3600	2
Freon-113	ND		ug/kg	420	72.	2
Methyl cyclohexane	ND		ug/kg	420	63.	2

Project Name: 441 ELMWOOD**Lab Number:** L1851759**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851759-02 D

Date Collected: 12/14/18 08:56

Client ID: TP-5 (5-13)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	70600	J	ug/kg	2
Unknown Alkane	11700	J	ug/kg	2
Unknown Alkane	4280	J	ug/kg	2
Unknown Alkane	7600	J	ug/kg	2
Unknown Benzene	6640	J	ug/kg	2
Pentane, 2,3,4-trimethyl-	6850	NJ	ug/kg	2
Unknown Aromatic	8580	J	ug/kg	2
Unknown Aromatic	6070	J	ug/kg	2
Unknown Benzene	7150	J	ug/kg	2
Unknown Alkane	5540	J	ug/kg	2
Unknown Benzene	6180	J	ug/kg	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	103		70-130

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-04
Client ID: TP-7 (5-9.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 09:44
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 12/20/18 12:22
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	390	180	1
1,1-Dichloroethane	ND		ug/kg	78	11.	1
Chloroform	ND		ug/kg	120	11.	1
Carbon tetrachloride	ND		ug/kg	78	18.	1
1,2-Dichloropropane	ND		ug/kg	78	9.8	1
Dibromochloromethane	ND		ug/kg	78	11.	1
1,1,2-Trichloroethane	ND		ug/kg	78	21.	1
Tetrachloroethene	ND		ug/kg	39	15.	1
Chlorobenzene	ND		ug/kg	39	9.9	1
Trichlorofluoromethane	ND		ug/kg	310	54.	1
1,2-Dichloroethane	ND		ug/kg	78	20.	1
1,1,1-Trichloroethane	ND		ug/kg	39	13.	1
Bromodichloromethane	ND		ug/kg	39	8.5	1
trans-1,3-Dichloropropene	ND		ug/kg	78	21.	1
cis-1,3-Dichloropropene	ND		ug/kg	39	12.	1
Bromoform	ND		ug/kg	310	19.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	39	13.	1
Benzene	ND		ug/kg	39	13.	1
Toluene	270		ug/kg	78	42.	1
Ethylbenzene	4600		ug/kg	78	11.	1
Chloromethane	ND		ug/kg	310	73.	1
Bromomethane	ND		ug/kg	160	46.	1
Vinyl chloride	ND		ug/kg	78	26.	1
Chloroethane	ND		ug/kg	160	35.	1
1,1-Dichloroethene	ND		ug/kg	78	19.	1
trans-1,2-Dichloroethene	ND		ug/kg	120	11.	1
Trichloroethene	ND		ug/kg	39	11.	1
1,2-Dichlorobenzene	ND		ug/kg	160	11.	1

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-04

Date Collected: 12/14/18 09:44

Client ID: TP-7 (5-9.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	160	12.	1
1,4-Dichlorobenzene	ND		ug/kg	160	13.	1
Methyl tert butyl ether	ND		ug/kg	160	16.	1
p/m-Xylene	20000		ug/kg	160	44.	1
o-Xylene	4600		ug/kg	78	23.	1
cis-1,2-Dichloroethene	ND		ug/kg	78	14.	1
Styrene	ND		ug/kg	78	15.	1
Dichlorodifluoromethane	ND		ug/kg	780	72.	1
Acetone	ND		ug/kg	780	380	1
Carbon disulfide	ND		ug/kg	780	360	1
2-Butanone	ND		ug/kg	780	170	1
4-Methyl-2-pentanone	ND		ug/kg	780	100	1
2-Hexanone	ND		ug/kg	780	92.	1
Bromochloromethane	ND		ug/kg	160	16.	1
1,2-Dibromoethane	ND		ug/kg	78	22.	1
n-Butylbenzene	620		ug/kg	78	13.	1
sec-Butylbenzene	210		ug/kg	78	11.	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	230	78.	1
Isopropylbenzene	410		ug/kg	78	8.5	1
p-Isopropyltoluene	100		ug/kg	78	8.5	1
n-Propylbenzene	1900		ug/kg	78	13.	1
1,2,3-Trichlorobenzene	ND		ug/kg	160	25.	1
1,2,4-Trichlorobenzene	ND		ug/kg	160	21.	1
1,3,5-Trimethylbenzene	4300		ug/kg	160	15.	1
1,2,4-Trimethylbenzene	15000		ug/kg	160	26.	1
Methyl Acetate	ND		ug/kg	310	74.	1
Cyclohexane	5500		ug/kg	780	43.	1
1,4-Dioxane	ND		ug/kg	7800	2700	1
Freon-113	ND		ug/kg	310	54.	1
Methyl cyclohexane	6800		ug/kg	310	47.	1

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-04

Date Collected: 12/14/18 09:44

Client ID: TP-7 (5-9.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by 8260/5035 - Westborough Lab						

Tentatively Identified Compounds

Total TIC Compounds	64800	J	ug/kg	1
Unknown Benzene	3700	J	ug/kg	1
Unknown Benzene	3350	J	ug/kg	1
Octane	3310	NJ	ug/kg	1
Pentane	3780	NJ	ug/kg	1
Unknown Benzene	3220	J	ug/kg	1
Heptane	5540	NJ	ug/kg	1
Heptane, 3-methyl-	4060	NJ	ug/kg	1
Hexane, 3-methyl-	4850	NJ	ug/kg	1
Unknown	3190	J	ug/kg	1
Pentane, 2-methyl-	7880	NJ	ug/kg	1
Unknown	4840	J	ug/kg	1
n-Hexane	5940	NJ	ug/kg	1
Unknown Benzene	3300	J	ug/kg	1
Unknown	5100	J	ug/kg	1
Unknown Benzene	2690	J	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	103		70-130

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 12/20/18 08:28
 Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 04 Batch: WG1191756-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 08:28

Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 04 Batch: WG1191756-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	10	J	ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	5000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 08:28

Analyst: BD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 04 Batch: WG1191756-5					

Tentatively Identified Compounds

Total TIC Compounds	464	J	ug/kg
Unknown	464	J	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	101		70-130

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 20:53

Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02 Batch: WG1191932-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 20:53

Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02 Batch: WG1191932-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	5000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 12/20/18 20:53

Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by 8260/5035 - Westborough Lab for sample(s): 02 Batch: WG1191932-5					

Tentatively Identified Compounds

Total TIC Compounds	164	J	ug/kg
Unknown	164	J	ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	106		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 04 Batch: WG1191756-3 WG1191756-4								
Methylene chloride	108		106		70-130	2		30
1,1-Dichloroethane	106		90		70-130	16		30
Chloroform	107		98		70-130	9		30
Carbon tetrachloride	126		116		70-130	8		30
1,2-Dichloropropane	94		84		70-130	11		30
Dibromochloromethane	99		98		70-130	1		30
1,1,2-Trichloroethane	94		90		70-130	4		30
Tetrachloroethene	113		106		70-130	6		30
Chlorobenzene	98		93		70-130	5		30
Trichlorofluoromethane	144	Q	140	Q	70-139	3		30
1,2-Dichloroethane	101		100		70-130	1		30
1,1,1-Trichloroethane	119		108		70-130	10		30
Bromodichloromethane	102		92		70-130	10		30
trans-1,3-Dichloropropene	102		97		70-130	5		30
cis-1,3-Dichloropropene	99		90		70-130	10		30
Bromoform	100		95		70-130	5		30
1,1,2,2-Tetrachloroethane	90		84		70-130	7		30
Benzene	105		98		70-130	7		30
Toluene	104		92		70-130	12		30
Ethylbenzene	105		96		70-130	9		30
Chloromethane	129		101		52-130	24		30
Bromomethane	151	Q	142		57-147	6		30
Vinyl chloride	165	Q	147	Q	67-130	12		30

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 04 Batch: WG1191756-3 WG1191756-4								
Chloroethane	152	Q	145		50-151	5		30
1,1-Dichloroethene	129		120		65-135	7		30
trans-1,2-Dichloroethene	116		110		70-130	5		30
Trichloroethene	109		105		70-130	4		30
1,2-Dichlorobenzene	95		96		70-130	1		30
1,3-Dichlorobenzene	99		93		70-130	6		30
1,4-Dichlorobenzene	98		93		70-130	5		30
Methyl tert butyl ether	104		101		66-130	3		30
p/m-Xylene	103		94		70-130	9		30
o-Xylene	98		90		70-130	9		30
cis-1,2-Dichloroethene	105		99		70-130	6		30
Styrene	97		89		70-130	9		30
Dichlorodifluoromethane	170	Q	160	Q	30-146	6		30
Acetone	96		91		54-140	5		30
Carbon disulfide	114		109		59-130	4		30
2-Butanone	86		71		70-130	19		30
4-Methyl-2-pentanone	84		80		70-130	5		30
2-Hexanone	77		72		70-130	7		30
Bromochloromethane	106		103		70-130	3		30
1,2-Dibromoethane	96		94		70-130	2		30
n-Butylbenzene	103		101		70-130	2		30
sec-Butylbenzene	105		95		70-130	10		30
1,2-Dibromo-3-chloropropane	84		83		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 04 Batch: WG1191756-3 WG1191756-4								
Isopropylbenzene	107		94		70-130	13		30
p-Isopropyltoluene	106		97		70-130	9		30
n-Propylbenzene	104		91		70-130	13		30
1,2,3-Trichlorobenzene	87		86		70-130	1		30
1,2,4-Trichlorobenzene	95		93		70-130	2		30
1,3,5-Trimethylbenzene	105		95		70-130	10		30
1,2,4-Trimethylbenzene	104		95		70-130	9		30
Methyl Acetate	79		77		51-146	3		30
Cyclohexane	107		87		59-142	21		30
1,4-Dioxane	91		90		65-136	1		30
Freon-113	129		128		50-139	1		30
Methyl cyclohexane	114		109		70-130	4		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		99		70-130
Toluene-d8	104		97		70-130
4-Bromofluorobenzene	105		97		70-130
Dibromofluoromethane	103		101		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02 Batch: WG1191932-3 WG1191932-4								
Methylene chloride	96		95		70-130	1		30
1,1-Dichloroethane	96		98		70-130	2		30
Chloroform	104		105		70-130	1		30
Carbon tetrachloride	110		111		70-130	1		30
1,2-Dichloropropane	90		92		70-130	2		30
Dibromochloromethane	110		112		70-130	2		30
1,1,2-Trichloroethane	108		109		70-130	1		30
Tetrachloroethene	115		115		70-130	0		30
Chlorobenzene	107		109		70-130	2		30
Trichlorofluoromethane	147	Q	145	Q	70-139	1		30
1,2-Dichloroethane	98		99		70-130	1		30
1,1,1-Trichloroethane	107		109		70-130	2		30
Bromodichloromethane	100		102		70-130	2		30
trans-1,3-Dichloropropene	109		111		70-130	2		30
cis-1,3-Dichloropropene	97		99		70-130	2		30
Bromoform	111		114		70-130	3		30
1,1,2,2-Tetrachloroethane	100		105		70-130	5		30
Benzene	98		99		70-130	1		30
Toluene	106		108		70-130	2		30
Ethylbenzene	107		107		70-130	0		30
Chloromethane	103		101		52-130	2		30
Bromomethane	106		108		57-147	2		30
Vinyl chloride	120		120		67-130	0		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02 Batch: WG1191932-3 WG1191932-4								
Chloroethane	123		120		50-151	2		30
1,1-Dichloroethene	101		103		65-135	2		30
trans-1,2-Dichloroethene	99		99		70-130	0		30
Trichloroethene	100		101		70-130	1		30
1,2-Dichlorobenzene	107		108		70-130	1		30
1,3-Dichlorobenzene	109		110		70-130	1		30
1,4-Dichlorobenzene	108		110		70-130	2		30
Methyl tert butyl ether	98		99		66-130	1		30
p/m-Xylene	108		109		70-130	1		30
o-Xylene	106		107		70-130	1		30
cis-1,2-Dichloroethene	98		98		70-130	0		30
Styrene	105		106		70-130	1		30
Dichlorodifluoromethane	111		111		30-146	0		30
Acetone	110		104		54-140	6		30
Carbon disulfide	102		101		59-130	1		30
2-Butanone	91		90		70-130	1		30
4-Methyl-2-pentanone	90		90		70-130	0		30
2-Hexanone	85		87		70-130	2		30
Bromochloromethane	106		107		70-130	1		30
1,2-Dibromoethane	106		107		70-130	1		30
n-Butylbenzene	110		112		70-130	2		30
sec-Butylbenzene	104		107		70-130	3		30
1,2-Dibromo-3-chloropropane	102		109		68-130	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by 8260/5035 - Westborough Lab Associated sample(s): 02 Batch: WG1191932-3 WG1191932-4								
Isopropylbenzene	108		110		70-130	2		30
p-Isopropyltoluene	109		111		70-130	2		30
n-Propylbenzene	109		111		70-130	2		30
1,2,3-Trichlorobenzene	104		104		70-130	0		30
1,2,4-Trichlorobenzene	103		104		70-130	1		30
1,3,5-Trimethylbenzene	110		112		70-130	2		30
1,2,4-Trimethylbenzene	109		110		70-130	1		30
Methyl Acetate	88		87		51-146	1		30
Cyclohexane	93		93		59-142	0		30
1,4-Dioxane	110		110		65-136	0		30
Freon-113	117		118		50-139	1		30
Methyl cyclohexane	99		102		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	108		110		70-130
Toluene-d8	108		108		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	107		105		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-01
Client ID: TP-5 (1-2.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 09:01
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/19/18 08:43
Analyst: SZ
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/17/18 00:16

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	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	39	J	ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	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	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	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	64.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1
Di-n-butylphthalate	ND		ug/kg	190	35.	1
Di-n-octylphthalate	ND		ug/kg	190	63.	1
Diethyl phthalate	ND		ug/kg	190	17.	1
Dimethyl phthalate	ND		ug/kg	190	39.	1
Benzo(a)anthracene	30	J	ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	46.	1

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-01

Date Collected: 12/14/18 09:01

Client ID: TP-5 (1-2.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	38	J	ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	31	J	ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	29	J	ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	53	J	ug/kg	110	23.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	22.	1
Indeno(1,2,3-cd)pyrene	28	J	ug/kg	150	26.	1
Pyrene	35	J	ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	43.	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	77.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	19.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	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	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	900	87.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	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	65.	1
Benzaldehyde	ND		ug/kg	250	50.	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-01
Client ID: TP-5 (1-2.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 09:01
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Tentatively Identified Compounds

Total TIC Compounds	175	J	ug/kg			1
Unknown	175	J	ug/kg			1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	92		25-120
Phenol-d6	93		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	83		30-120
2,4,6-Tribromophenol	84		10-136
4-Terphenyl-d14	75		18-120

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-03
Client ID: TP-7 (1-3)
Sample Location: BUFFALO

Date Collected: 12/14/18 09:45
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 12/19/18 10:29
Analyst: SZ
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/17/18 00:16

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	120	22.	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	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	1
Fluoranthene	100	J	ug/kg	120	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	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	34	J	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	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	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	65.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	71	J	ug/kg	120	22.	1
Benzo(a)pyrene	110	J	ug/kg	150	47.	1

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-03

Date Collected: 12/14/18 09:45

Client ID: TP-7 (1-3)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	130		ug/kg	120	32.	1
Benzo(k)fluoranthene	44	J	ug/kg	120	31.	1
Chrysene	74	J	ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	ND		ug/kg	120	37.	1
Benzo(ghi)perylene	96	J	ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	19.	1
Phenanthrene	58	J	ug/kg	120	23.	1
Dibenzo(a,h)anthracene	25	J	ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	100	J	ug/kg	150	27.	1
Pyrene	93	J	ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	44.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	80.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	36.	1
p-Chloro-m-cresol	ND		ug/kg	190	29.	1
2-Chlorophenol	ND		ug/kg	190	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	90.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	ND		ug/kg	190	19.	1
Atrazine	ND		ug/kg	150	67.	1
Benzaldehyde	ND		ug/kg	250	52.	1

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-03
Client ID: TP-7 (1-3)
Sample Location: BUFFALO

Date Collected: 12/14/18 09:45
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Tentatively Identified Compounds

No Tentatively Identified Compounds	ND	ug/kg	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	89		25-120
Phenol-d6	90		10-120
Nitrobenzene-d5	95		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	89		10-136
4-Terphenyl-d14	73		18-120

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/18/18 23:47
 Analyst: IM

Extraction Method: EPA 3546
 Extraction Date: 12/17/18 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1190046-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	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	100	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	17.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
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	100	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/18/18 23:47
 Analyst: IM

Extraction Method: EPA 3546
 Extraction Date: 12/17/18 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1190046-1					
Benzo(k)fluoranthene	ND		ug/kg	100	26.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	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	69.
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	100	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	800	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 12/18/18 23:47
 Analyst: IM

Extraction Method: EPA 3546
 Extraction Date: 12/17/18 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01,03 Batch: WG1190046-1					
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	34.

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/kg

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		25-120
Phenol-d6	73		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	78		10-136
4-Terphenyl-d14	82		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1190046-2 WG1190046-3								
Acenaphthene	81		83		31-137	2		50
Hexachlorobenzene	76		74		40-140	3		50
Bis(2-chloroethyl)ether	66		76		40-140	14		50
2-Chloronaphthalene	79		86		40-140	8		50
3,3'-Dichlorobenzidine	86		70		40-140	21		50
2,4-Dinitrotoluene	112		111		40-132	1		50
2,6-Dinitrotoluene	104		111		40-140	7		50
Fluoranthene	100		98		40-140	2		50
4-Chlorophenyl phenyl ether	80		81		40-140	1		50
4-Bromophenyl phenyl ether	82		81		40-140	1		50
Bis(2-chloroisopropyl)ether	75		85		40-140	13		50
Bis(2-chloroethoxy)methane	75		81		40-117	8		50
Hexachlorobutadiene	70		77		40-140	10		50
Hexachlorocyclopentadiene	72		78		40-140	8		50
Hexachloroethane	71		84		40-140	17		50
Isophorone	85		92		40-140	8		50
Naphthalene	77		84		40-140	9		50
Nitrobenzene	83		92		40-140	10		50
NDPA/DPA	89		89		36-157	0		50
n-Nitrosodi-n-propylamine	84		93		32-121	10		50
Bis(2-ethylhexyl)phthalate	124		121		40-140	2		50
Butyl benzyl phthalate	138		134		40-140	3		50
Di-n-butylphthalate	130		127		40-140	2		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1190046-2 WG1190046-3								
Di-n-octylphthalate	128		124		40-140	3		50
Diethyl phthalate	105		104		40-140	1		50
Dimethyl phthalate	92		96		40-140	4		50
Benzo(a)anthracene	101		97		40-140	4		50
Benzo(a)pyrene	115		108		40-140	6		50
Benzo(b)fluoranthene	108		104		40-140	4		50
Benzo(k)fluoranthene	107		103		40-140	4		50
Chrysene	98		94		40-140	4		50
Acenaphthylene	89		94		40-140	5		50
Anthracene	99		99		40-140	0		50
Benzo(ghi)perylene	105		98		40-140	7		50
Fluorene	86		88		40-140	2		50
Phenanthrene	92		93		40-140	1		50
Dibenzo(a,h)anthracene	109		103		40-140	6		50
Indeno(1,2,3-cd)pyrene	110		103		40-140	7		50
Pyrene	97		95		35-142	2		50
Biphenyl	86		92		54-104	7		50
4-Chloroaniline	47		43		40-140	9		50
2-Nitroaniline	113		120		47-134	6		50
3-Nitroaniline	81		78		26-129	4		50
4-Nitroaniline	108		104		41-125	4		50
Dibenzofuran	81		84		40-140	4		50
2-Methylnaphthalene	81		88		40-140	8		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1190046-2 WG1190046-3								
1,2,4,5-Tetrachlorobenzene	72		78		40-117	8		50
Acetophenone	84		93		14-144	10		50
2,4,6-Trichlorophenol	87		91		30-130	4		50
p-Chloro-m-cresol	101		107	Q	26-103	6		50
2-Chlorophenol	84		94		25-102	11		50
2,4-Dichlorophenol	90		98		30-130	9		50
2,4-Dimethylphenol	95		99		30-130	4		50
2-Nitrophenol	104		114		30-130	9		50
4-Nitrophenol	142	Q	137	Q	11-114	4		50
2,4-Dinitrophenol	87		86		4-130	1		50
4,6-Dinitro-o-cresol	107		105		10-130	2		50
Pentachlorophenol	84		80		17-109	5		50
Phenol	75		83		26-90	10		50
2-Methylphenol	79		87		30-130	10		50
3-Methylphenol/4-Methylphenol	83		89		30-130	7		50
2,4,5-Trichlorophenol	94		97		30-130	3		50
Carbazole	104		103		54-128	1		50
Atrazine	103		88		40-140	16		50
Benzaldehyde	58		68		40-140	16		50
Caprolactam	119		124		15-130	4		50
2,3,4,6-Tetrachlorophenol	85		84		40-140	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03 Batch: WG1190046-2 WG1190046-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	77		86		25-120
Phenol-d6	76		83		10-120
Nitrobenzene-d5	84		91		23-120
2-Fluorobiphenyl	75		81		30-120
2,4,6-Tribromophenol	82		83		10-136
4-Terphenyl-d14	82		81		18-120

PCBS

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-01
Client ID: TP-5 (1-2.5)
Sample Location: BUFFALO

Date Collected: 12/14/18 09:01
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 19:43
Analyst: JW
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 12/17/18 01:15
Cleanup Method: EPA 3665A
Cleanup Date: 12/17/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	36.6	3.26	1	A
Aroclor 1221	ND		ug/kg	36.6	3.67	1	A
Aroclor 1232	ND		ug/kg	36.6	7.77	1	A
Aroclor 1242	ND		ug/kg	36.6	4.94	1	A
Aroclor 1248	ND		ug/kg	36.6	5.50	1	A
Aroclor 1254	ND		ug/kg	36.6	4.01	1	A
Aroclor 1260	ND		ug/kg	36.6	6.77	1	A
Aroclor 1262	ND		ug/kg	36.6	4.66	1	A
Aroclor 1268	ND		ug/kg	36.6	3.80	1	A
PCBs, Total	ND		ug/kg	36.6	3.26	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	80		30-150	A
Decachlorobiphenyl	63		30-150	A
2,4,5,6-Tetrachloro-m-xylene	77		30-150	B
Decachlorobiphenyl	67		30-150	B

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-03
Client ID: TP-7 (1-3)
Sample Location: BUFFALO

Date Collected: 12/14/18 09:45
Date Received: 12/14/18
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 12/18/18 19:56
Analyst: JW
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 12/17/18 01:15
Cleanup Method: EPA 3665A
Cleanup Date: 12/17/18
Cleanup Method: EPA 3660B
Cleanup Date: 12/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	37.5	3.33	1	A
Aroclor 1221	ND		ug/kg	37.5	3.76	1	A
Aroclor 1232	ND		ug/kg	37.5	7.95	1	A
Aroclor 1242	ND		ug/kg	37.5	5.06	1	A
Aroclor 1248	ND		ug/kg	37.5	5.63	1	A
Aroclor 1254	ND		ug/kg	37.5	4.10	1	A
Aroclor 1260	ND		ug/kg	37.5	6.93	1	A
Aroclor 1262	ND		ug/kg	37.5	4.76	1	A
Aroclor 1268	ND		ug/kg	37.5	3.88	1	A
PCBs, Total	ND		ug/kg	37.5	3.33	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	90		30-150	A
Decachlorobiphenyl	73		30-150	A
2,4,5,6-Tetrachloro-m-xylene	86		30-150	B
Decachlorobiphenyl	81		30-150	B

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A
 Analytical Date: 12/18/18 17:53
 Analyst: JW

Extraction Method: EPA 3546
 Extraction Date: 12/17/18 01:15
 Cleanup Method: EPA 3665A
 Cleanup Date: 12/17/18
 Cleanup Method: EPA 3660B
 Cleanup Date: 12/17/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01,03 Batch: WG1190060-1						
Aroclor 1016	ND		ug/kg	32.6	2.89	A
Aroclor 1221	ND		ug/kg	32.6	3.26	A
Aroclor 1232	ND		ug/kg	32.6	6.91	A
Aroclor 1242	ND		ug/kg	32.6	4.39	A
Aroclor 1248	ND		ug/kg	32.6	4.89	A
Aroclor 1254	ND		ug/kg	32.6	3.56	A
Aroclor 1260	ND		ug/kg	32.6	6.02	A
Aroclor 1262	ND		ug/kg	32.6	4.14	A
Aroclor 1268	ND		ug/kg	32.6	3.38	A
PCBs, Total	ND		ug/kg	32.6	2.89	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		30-150	A
Decachlorobiphenyl	70		30-150	A
2,4,5,6-Tetrachloro-m-xylene	83		30-150	B
Decachlorobiphenyl	76		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01,03 Batch: WG1190060-2 WG1190060-3									
Aroclor 1016	82		86		40-140	5		50	A
Aroclor 1260	71		76		40-140	7		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	85		89		30-150	A
Decachlorobiphenyl	67		72		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		84		30-150	B
Decachlorobiphenyl	73		76		30-150	B

METALS

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-01

Date Collected: 12/14/18 09:01

Client ID: TP-5 (1-2.5)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	4160		mg/kg	8.95	2.42	2	12/19/18 21:05	12/21/18 10:04	EPA 3050B	1,6010D	LC
Antimony, Total	0.403	J	mg/kg	4.48	0.340	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Arsenic, Total	4.51		mg/kg	0.895	0.186	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Barium, Total	33.6		mg/kg	0.895	0.156	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Beryllium, Total	0.188	J	mg/kg	0.448	0.030	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Cadmium, Total	0.242	J	mg/kg	0.895	0.088	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Calcium, Total	41200		mg/kg	8.95	3.13	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Chromium, Total	6.45		mg/kg	0.895	0.086	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Cobalt, Total	3.37		mg/kg	1.79	0.149	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Copper, Total	18.0		mg/kg	0.895	0.231	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Iron, Total	8360		mg/kg	4.48	0.808	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Lead, Total	99.6		mg/kg	4.48	0.240	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Magnesium, Total	14400		mg/kg	8.95	1.38	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Manganese, Total	232		mg/kg	0.895	0.142	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Mercury, Total	ND		mg/kg	0.072	0.015	1	12/18/18 10:30	12/19/18 17:45	EPA 7471B	1,7471B	MG
Nickel, Total	6.83		mg/kg	2.24	0.217	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Potassium, Total	488		mg/kg	224	12.9	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Selenium, Total	ND		mg/kg	1.79	0.231	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.895	0.253	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Sodium, Total	555		mg/kg	179	2.82	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.79	0.282	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Vanadium, Total	12.8		mg/kg	0.895	0.182	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC
Zinc, Total	103		mg/kg	4.48	0.262	2	12/19/18 21:05	12/21/18 08:21	EPA 3050B	1,6010D	LC



Project Name: 441 ELMWOOD**Lab Number:** L1851759**Project Number:** 0136-018-001**Report Date:** 12/21/18**SAMPLE RESULTS**

Lab ID: L1851759-03

Date Collected: 12/14/18 09:45

Client ID: TP-7 (1-3)

Date Received: 12/14/18

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

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											
Aluminum, Total	4190		mg/kg	9.10	2.46	2	12/19/18 21:05	12/21/18 10:20	EPA 3050B	1,6010D	LC
Antimony, Total	0.428	J	mg/kg	4.55	0.346	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Arsenic, Total	5.25		mg/kg	0.910	0.189	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Barium, Total	23.7		mg/kg	0.910	0.158	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Beryllium, Total	0.209	J	mg/kg	0.455	0.030	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Cadmium, Total	0.182	J	mg/kg	0.910	0.089	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Calcium, Total	21800		mg/kg	9.10	3.18	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Chromium, Total	5.75		mg/kg	0.910	0.087	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Cobalt, Total	3.03		mg/kg	1.82	0.151	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Copper, Total	13.2		mg/kg	0.910	0.235	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Iron, Total	8660		mg/kg	4.55	0.822	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Lead, Total	43.6		mg/kg	4.55	0.244	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Magnesium, Total	4910		mg/kg	9.10	1.40	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Manganese, Total	184		mg/kg	0.910	0.145	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Mercury, Total	0.052	J	mg/kg	0.073	0.015	1	12/18/18 10:30	12/19/18 17:47	EPA 7471B	1,7471B	MG
Nickel, Total	5.96		mg/kg	2.27	0.220	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Potassium, Total	319		mg/kg	227	13.1	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Selenium, Total	ND		mg/kg	1.82	0.235	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Silver, Total	ND		mg/kg	0.910	0.257	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Sodium, Total	185		mg/kg	182	2.87	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Thallium, Total	ND		mg/kg	1.82	0.287	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Vanadium, Total	11.8		mg/kg	0.910	0.185	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC
Zinc, Total	72.7		mg/kg	4.55	0.266	2	12/19/18 21:05	12/21/18 08:41	EPA 3050B	1,6010D	LC



Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1190471-1										
Mercury, Total	ND		mg/kg	0.083	0.018	1	12/18/18 10:30	12/19/18 12:28	1,7471B	MG

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,03 Batch: WG1191297-1										
Aluminum, Total	ND		mg/kg	4.00	1.08	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Antimony, Total	ND		mg/kg	2.00	0.152	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Arsenic, Total	ND		mg/kg	0.400	0.083	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Barium, Total	ND		mg/kg	0.400	0.070	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Beryllium, Total	ND		mg/kg	0.200	0.013	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	0.039	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Calcium, Total	ND		mg/kg	4.00	1.40	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Chromium, Total	ND		mg/kg	0.400	0.038	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Cobalt, Total	ND		mg/kg	0.800	0.066	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Copper, Total	ND		mg/kg	0.400	0.103	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Iron, Total	ND		mg/kg	2.00	0.361	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Lead, Total	ND		mg/kg	2.00	0.107	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Magnesium, Total	ND		mg/kg	4.00	0.616	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Manganese, Total	0.104	J	mg/kg	0.400	0.064	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Nickel, Total	ND		mg/kg	1.00	0.097	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Potassium, Total	ND		mg/kg	100	5.76	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Selenium, Total	ND		mg/kg	0.800	0.103	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Silver, Total	ND		mg/kg	0.400	0.113	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Sodium, Total	ND		mg/kg	80.0	1.26	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Thallium, Total	ND		mg/kg	0.800	0.126	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Vanadium, Total	ND		mg/kg	0.400	0.081	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC
Zinc, Total	ND		mg/kg	2.00	0.117	1	12/19/18 21:05	12/21/18 08:12	1,6010D	LC

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Method Blank Analysis Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis
Batch Quality Control**Project Name:** 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1851759**Report Date:** 12/21/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1190471-2 SRM Lot Number: D102-540								
Mercury, Total	98		-		65-134	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1191297-2 SRM Lot Number: D102-540					
Aluminum, Total	74	-	49-150	-	
Antimony, Total	171	-	1-199	-	
Arsenic, Total	103	-	83-117	-	
Barium, Total	96	-	83-118	-	
Beryllium, Total	94	-	83-116	-	
Cadmium, Total	93	-	83-118	-	
Calcium, Total	96	-	82-118	-	
Chromium, Total	100	-	83-117	-	
Cobalt, Total	98	-	84-116	-	
Copper, Total	98	-	84-116	-	
Iron, Total	101	-	61-139	-	
Lead, Total	100	-	82-118	-	
Magnesium, Total	88	-	76-124	-	
Manganese, Total	96	-	82-118	-	
Nickel, Total	97	-	83-117	-	
Potassium, Total	83	-	70-130	-	
Selenium, Total	96	-	79-121	-	
Silver, Total	101	-	80-120	-	
Sodium, Total	99	-	74-126	-	
Thallium, Total	95	-	81-119	-	
Vanadium, Total	96	-	80-120	-	

Lab Control Sample Analysis
Batch Quality Control**Project Name:** 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1851759**Report Date:** 12/21/18

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 Batch: WG1191297-2 SRM Lot Number: D102-540					
Zinc, Total	98	-	81-118	-	

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1190471-3 WG1190471-4 QC Sample: L1851675-02 Client ID: MS Sample												
Mercury, Total	ND	0.148	0.043J	0	Q	0.060J	0	Q	80-120	NC		20

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery		MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1191297-3 QC Sample: L1851759-01 Client ID: TP-5 (1-2.5)										
Aluminum, Total	4160	177	4260	56	Q	-	-	75-125	-	20
Antimony, Total	0.403J	44.3	43.0	97		-	-	75-125	-	20
Arsenic, Total	4.51	10.6	14.0	89		-	-	75-125	-	20
Barium, Total	33.6	177	197	92		-	-	75-125	-	20
Beryllium, Total	0.188J	4.43	4.09	92		-	-	75-125	-	20
Cadmium, Total	0.242J	4.52	4.28	95		-	-	75-125	-	20
Calcium, Total	41200	887	45600	496	Q	-	-	75-125	-	20
Chromium, Total	6.45	17.7	21.9	87		-	-	75-125	-	20
Cobalt, Total	3.37	44.3	41.9	87		-	-	75-125	-	20
Copper, Total	18.0	22.2	35.8	80		-	-	75-125	-	20
Iron, Total	8360	88.7	7720	0	Q	-	-	75-125	-	20
Lead, Total	99.6	45.2	114	32	Q	-	-	75-125	-	20
Magnesium, Total	14400	887	15800	158	Q	-	-	75-125	-	20
Manganese, Total	232	44.3	227	0	Q	-	-	75-125	-	20
Nickel, Total	6.83	44.3	44.2	84		-	-	75-125	-	20
Potassium, Total	488	887	1460	110		-	-	75-125	-	20
Selenium, Total	ND	10.6	9.87	93		-	-	75-125	-	20
Silver, Total	ND	26.6	27.2	102		-	-	75-125	-	20
Sodium, Total	555	887	1460	102		-	-	75-125	-	20
Thallium, Total	ND	10.6	8.74	82		-	-	75-125	-	20
Vanadium, Total	12.8	44.3	54.2	93		-	-	75-125	-	20

Matrix Spike Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1851759

Project Number: 0136-018-001

Report Date: 12/21/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1191297-3 QC Sample: L1851759-01 Client ID: TP-5 (1-2.5)									
Zinc, Total	103	44.3	130	61	Q	-	-	75-125	- 20

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1851759
Report Date: 12/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1191297-4 QC Sample: L1851759-01 Client ID: TP-5 (1-2.5)						
Antimony, Total	0.403J	0.567J	mg/kg	NC		20
Arsenic, Total	4.51	4.23	mg/kg	6		20
Barium, Total	33.6	34.6	mg/kg	3		20
Beryllium, Total	0.188J	0.201J	mg/kg	NC		20
Cadmium, Total	0.242J	0.288J	mg/kg	NC		20
Calcium, Total	41200	51200	mg/kg	22	Q	20
Chromium, Total	6.45	6.86	mg/kg	6		20
Cobalt, Total	3.37	4.04	mg/kg	18		20
Copper, Total	18.0	14.7	mg/kg	20		20
Iron, Total	8360	9560	mg/kg	13		20
Lead, Total	99.6	54.4	mg/kg	59	Q	20
Magnesium, Total	14400	15200	mg/kg	5		20
Manganese, Total	232	254	mg/kg	9		20
Nickel, Total	6.83	7.79	mg/kg	13		20
Potassium, Total	488	624	mg/kg	24	Q	20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Sodium, Total	555	606	mg/kg	9		20
Thallium, Total	ND	ND	mg/kg	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1191297-4 QC Sample: L1851759-01 Client ID: TP-5 (1-2.5)					
Vanadium, Total	12.8	13.2	mg/kg	3	20
Zinc, Total	103	91.9	mg/kg	11	20
Total Metals - Mansfield Lab Associated sample(s): 01,03 QC Batch ID: WG1191297-4 QC Sample: L1851759-01 Client ID: TP-5 (1-2.5)					
Aluminum, Total	4160	4470	mg/kg	7	20

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1851759**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851759-01**Client ID:** TP-5 (1-2.5)**Sample Location:** BUFFALO**Date Collected:** 12/14/18 09:01**Date Received:** 12/14/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.6		%	0.100	NA	1	-	12/18/18 12:07	121,2540G	RI



Project Name: 441 ELMWOOD**Project Number:** 0136-018-001**Lab Number:** L1851759**Report Date:** 12/21/18**SAMPLE RESULTS****Lab ID:** L1851759-02**Client ID:** TP-5 (5-13)**Sample Location:** BUFFALO**Date Collected:** 12/14/18 08:56**Date Received:** 12/14/18**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.6		%	0.100	NA	1	-	12/18/18 12:07	121,2540G	RI



Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-03

Client ID: TP-7 (1-3)

Sample Location: BUFFALO

Date Collected: 12/14/18 09:45

Date Received: 12/14/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.0		%	0.100	NA	1	-	12/18/18 12:07	121,2540G	RI



Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

SAMPLE RESULTS

Lab ID: L1851759-04

Client ID: TP-7 (5-9.5)

Sample Location: BUFFALO

Date Collected: 12/14/18 09:44

Date Received: 12/14/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.6		%	0.100	NA	1	-	12/17/18 12:00	121,2540G	RI



Lab Duplicate Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: 0136-018-001

Lab Number: L1851759

Report Date: 12/21/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 04 QC Batch ID: WG1190159-1 QC Sample: L1851569-01 Client ID: DUP Sample						
Solids, Total	87.0	85.4	%	2		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1190607-1 QC Sample: L1851721-02 Client ID: DUP Sample						
Solids, Total	55.3	61.0	%	10		20

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Serial_No:12211814:52
Lab Number: L1851759
Report Date: 12/21/18

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1851759-01A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1851759-01B	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		NYTCL-8270(14),TS(7),NYTCL-8082(14)
L1851759-02A	5 gram Encore Sampler	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-02B	5 gram Encore Sampler	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-02C	5 gram Encore Sampler	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-02D	Plastic 2oz unpreserved for TS	A	NA		3.2	Y	Absent		TS(7)
L1851759-02X	Vial MeOH preserved split	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-02Y	Vial Water preserved split	A	NA		3.2	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851759-02Z	Vial Water preserved split	A	NA		3.2	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851759-03A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		3.2	Y	Absent		BE-TI(180),AS-TI(180),BA-TI(180),AG-TI(180),AL-TI(180),CR-TI(180),NI-TI(180),TL-TI(180),CU-TI(180),PB-TI(180),SB-TI(180),SE-TI(180),ZN-TI(180),CO-TI(180),V-TI(180),FE-TI(180),HG-T(28),MG-TI(180),MN-TI(180),CA-TI(180),CD-TI(180),K-TI(180),NA-TI(180)
L1851759-03B	Glass 120ml/4oz unpreserved	A	NA		3.2	Y	Absent		NYTCL-8270(14),TS(7),NYTCL-8082(14)
L1851759-04A	5 gram Encore Sampler	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-04B	5 gram Encore Sampler	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-04C	5 gram Encore Sampler	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-04D	Plastic 2oz unpreserved for TS	A	NA		3.2	Y	Absent		TS(7)
L1851759-04X	Vial MeOH preserved split	A	NA		3.2	Y	Absent		NYTCL-8260HLW-R2(14)
L1851759-04Y	Vial Water preserved split	A	NA		3.2	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)
L1851759-04Z	Vial Water preserved split	A	NA		3.2	Y	Absent	15-DEC-18 12:15	NYTCL-8260HLW-R2(14)

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Serial_No:12211814:52
Lab Number: L1851759
Report Date: 12/21/18

Container Information

Container ID Container Type

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

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

GLOSSARY

Acronyms

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

Footnotes

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

Terms

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

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

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

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

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

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Project Name: 441 ELMWOOD
Project Number: 0136-018-001

Lab Number: L1851759
Report Date: 12/21/18

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 12

Published Date: 10/9/2018 4:58:19 PM

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**EPA 6860:** SCM: Perchlorate**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.**Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, 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, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

[illegible]



ANALYTICAL REPORT

Lab Number:	L1947611
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD
Project Number:	B0500-018-001
Report Date:	10/15/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1947611-01	NORTHSIDEWALL #4	SOIL	BUFFALO, NY	10/10/19 14:57	10/10/19

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

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

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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 Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 10/15/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1947611

Project Number: B0500-018-001

Report Date: 10/15/19

SAMPLE RESULTS

Lab ID: L1947611-01
 Client ID: NORTHSIDEWALL #4
 Sample Location: BUFFALO, NY

Date Collected: 10/10/19 14:57
 Date Received: 10/10/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/11/19 18:37
 Analyst: MKS
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.5	2.5	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.25	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.29	1
Tetrachloroethene	ND		ug/kg	0.55	0.21	1
Chlorobenzene	ND		ug/kg	0.55	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.4	0.76	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.28	1
1,1,1-Trichloroethane	ND		ug/kg	0.55	0.18	1
Bromodichloromethane	ND		ug/kg	0.55	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.55	0.17	1
Bromoform	ND		ug/kg	4.4	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.55	0.18	1
Benzene	ND		ug/kg	0.55	0.18	1
Toluene	ND		ug/kg	1.1	0.60	1
Ethylbenzene	ND		ug/kg	1.1	0.15	1
Chloromethane	ND		ug/kg	4.4	1.0	1
Bromomethane	ND		ug/kg	2.2	0.64	1
Vinyl chloride	ND		ug/kg	1.1	0.37	1
Chloroethane	ND		ug/kg	2.2	0.50	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.15	1
Trichloroethene	ND		ug/kg	0.55	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD

Lab Number: L1947611

Project Number: B0500-018-001

Report Date: 10/15/19

SAMPLE RESULTS

Lab ID: L1947611-01
 Client ID: NORTHSIDEWALL #4
 Sample Location: BUFFALO, NY

Date Collected: 10/10/19 14:57
 Date Received: 10/10/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	ND		ug/kg	2.2	0.61	1
o-Xylene	ND		ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.21	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.3	1
Carbon disulfide	ND		ug/kg	11	5.0	1
2-Butanone	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.22	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.30	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.35	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.30	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	0.21	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	0.37	1
Methyl Acetate	ND		ug/kg	4.4	1.0	1
Cyclohexane	ND		ug/kg	11	0.60	1
1,4-Dioxane	ND		ug/kg	88	38.	1
Freon-113	ND		ug/kg	4.4	0.76	1
Methyl cyclohexane	ND		ug/kg	4.4	0.66	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	89		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/11/19 11:25
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1295179-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.29	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/11/19 11:25
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1295179-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/11/19 11:25
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1295179-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	89		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947611

Report Date: 10/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1295179-3 WG1295179-4								
Methylene chloride	95		97		70-130	2		30
1,1-Dichloroethane	110		110		70-130	0		30
Chloroform	101		102		70-130	1		30
Carbon tetrachloride	101		102		70-130	1		30
1,2-Dichloropropane	108		110		70-130	2		30
Dibromochloromethane	89		91		70-130	2		30
1,1,2-Trichloroethane	97		97		70-130	0		30
Tetrachloroethene	90		87		70-130	3		30
Chlorobenzene	91		90		70-130	1		30
Trichlorofluoromethane	113		113		70-139	0		30
1,2-Dichloroethane	105		107		70-130	2		30
1,1,1-Trichloroethane	103		103		70-130	0		30
Bromodichloromethane	97		100		70-130	3		30
trans-1,3-Dichloropropene	84		86		70-130	2		30
cis-1,3-Dichloropropene	86		88		70-130	2		30
Bromoform	84		87		70-130	4		30
1,1,2,2-Tetrachloroethane	96		100		70-130	4		30
Benzene	103		103		70-130	0		30
Toluene	97		95		70-130	2		30
Ethylbenzene	100		98		70-130	2		30
Chloromethane	133	Q	131	Q	52-130	2		30
Bromomethane	118		120		57-147	2		30
Vinyl chloride	123		122		67-130	1		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947611

Report Date: 10/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1295179-3 WG1295179-4								
Chloroethane	120		118		50-151	2		30
1,1-Dichloroethene	108		108		65-135	0		30
trans-1,2-Dichloroethene	103		103		70-130	0		30
Trichloroethene	102		103		70-130	1		30
1,2-Dichlorobenzene	92		92		70-130	0		30
1,3-Dichlorobenzene	95		94		70-130	1		30
1,4-Dichlorobenzene	93		93		70-130	0		30
Methyl tert butyl ether	103		108		66-130	5		30
p/m-Xylene	96		95		70-130	1		30
o-Xylene	94		94		70-130	0		30
cis-1,2-Dichloroethene	99		100		70-130	1		30
Styrene	97		97		70-130	0		30
Dichlorodifluoromethane	151	Q	146		30-146	3		30
Acetone	203	Q	216	Q	54-140	6		30
Carbon disulfide	106		106		59-130	0		30
2-Butanone	114		124		70-130	8		30
4-Methyl-2-pentanone	108		114		70-130	5		30
2-Hexanone	110		118		70-130	7		30
Bromochloromethane	95		97		70-130	2		30
1,2-Dibromoethane	91		93		70-130	2		30
n-Butylbenzene	106		104		70-130	2		30
sec-Butylbenzene	103		101		70-130	2		30
1,2-Dibromo-3-chloropropane	86		92		68-130	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947611

Report Date: 10/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1295179-3 WG1295179-4								
Isopropylbenzene	102		100		70-130	2		30
p-Isopropyltoluene	103		101		70-130	2		30
n-Propylbenzene	106		103		70-130	3		30
1,2,3-Trichlorobenzene	89		90		70-130	1		30
1,2,4-Trichlorobenzene	92		92		70-130	0		30
1,3,5-Trimethylbenzene	102		100		70-130	2		30
1,2,4-Trimethylbenzene	102		100		70-130	2		30
Methyl Acetate	123		131		51-146	6		30
Cyclohexane	124		122		59-142	2		30
1,4-Dioxane	106		114		65-136	7		30
Freon-113	112		112		50-139	0		30
Methyl cyclohexane	108		106		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		105		70-130
Toluene-d8	97		96		70-130
4-Bromofluorobenzene	105		105		70-130
Dibromofluoromethane	89		91		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1947611

Project Number: B0500-018-001

Report Date: 10/15/19

SAMPLE RESULTS

Lab ID: L1947611-01
 Client ID: NORTHSIDEWALL #4
 Sample Location: BUFFALO, NY

Date Collected: 10/10/19 14:57
 Date Received: 10/10/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/12/19 00:12
 Analyst: EK
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 10/11/19 06:27

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

Project Name: 441 ELMWOOD

Lab Number: L1947611

Project Number: B0500-018-001

Report Date: 10/15/19

SAMPLE RESULTS

Lab ID: L1947611-01
 Client ID: NORTHSIDEWALL #4
 Sample Location: BUFFALO, NY

Date Collected: 10/10/19 14:57
 Date Received: 10/10/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
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	ND		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	410	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

Project Name: 441 ELMWOOD

Lab Number: L1947611

Project Number: B0500-018-001

Report Date: 10/15/19

SAMPLE RESULTS

Lab ID: L1947611-01

Date Collected: 10/10/19 14:57

Client ID: NORTHSIDEWALL #4

Date Received: 10/10/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	91		25-120
Phenol-d6	90		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	74		30-120
2,4,6-Tribromophenol	99		10-136
4-Terphenyl-d14	77		18-120

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/11/19 02:42
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 10/10/19 09:19

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1294526-1					
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	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/11/19 02:42
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 10/10/19 09:19

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1294526-1					
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	20.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/11/19 02:42
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 10/10/19 09:19

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1294526-1					
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	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	82		25-120
Phenol-d6	79		10-120
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	78		10-136
4-Terphenyl-d14	66		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947611

Report Date: 10/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1294526-2 WG1294526-3								
Acenaphthene	92		92		31-137	0		50
Hexachlorobenzene	88		92		40-140	4		50
Bis(2-chloroethyl)ether	78		80		40-140	3		50
2-Chloronaphthalene	88		91		40-140	3		50
3,3'-Dichlorobenzidine	66		70		40-140	6		50
2,4-Dinitrotoluene	95		98		40-132	3		50
2,6-Dinitrotoluene	90		92		40-140	2		50
Fluoranthene	88		92		40-140	4		50
4-Chlorophenyl phenyl ether	90		93		40-140	3		50
4-Bromophenyl phenyl ether	91		92		40-140	1		50
Bis(2-chloroisopropyl)ether	62		64		40-140	3		50
Bis(2-chloroethoxy)methane	76		80		40-117	5		50
Hexachlorobutadiene	81		84		40-140	4		50
Hexachlorocyclopentadiene	83		87		40-140	5		50
Hexachloroethane	74		74		40-140	0		50
Isophorone	78		79		40-140	1		50
Naphthalene	87		88		40-140	1		50
Nitrobenzene	78		79		40-140	1		50
NDPA/DPA	91		95		36-157	4		50
n-Nitrosodi-n-propylamine	79		80		32-121	1		50
Bis(2-ethylhexyl)phthalate	94		102		40-140	8		50
Butyl benzyl phthalate	84		89		40-140	6		50
Di-n-butylphthalate	88		93		40-140	6		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947611

Report Date: 10/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1294526-2 WG1294526-3								
Di-n-octylphthalate	99		102		40-140	3		50
Diethyl phthalate	89		94		40-140	5		50
Dimethyl phthalate	83		87		40-140	5		50
Benzo(a)anthracene	90		95		40-140	5		50
Benzo(a)pyrene	94		98		40-140	4		50
Benzo(b)fluoranthene	96		101		40-140	5		50
Benzo(k)fluoranthene	97		104		40-140	7		50
Chrysene	94		100		40-140	6		50
Acenaphthylene	90		91		40-140	1		50
Anthracene	89		95		40-140	7		50
Benzo(ghi)perylene	94		98		40-140	4		50
Fluorene	93		96		40-140	3		50
Phenanthrene	88		93		40-140	6		50
Dibenzo(a,h)anthracene	92		96		40-140	4		50
Indeno(1,2,3-cd)pyrene	93		98		40-140	5		50
Pyrene	86		88		35-142	2		50
Biphenyl	92		93		37-127	1		50
4-Chloroaniline	67		69		40-140	3		50
2-Nitroaniline	88		90		47-134	2		50
3-Nitroaniline	75		78		26-129	4		50
4-Nitroaniline	85		88		41-125	3		50
Dibenzofuran	92		94		40-140	2		50
2-Methylnaphthalene	91		94		40-140	3		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947611

Report Date: 10/15/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1294526-2 WG1294526-3								
1,2,4,5-Tetrachlorobenzene	90		90		40-117	0		50
Acetophenone	84		86		14-144	2		50
2,4,6-Trichlorophenol	94		94		30-130	0		50
p-Chloro-m-cresol	92		96		26-103	4		50
2-Chlorophenol	88		89		25-102	1		50
2,4-Dichlorophenol	90		93		30-130	3		50
2,4-Dimethylphenol	90		93		30-130	3		50
2-Nitrophenol	80		84		30-130	5		50
4-Nitrophenol	83		88		11-114	6		50
2,4-Dinitrophenol	61		72		4-130	17		50
4,6-Dinitro-o-cresol	75		80		10-130	6		50
Pentachlorophenol	68		77		17-109	12		50
Phenol	92	Q	92	Q	26-90	0		50
2-Methylphenol	86		89		30-130	3		50
3-Methylphenol/4-Methylphenol	87		89		30-130	2		50
2,4,5-Trichlorophenol	91		93		30-130	2		50
Carbazole	89		94		54-128	5		50
Atrazine	90		95		40-140	5		50
Benzaldehyde	82		86		40-140	5		50
Caprolactam	82		82		15-130	0		50
2,3,4,6-Tetrachlorophenol	91		96		40-140	5		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947611

Report Date: 10/15/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1294526-2 WG1294526-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	87		90		25-120
Phenol-d6	88		90		10-120
Nitrobenzene-d5	62		63		23-120
2-Fluorobiphenyl	73		74		30-120
2,4,6-Tribromophenol	88		91		10-136
4-Terphenyl-d14	70		74		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD**Project Number:** B0500-018-001**Lab Number:** L1947611**Report Date:** 10/15/19**SAMPLE RESULTS****Lab ID:** L1947611-01**Client ID:** NORTHSIDEWALL #4**Sample Location:** BUFFALO, NY**Date Collected:** 10/10/19 14:57**Date Received:** 10/10/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	10/11/19 12:08	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** B0500-018-001**Lab Number:** L1947611**Report Date:** 10/15/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1295165-1 QC Sample: L1947629-10 Client ID: DUP Sample						
Solids, Total	76.7	76.5	%	0		20

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Serial_No:10151910:26
Lab Number: L1947611
Report Date: 10/15/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1947611-01A	Vial Large Septa unpreserved (4oz)	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1947611-01B	Glass 120ml/4oz unpreserved	A	NA		4.2	Y	Absent		NYTCL-8270(14),TS(7)
L1947611-01X	Vial MeOH preserved split	A	NA		4.2	Y	Absent		NYTCL-8260-R2(14)
L1947611-01Y	Vial Water preserved split	A	NA		4.2	Y	Absent	11-OCT-19 05:48	NYTCL-8260-R2(14)
L1947611-01Z	Vial Water preserved split	A	NA		4.2	Y	Absent	11-OCT-19 05:48	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947611
Report Date: 10/15/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

[illegible]



ANALYTICAL REPORT

Lab Number:	L1947850
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD
Project Number:	B0500-018-001
Report Date:	10/16/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1947850-01	NORTH SIDEWALL #2	SOIL	BUFFALO	10/11/19 13:03	10/11/19
L1947850-02	BLIND DUP #1	SOIL	BUFFALO	10/11/19 12:00	10/11/19

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Case Narrative (continued)

Report Submission

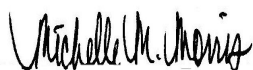
All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

L1947850-01 and -02: Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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: 10/16/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-01
 Client ID: NORTH SIDEWALL #2
 Sample Location: BUFFALO

Date Collected: 10/11/19 13:03
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/13/19 11:35
 Analyst: MV
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	4.5	2.0	1
1,1-Dichloroethane	ND		ug/kg	0.90	0.13	1
Chloroform	ND		ug/kg	1.3	0.12	1
Carbon tetrachloride	ND		ug/kg	0.90	0.21	1
1,2-Dichloropropane	ND		ug/kg	0.90	0.11	1
Dibromochloromethane	ND		ug/kg	0.90	0.12	1
1,1,2-Trichloroethane	ND		ug/kg	0.90	0.24	1
Tetrachloroethene	ND		ug/kg	0.45	0.18	1
Chlorobenzene	ND		ug/kg	0.45	0.11	1
Trichlorofluoromethane	ND		ug/kg	3.6	0.62	1
1,2-Dichloroethane	ND		ug/kg	0.90	0.23	1
1,1,1-Trichloroethane	ND		ug/kg	0.45	0.15	1
Bromodichloromethane	ND		ug/kg	0.45	0.10	1
trans-1,3-Dichloropropene	ND		ug/kg	0.90	0.24	1
cis-1,3-Dichloropropene	ND		ug/kg	0.45	0.14	1
Bromoform	ND		ug/kg	3.6	0.22	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.45	0.15	1
Benzene	ND		ug/kg	0.45	0.15	1
Toluene	ND		ug/kg	0.90	0.49	1
Ethylbenzene	ND		ug/kg	0.90	0.13	1
Chloromethane	ND		ug/kg	3.6	0.84	1
Bromomethane	ND		ug/kg	1.8	0.52	1
Vinyl chloride	ND		ug/kg	0.90	0.30	1
Chloroethane	ND		ug/kg	1.8	0.40	1
1,1-Dichloroethene	ND		ug/kg	0.90	0.21	1
trans-1,2-Dichloroethene	ND		ug/kg	1.3	0.12	1
Trichloroethene	ND		ug/kg	0.45	0.12	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	0.13	1

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-01
 Client ID: NORTH SIDEWALL #2
 Sample Location: BUFFALO

Date Collected: 10/11/19 13:03
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1.8	0.13	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	0.15	1
Methyl tert butyl ether	ND		ug/kg	1.8	0.18	1
p/m-Xylene	ND		ug/kg	1.8	0.50	1
o-Xylene	ND		ug/kg	0.90	0.26	1
cis-1,2-Dichloroethene	ND		ug/kg	0.90	0.16	1
Styrene	ND		ug/kg	0.90	0.18	1
Dichlorodifluoromethane	ND		ug/kg	9.0	0.82	1
Acetone	ND		ug/kg	9.0	4.3	1
Carbon disulfide	ND		ug/kg	9.0	4.1	1
2-Butanone	ND		ug/kg	9.0	2.0	1
4-Methyl-2-pentanone	ND		ug/kg	9.0	1.1	1
2-Hexanone	ND		ug/kg	9.0	1.0	1
Bromochloromethane	ND		ug/kg	1.8	0.18	1
1,2-Dibromoethane	ND		ug/kg	0.90	0.25	1
n-Butylbenzene	ND		ug/kg	0.90	0.15	1
sec-Butylbenzene	ND		ug/kg	0.90	0.13	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	0.90	1
Isopropylbenzene	ND		ug/kg	0.90	0.10	1
p-Isopropyltoluene	ND		ug/kg	0.90	0.10	1
n-Propylbenzene	ND		ug/kg	0.90	0.15	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	0.29	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	0.24	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	0.17	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	0.30	1
Methyl Acetate	14		ug/kg	3.6	0.85	1
Cyclohexane	ND		ug/kg	9.0	0.49	1
1,4-Dioxane	ND		ug/kg	72	32.	1
Freon-113	ND		ug/kg	3.6	0.62	1
Methyl cyclohexane	ND		ug/kg	3.6	0.54	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	99		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	97		70-130

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-02
 Client ID: BLIND DUP #1
 Sample Location: BUFFALO

Date Collected: 10/11/19 12:00
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/13/19 12:00
 Analyst: MV
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	4.9	2.2	1
1,1-Dichloroethane	ND		ug/kg	0.97	0.14	1
Chloroform	0.14	J	ug/kg	1.4	0.14	1
Carbon tetrachloride	ND		ug/kg	0.97	0.22	1
1,2-Dichloropropane	ND		ug/kg	0.97	0.12	1
Dibromochloromethane	ND		ug/kg	0.97	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	0.97	0.26	1
Tetrachloroethene	ND		ug/kg	0.49	0.19	1
Chlorobenzene	ND		ug/kg	0.49	0.12	1
Trichlorofluoromethane	ND		ug/kg	3.9	0.68	1
1,2-Dichloroethane	ND		ug/kg	0.97	0.25	1
1,1,1-Trichloroethane	ND		ug/kg	0.49	0.16	1
Bromodichloromethane	ND		ug/kg	0.49	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	0.97	0.26	1
cis-1,3-Dichloropropene	ND		ug/kg	0.49	0.15	1
Bromoform	ND		ug/kg	3.9	0.24	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.49	0.16	1
Benzene	ND		ug/kg	0.49	0.16	1
Toluene	ND		ug/kg	0.97	0.53	1
Ethylbenzene	ND		ug/kg	0.97	0.14	1
Chloromethane	ND		ug/kg	3.9	0.91	1
Bromomethane	ND		ug/kg	1.9	0.56	1
Vinyl chloride	ND		ug/kg	0.97	0.32	1
Chloroethane	ND		ug/kg	1.9	0.44	1
1,1-Dichloroethene	ND		ug/kg	0.97	0.23	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	0.13	1
Trichloroethene	ND		ug/kg	0.49	0.13	1
1,2-Dichlorobenzene	ND		ug/kg	1.9	0.14	1

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-02
 Client ID: BLIND DUP #1
 Sample Location: BUFFALO

Date Collected: 10/11/19 12:00
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1.9	0.14	1
1,4-Dichlorobenzene	ND		ug/kg	1.9	0.17	1
Methyl tert butyl ether	ND		ug/kg	1.9	0.20	1
p/m-Xylene	ND		ug/kg	1.9	0.54	1
o-Xylene	ND		ug/kg	0.97	0.28	1
cis-1,2-Dichloroethene	ND		ug/kg	0.97	0.17	1
Styrene	ND		ug/kg	0.97	0.19	1
Dichlorodifluoromethane	ND		ug/kg	9.7	0.89	1
Acetone	ND		ug/kg	9.7	4.7	1
Carbon disulfide	ND		ug/kg	9.7	4.4	1
2-Butanone	ND		ug/kg	9.7	2.2	1
4-Methyl-2-pentanone	ND		ug/kg	9.7	1.2	1
2-Hexanone	ND		ug/kg	9.7	1.1	1
Bromochloromethane	ND		ug/kg	1.9	0.20	1
1,2-Dibromoethane	ND		ug/kg	0.97	0.27	1
n-Butylbenzene	ND		ug/kg	0.97	0.16	1
sec-Butylbenzene	ND		ug/kg	0.97	0.14	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.9	0.97	1
Isopropylbenzene	ND		ug/kg	0.97	0.11	1
p-Isopropyltoluene	ND		ug/kg	0.97	0.11	1
n-Propylbenzene	ND		ug/kg	0.97	0.17	1
1,2,3-Trichlorobenzene	ND		ug/kg	1.9	0.31	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.9	0.26	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.9	0.19	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.9	0.32	1
Methyl Acetate	ND		ug/kg	3.9	0.92	1
Cyclohexane	ND		ug/kg	9.7	0.53	1
1,4-Dioxane	ND		ug/kg	78	34.	1
Freon-113	ND		ug/kg	3.9	0.67	1
Methyl cyclohexane	ND		ug/kg	3.9	0.59	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	98		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/13/19 06:21
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1295893-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.16	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/13/19 06:21
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1295893-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/13/19 06:21
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1295893-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	95		70-130

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1295893-3 WG1295893-4								
Methylene chloride	98		99		70-130	1		30
1,1-Dichloroethane	106		105		70-130	1		30
Chloroform	98		97		70-130	1		30
Carbon tetrachloride	77		80		70-130	4		30
1,2-Dichloropropane	109		107		70-130	2		30
Dibromochloromethane	87		91		70-130	4		30
1,1,2-Trichloroethane	107		107		70-130	0		30
Tetrachloroethene	94		95		70-130	1		30
Chlorobenzene	101		102		70-130	1		30
Trichlorofluoromethane	90		88		70-139	2		30
1,2-Dichloroethane	102		100		70-130	2		30
1,1,1-Trichloroethane	93		93		70-130	0		30
Bromodichloromethane	95		97		70-130	2		30
trans-1,3-Dichloropropene	98		99		70-130	1		30
cis-1,3-Dichloropropene	101		100		70-130	1		30
Bromoform	81		86		70-130	6		30
1,1,2,2-Tetrachloroethane	114		116		70-130	2		30
Benzene	102		102		70-130	0		30
Toluene	102		103		70-130	1		30
Ethylbenzene	101		102		70-130	1		30
Chloromethane	91		89		52-130	2		30
Bromomethane	89		84		57-147	6		30
Vinyl chloride	94		94		67-130	0		30

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1295893-3 WG1295893-4								
Chloroethane	100		96		50-151	4		30
1,1-Dichloroethene	87		89		65-135	2		30
trans-1,2-Dichloroethene	96		96		70-130	0		30
Trichloroethene	101		100		70-130	1		30
1,2-Dichlorobenzene	108		110		70-130	2		30
1,3-Dichlorobenzene	107		111		70-130	4		30
1,4-Dichlorobenzene	106		109		70-130	3		30
Methyl tert butyl ether	96		94		66-130	2		30
p/m-Xylene	103		104		70-130	1		30
o-Xylene	102		103		70-130	1		30
cis-1,2-Dichloroethene	99		99		70-130	0		30
Styrene	106		105		70-130	1		30
Dichlorodifluoromethane	63		65		30-146	3		30
Acetone	104		94		54-140	10		30
Carbon disulfide	90		90		59-130	0		30
2-Butanone	81		73		70-130	10		30
4-Methyl-2-pentanone	103		101		70-130	2		30
2-Hexanone	98		96		70-130	2		30
Bromochloromethane	101		98		70-130	3		30
1,2-Dibromoethane	99		98		70-130	1		30
n-Butylbenzene	110		112		70-130	2		30
sec-Butylbenzene	104		108		70-130	4		30
1,2-Dibromo-3-chloropropane	85		87		68-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1295893-3 WG1295893-4								
Isopropylbenzene	101		104		70-130	3		30
p-Isopropyltoluene	103		106		70-130	3		30
n-Propylbenzene	106		109		70-130	3		30
1,2,3-Trichlorobenzene	101		104		70-130	3		30
1,2,4-Trichlorobenzene	101		105		70-130	4		30
1,3,5-Trimethylbenzene	103		106		70-130	3		30
1,2,4-Trimethylbenzene	105		108		70-130	3		30
Methyl Acetate	107		99		51-146	8		30
Cyclohexane	106		107		59-142	1		30
1,4-Dioxane	79		77		65-136	3		30
Freon-113	94		94		50-139	0		30
Methyl cyclohexane	103		103		70-130	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		94		70-130
Toluene-d8	96		96		70-130
4-Bromofluorobenzene	93		95		70-130
Dibromofluoromethane	94		93		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-01
 Client ID: NORTH SIDEWALL #2
 Sample Location: BUFFALO

Date Collected: 10/11/19 13:03
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/16/19 15:04
 Analyst: JG
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 10/12/19 05:16

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	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	49.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	25	J	ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	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	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	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	64.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1
Di-n-butylphthalate	ND		ug/kg	190	35.	1
Di-n-octylphthalate	ND		ug/kg	190	63.	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	45.	1

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-01
 Client ID: NORTH SIDEWALL #2
 Sample Location: BUFFALO

Date Collected: 10/11/19 13:03
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	23	J	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	23	J	ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	43.	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	77.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	19.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	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	61.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	890	87.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	89.	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	65.	1
Benzaldehyde	ND		ug/kg	240	50.	1

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-01
 Client ID: NORTH SIDEWALL #2
 Sample Location: BUFFALO

Date Collected: 10/11/19 13:03
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	62		25-120
Phenol-d6	64		10-120
Nitrobenzene-d5	49		23-120
2-Fluorobiphenyl	52		30-120
2,4,6-Tribromophenol	64		10-136
4-Terphenyl-d14	51		18-120

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-02
 Client ID: BLIND DUP #1
 Sample Location: BUFFALO

Date Collected: 10/11/19 12:00
 Date Received: 10/11/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/14/19 12:46
 Analyst: IM
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 10/12/19 05:16

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	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	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	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	ND		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	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	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	65.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	ND		ug/kg	110	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1

Project Name: 441 ELMWOOD

Lab Number: L1947850

Project Number: B0500-018-001

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-02

Date Collected: 10/11/19 12:00

Client ID: BLIND DUP #1

Date Received: 10/11/19

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	31.	1
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	19.	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	27.	1
Pyrene	ND		ug/kg	110	19.	1
Biphenyl	ND		ug/kg	440	44.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	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	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	ND		ug/kg	190	19.	1
Atrazine	ND		ug/kg	150	67.	1
Benzaldehyde	ND		ug/kg	250	52.	1

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-02
Client ID: BLIND DUP #1
Sample Location: BUFFALO

Date Collected: 10/11/19 12:00
Date Received: 10/11/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	45		25-120
Phenol-d6	49		10-120
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	39		30-120
2,4,6-Tribromophenol	60		10-136
4-Terphenyl-d14	38		18-120

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/11/19 23:49
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 10/11/19 14:15

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1295223-1					
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: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 10/11/19 23:49
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 10/11/19 14:15

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1295223-1					
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: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/11/19 23:49
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 10/11/19 14:15

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1295223-1					
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.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	107		25-120
Phenol-d6	113		10-120
Nitrobenzene-d5	109		23-120
2-Fluorobiphenyl	98		30-120
2,4,6-Tribromophenol	96		10-136
4-Terphenyl-d14	118		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1295223-2 WG1295223-3								
Acenaphthene	67		71		31-137	6		50
Hexachlorobenzene	69		75		40-140	8		50
Bis(2-chloroethyl)ether	74		77		40-140	4		50
2-Chloronaphthalene	67		69		40-140	3		50
3,3'-Dichlorobenzidine	70		75		40-140	7		50
2,4-Dinitrotoluene	83		87		40-132	5		50
2,6-Dinitrotoluene	81		82		40-140	1		50
Fluoranthene	69		82		40-140	17		50
4-Chlorophenyl phenyl ether	65		72		40-140	10		50
4-Bromophenyl phenyl ether	69		75		40-140	8		50
Bis(2-chloroisopropyl)ether	62		66		40-140	6		50
Bis(2-chloroethoxy)methane	84		76		40-117	10		50
Hexachlorobutadiene	65		68		40-140	5		50
Hexachlorocyclopentadiene	49		51		40-140	4		50
Hexachloroethane	70		74		40-140	6		50
Isophorone	79		83		40-140	5		50
Naphthalene	68		72		40-140	6		50
Nitrobenzene	77		83		40-140	8		50
NDPA/DPA	71		74		36-157	4		50
n-Nitrosodi-n-propylamine	80		86		32-121	7		50
Bis(2-ethylhexyl)phthalate	82		79		40-140	4		50
Butyl benzyl phthalate	80		84		40-140	5		50
Di-n-butylphthalate	83		83		40-140	0		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1295223-2 WG1295223-3								
Di-n-octylphthalate	94		89		40-140	5		50
Diethyl phthalate	73		74		40-140	1		50
Dimethyl phthalate	71		81		40-140	13		50
Benzo(a)anthracene	75		74		40-140	1		50
Benzo(a)pyrene	67		66		40-140	2		50
Benzo(b)fluoranthene	72		73		40-140	1		50
Benzo(k)fluoranthene	66		64		40-140	3		50
Chrysene	67		65		40-140	3		50
Acenaphthylene	68		72		40-140	6		50
Anthracene	70		82		40-140	16		50
Benzo(ghi)perylene	74		78		40-140	5		50
Fluorene	72		74		40-140	3		50
Phenanthrene	66		70		40-140	6		50
Dibenzo(a,h)anthracene	80		79		40-140	1		50
Indeno(1,2,3-cd)pyrene	83		83		40-140	0		50
Pyrene	66		70		35-142	6		50
Biphenyl	72		74		37-127	3		50
4-Chloroaniline	69		67		40-140	3		50
2-Nitroaniline	80		86		47-134	7		50
3-Nitroaniline	71		74		26-129	4		50
4-Nitroaniline	72		76		41-125	5		50
Dibenzofuran	76		74		40-140	3		50
2-Methylnaphthalene	76		73		40-140	4		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1295223-2 WG1295223-3								
1,2,4,5-Tetrachlorobenzene	71		74		40-117	4		50
Acetophenone	77		82		14-144	6		50
2,4,6-Trichlorophenol	75		87		30-130	15		50
p-Chloro-m-cresol	81		81		26-103	0		50
2-Chlorophenol	79		83		25-102	5		50
2,4-Dichlorophenol	84		81		30-130	4		50
2,4-Dimethylphenol	75		79		30-130	5		50
2-Nitrophenol	82		87		30-130	6		50
4-Nitrophenol	83		85		11-114	2		50
2,4-Dinitrophenol	64		64		4-130	0		50
4,6-Dinitro-o-cresol	88		91		10-130	3		50
Pentachlorophenol	65		68		17-109	5		50
Phenol	73		78		26-90	7		50
2-Methylphenol	82		87		30-130.	6		50
3-Methylphenol/4-Methylphenol	88		91		30-130	3		50
2,4,5-Trichlorophenol	80		82		30-130	2		50
Carbazole	70		84		54-128	18		50
Atrazine	77		81		40-140	5		50
Benzaldehyde	88		97		40-140	10		50
Caprolactam	85		89		15-130	5		50
2,3,4,6-Tetrachlorophenol	70		84		40-140	18		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1295223-2 WG1295223-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	79		90		25-120
Phenol-d6	85		88		10-120
Nitrobenzene-d5	79		89		23-120
2-Fluorobiphenyl	68		69		30-120
2,4,6-Tribromophenol	76		77		10-136
4-Terphenyl-d14	68		71		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD**Project Number:** B0500-018-001**Lab Number:** L1947850**Report Date:** 10/16/19**SAMPLE RESULTS****Lab ID:** L1947850-01**Client ID:** NORTH SIDEWALL #2**Sample Location:** BUFFALO**Date Collected:** 10/11/19 13:03**Date Received:** 10/11/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.3		%	0.100	NA	1	-	10/12/19 10:00	121,2540G	RI



Project Name: 441 ELMWOOD

Project Number: B0500-018-001

Lab Number: L1947850

Report Date: 10/16/19

SAMPLE RESULTS

Lab ID: L1947850-02

Client ID: BLIND DUP #1

Sample Location: BUFFALO

Date Collected: 10/11/19 12:00

Date Received: 10/11/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.8		%	0.100	NA	1	-	10/12/19 10:00	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** B0500-018-001**Lab Number:** L1947850**Report Date:** 10/16/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1295455-1 QC Sample: L1947798-02 Client ID: DUP Sample						
Solids, Total	93.1	94.3	%	1		20

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Serial_No:10161916:02
Lab Number: L1947850
Report Date: 10/16/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1947850-01A	Vial Large Septa unpreserved (4oz)	A	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1947850-01B	Glass 120ml/4oz unpreserved	A	NA		3.7	Y	Absent		NYTCL-8270(14),TS(7)
L1947850-01X	Vial MeOH preserved split	A	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1947850-01Y	Vial Water preserved split	A	NA		3.7	Y	Absent	12-OCT-19 04:50	NYTCL-8260-R2(14)
L1947850-01Z	Vial Water preserved split	A	NA		3.7	Y	Absent	12-OCT-19 04:50	NYTCL-8260-R2(14)
L1947850-02A	Glass 120ml/4oz unpreserved	A	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1947850-02B	Glass 120ml/4oz unpreserved	A	NA		3.7	Y	Absent		NYTCL-8270(14),TS(7)
L1947850-02X	Vial MeOH preserved split	A	NA		3.7	Y	Absent		NYTCL-8260-R2(14)
L1947850-02Y	Vial Water preserved split	A	NA		3.7	Y	Absent	12-OCT-19 04:50	NYTCL-8260-R2(14)
L1947850-02Z	Vial Water preserved split	A	NA		3.7	Y	Absent	12-OCT-19 04:50	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-018-001

Lab Number: L1947850
Report Date: 10/16/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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



ANALYTICAL REPORT

Lab Number:	L1949525
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD
Project Number:	B0500-019-001
Report Date:	10/29/19

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508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1949525-01	SOUTH SIDEWALL #1 (8-10)	SOIL	BUFFALO	10/21/19 15:03	10/22/19
L1949525-02	WEST SIDEWALL #1 (7-9)	SOIL	BUFFALO	10/21/19 15:14	10/22/19
L1949525-03	WEST SIDEWALL #2 (7-9)	SOIL	BUFFALO	10/21/19 15:22	10/22/19
L1949525-04	WEST SIDEWALL #3 (6-8)	SOIL	BUFFALO	10/21/19 15:26	10/22/19
L1949525-05	WEST SIDEWALL #4 (7-9)	SOIL	BUFFALO	10/21/19 15:32	10/22/19

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

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

L1949525-05: The collection date and time on the chain of custody was 21-OCT-19 15:23; however, the collection date/time on the container label was 21-OCT-19 15:32. At the client's request, the collection date/time is reported as 21-OCT-19 15:32.

Volatile Organics

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

Semivolatile Organics

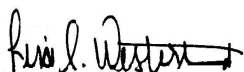
L1949525-02 and WG1299869-4/-5: The sample has elevated detection limits due to the dilution required by the sample matrix.

The WG1299869-4/-5 MS/MSD recoveries, performed on L1949525-02, are outside the acceptance criteria for naphthalene (0%/0%) and 2-methylnaphthalene (0%/0%). The unacceptable percent recoveries are attributed to the elevated concentrations of target compounds present in the native sample.

The WG1299869-4 MS/MSD recoveries, performed on L1949525-02, are below the acceptance criteria for hexachloroethane (0%/0%), acetophenone (0%/0%), 2,4-dinitrophenol (0%/0%), and benzaldehyde (0%/0%) due to the concentration of this compound falling below the reported detection limit.

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

Authorized Signature:



Lisa Westerlind

Title: Technical Director/Representative

Date: 10/29/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD**Lab Number:** L1949525**Project Number:** B0500-019-001**Report Date:** 10/29/19**SAMPLE RESULTS**

Lab ID: L1949525-01
 Client ID: SOUTH SIDEWALL #1 (8-10)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:03
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/27/19 22:16
 Analyst: JC
 Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	300	140	1
1,1-Dichloroethane	ND		ug/kg	60	8.8	1
Chloroform	ND		ug/kg	91	8.5	1
Carbon tetrachloride	ND		ug/kg	60	14.	1
1,2-Dichloropropane	ND		ug/kg	60	7.6	1
Dibromochloromethane	ND		ug/kg	60	8.5	1
1,1,2-Trichloroethane	ND		ug/kg	60	16.	1
Tetrachloroethene	ND		ug/kg	30	12.	1
Chlorobenzene	ND		ug/kg	30	7.7	1
Trichlorofluoromethane	ND		ug/kg	240	42.	1
1,2-Dichloroethane	ND		ug/kg	60	16.	1
1,1,1-Trichloroethane	ND		ug/kg	30	10.	1
Bromodichloromethane	ND		ug/kg	30	6.6	1
trans-1,3-Dichloropropene	ND		ug/kg	60	16.	1
cis-1,3-Dichloropropene	ND		ug/kg	30	9.6	1
Bromoform	ND		ug/kg	240	15.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	30	10.	1
Benzene	ND		ug/kg	30	10.	1
Toluene	ND		ug/kg	60	33.	1
Ethylbenzene	150		ug/kg	60	8.5	1
Chloromethane	ND		ug/kg	240	56.	1
Bromomethane	ND		ug/kg	120	35.	1
Vinyl chloride	ND		ug/kg	60	20.	1
Chloroethane	ND		ug/kg	120	27.	1
1,1-Dichloroethene	ND		ug/kg	60	14.	1
trans-1,2-Dichloroethene	ND		ug/kg	91	8.3	1
Trichloroethene	ND		ug/kg	30	8.3	1
1,2-Dichlorobenzene	ND		ug/kg	120	8.7	1

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-01
 Client ID: SOUTH SIDEWALL #1 (8-10)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:03
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	120	9.0	1
1,4-Dichlorobenzene	ND		ug/kg	120	10.	1
Methyl tert butyl ether	ND		ug/kg	120	12.	1
p/m-Xylene	830		ug/kg	120	34.	1
o-Xylene	220		ug/kg	60	18.	1
cis-1,2-Dichloroethene	ND		ug/kg	60	10.	1
Styrene	ND		ug/kg	60	12.	1
Dichlorodifluoromethane	ND		ug/kg	600	55.	1
Acetone	ND		ug/kg	600	290	1
Carbon disulfide	ND		ug/kg	600	280	1
2-Butanone	ND		ug/kg	600	130	1
4-Methyl-2-pentanone	ND		ug/kg	600	77.	1
2-Hexanone	ND		ug/kg	600	71.	1
Bromochloromethane	ND		ug/kg	120	12.	1
1,2-Dibromoethane	ND		ug/kg	60	17.	1
n-Butylbenzene	150		ug/kg	60	10.	1
sec-Butylbenzene	50	J	ug/kg	60	8.8	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	180	60.	1
Isopropylbenzene	48	J	ug/kg	60	6.6	1
p-Isopropyltoluene	24	J	ug/kg	60	6.6	1
n-Propylbenzene	230		ug/kg	60	10.	1
1,2,3-Trichlorobenzene	ND		ug/kg	120	19.	1
1,2,4-Trichlorobenzene	ND		ug/kg	120	16.	1
1,3,5-Trimethylbenzene	520		ug/kg	120	12.	1
1,2,4-Trimethylbenzene	1900		ug/kg	120	20.	1
Methyl Acetate	ND		ug/kg	240	58.	1
Cyclohexane	61	J	ug/kg	600	33.	1
1,4-Dioxane	ND		ug/kg	4800	2100	1
Freon-113	ND		ug/kg	240	42.	1
Methyl cyclohexane	72	J	ug/kg	240	36.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	111		70-130

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-02 D
 Client ID: WEST SIDEWALL #1 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:14
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/27/19 22:42
 Analyst: JC
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	3200	1400	10
1,1-Dichloroethane	ND		ug/kg	640	92.	10
Chloroform	ND		ug/kg	950	89.	10
Carbon tetrachloride	ND		ug/kg	640	150	10
1,2-Dichloropropane	ND		ug/kg	640	80.	10
Dibromochloromethane	ND		ug/kg	640	89.	10
1,1,2-Trichloroethane	ND		ug/kg	640	170	10
Tetrachloroethene	ND		ug/kg	320	120	10
Chlorobenzene	ND		ug/kg	320	81.	10
Trichlorofluoromethane	ND		ug/kg	2500	440	10
1,2-Dichloroethane	ND		ug/kg	640	160	10
1,1,1-Trichloroethane	ND		ug/kg	320	110	10
Bromodichloromethane	ND		ug/kg	320	69.	10
trans-1,3-Dichloropropene	ND		ug/kg	640	170	10
cis-1,3-Dichloropropene	ND		ug/kg	320	100	10
Bromoform	ND		ug/kg	2500	160	10
1,1,2,2-Tetrachloroethane	ND		ug/kg	320	100	10
Benzene	ND		ug/kg	320	100	10
Toluene	3600		ug/kg	640	340	10
Ethylbenzene	15000		ug/kg	640	90.	10
Chloromethane	ND		ug/kg	2500	590	10
Bromomethane	ND		ug/kg	1300	370	10
Vinyl chloride	ND		ug/kg	640	210	10
Chloroethane	ND		ug/kg	1300	290	10
1,1-Dichloroethene	ND		ug/kg	640	150	10
trans-1,2-Dichloroethene	ND		ug/kg	950	87.	10
Trichloroethene	ND		ug/kg	320	87.	10
1,2-Dichlorobenzene	ND		ug/kg	1300	92.	10

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-02 D
 Client ID: WEST SIDEWALL #1 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:14
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	1300	94.	10
1,4-Dichlorobenzene	ND		ug/kg	1300	110	10
Methyl tert butyl ether	ND		ug/kg	1300	130	10
p/m-Xylene	74000		ug/kg	1300	360	10
o-Xylene	19000		ug/kg	640	180	10
cis-1,2-Dichloroethene	ND		ug/kg	640	110	10
Styrene	ND		ug/kg	640	120	10
Dichlorodifluoromethane	ND		ug/kg	6400	580	10
Acetone	ND		ug/kg	6400	3100	10
Carbon disulfide	ND		ug/kg	6400	2900	10
2-Butanone	ND		ug/kg	6400	1400	10
4-Methyl-2-pentanone	ND		ug/kg	6400	810	10
2-Hexanone	ND		ug/kg	6400	750	10
Bromochloromethane	ND		ug/kg	1300	130	10
1,2-Dibromoethane	ND		ug/kg	640	180	10
n-Butylbenzene	6400		ug/kg	640	110	10
sec-Butylbenzene	2000		ug/kg	640	93.	10
1,2-Dibromo-3-chloropropane	ND		ug/kg	1900	640	10
Isopropylbenzene	2500		ug/kg	640	69.	10
p-Isopropyltoluene	1000		ug/kg	640	69.	10
n-Propylbenzene	13000		ug/kg	640	110	10
1,2,3-Trichlorobenzene	ND		ug/kg	1300	200	10
1,2,4-Trichlorobenzene	ND		ug/kg	1300	170	10
1,3,5-Trimethylbenzene	34000		ug/kg	1300	120	10
1,2,4-Trimethylbenzene	120000		ug/kg	1300	210	10
Methyl Acetate	ND		ug/kg	2500	600	10
Cyclohexane	9700		ug/kg	6400	350	10
1,4-Dioxane	ND		ug/kg	51000	22000	10
Freon-113	ND		ug/kg	2500	440	10
Methyl cyclohexane	21000		ug/kg	2500	380	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	121		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	111		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-03
Client ID: WEST SIDEWALL #2 (7-9)
Sample Location: BUFFALO

Date Collected: 10/21/19 15:22
Date Received: 10/22/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/25/19 19:14
Analyst: MKS
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	6.2	2.9	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	0.20	J	ug/kg	1.9	0.18	1
Carbon tetrachloride	ND		ug/kg	1.2	0.29	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.16	1
Dibromochloromethane	ND		ug/kg	1.2	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.33	1
Tetrachloroethene	ND		ug/kg	0.62	0.24	1
Chlorobenzene	ND		ug/kg	0.62	0.16	1
Trichlorofluoromethane	ND		ug/kg	5.0	0.87	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.32	1
1,1,1-Trichloroethane	ND		ug/kg	0.62	0.21	1
Bromodichloromethane	ND		ug/kg	0.62	0.14	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.34	1
cis-1,3-Dichloropropene	ND		ug/kg	0.62	0.20	1
Bromoform	ND		ug/kg	5.0	0.31	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.62	0.21	1
Benzene	ND		ug/kg	0.62	0.21	1
Toluene	ND		ug/kg	1.2	0.68	1
Ethylbenzene	0.57	J	ug/kg	1.2	0.18	1
Chloromethane	ND		ug/kg	5.0	1.2	1
Bromomethane	ND		ug/kg	2.5	0.73	1
Vinyl chloride	ND		ug/kg	1.2	0.42	1
Chloroethane	ND		ug/kg	2.5	0.56	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	0.17	1
Trichloroethene	ND		ug/kg	0.62	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	0.18	1

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-03
 Client ID: WEST SIDEWALL #2 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:22
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.5	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.5	0.25	1
p/m-Xylene	2.3	J	ug/kg	2.5	0.70	1
o-Xylene	0.45	J	ug/kg	1.2	0.36	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.22	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	6.0	1
Carbon disulfide	ND		ug/kg	12	5.7	1
2-Butanone	ND		ug/kg	12	2.8	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.5	1
Bromochloromethane	ND		ug/kg	2.5	0.26	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.35	1
n-Butylbenzene	ND		ug/kg	1.2	0.21	1
sec-Butylbenzene	ND		ug/kg	1.2	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.8	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.14	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.14	1
n-Propylbenzene	ND		ug/kg	1.2	0.21	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	0.40	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	0.34	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.5	0.24	1
1,2,4-Trimethylbenzene	0.55	J	ug/kg	2.5	0.42	1
Methyl Acetate	ND		ug/kg	5.0	1.2	1
Cyclohexane	ND		ug/kg	12	0.68	1
1,4-Dioxane	ND		ug/kg	100	44.	1
Freon-113	ND		ug/kg	5.0	0.87	1
Methyl cyclohexane	ND		ug/kg	5.0	0.75	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	86		70-130



Project Name: 441 ELMWOOD**Lab Number:** L1949525**Project Number:** B0500-019-001**Report Date:** 10/29/19**SAMPLE RESULTS**

Lab ID: L1949525-04 D
 Client ID: WEST SIDEWALL #3 (6-8)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:26
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/27/19 23:07
 Analyst: JC
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	490	220	2
1,1-Dichloroethane	ND		ug/kg	98	14.	2
Chloroform	ND		ug/kg	150	14.	2
Carbon tetrachloride	ND		ug/kg	98	22.	2
1,2-Dichloropropane	ND		ug/kg	98	12.	2
Dibromochloromethane	ND		ug/kg	98	14.	2
1,1,2-Trichloroethane	ND		ug/kg	98	26.	2
Tetrachloroethene	ND		ug/kg	49	19.	2
Chlorobenzene	ND		ug/kg	49	12.	2
Trichlorofluoromethane	ND		ug/kg	390	68.	2
1,2-Dichloroethane	ND		ug/kg	98	25.	2
1,1,1-Trichloroethane	ND		ug/kg	49	16.	2
Bromodichloromethane	ND		ug/kg	49	11.	2
trans-1,3-Dichloropropene	ND		ug/kg	98	27.	2
cis-1,3-Dichloropropene	ND		ug/kg	49	15.	2
Bromoform	ND		ug/kg	390	24.	2
1,1,2,2-Tetrachloroethane	ND		ug/kg	49	16.	2
Benzene	ND		ug/kg	49	16.	2
Toluene	ND		ug/kg	98	53.	2
Ethylbenzene	2900		ug/kg	98	14.	2
Chloromethane	ND		ug/kg	390	91.	2
Bromomethane	ND		ug/kg	200	57.	2
Vinyl chloride	ND		ug/kg	98	33.	2
Chloroethane	ND		ug/kg	200	44.	2
1,1-Dichloroethene	ND		ug/kg	98	23.	2
trans-1,2-Dichloroethene	ND		ug/kg	150	13.	2
Trichloroethene	ND		ug/kg	49	13.	2
1,2-Dichlorobenzene	ND		ug/kg	200	14.	2

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-04 D
 Client ID: WEST SIDEWALL #3 (6-8)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:26
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	200	14.	2
1,4-Dichlorobenzene	ND		ug/kg	200	17.	2
Methyl tert butyl ether	ND		ug/kg	200	20.	2
p/m-Xylene	17000		ug/kg	200	55.	2
o-Xylene	120		ug/kg	98	28.	2
cis-1,2-Dichloroethene	ND		ug/kg	98	17.	2
Styrene	ND		ug/kg	98	19.	2
Dichlorodifluoromethane	ND		ug/kg	980	90.	2
Acetone	ND		ug/kg	980	470	2
Carbon disulfide	ND		ug/kg	980	440	2
2-Butanone	ND		ug/kg	980	220	2
4-Methyl-2-pentanone	ND		ug/kg	980	120	2
2-Hexanone	ND		ug/kg	980	120	2
Bromochloromethane	ND		ug/kg	200	20.	2
1,2-Dibromoethane	ND		ug/kg	98	27.	2
n-Butylbenzene	1400		ug/kg	98	16.	2
sec-Butylbenzene	500		ug/kg	98	14.	2
1,2-Dibromo-3-chloropropane	ND		ug/kg	290	98.	2
Isopropylbenzene	740		ug/kg	98	11.	2
p-Isopropyltoluene	520		ug/kg	98	11.	2
n-Propylbenzene	2800		ug/kg	98	17.	2
1,2,3-Trichlorobenzene	ND		ug/kg	200	32.	2
1,2,4-Trichlorobenzene	ND		ug/kg	200	27.	2
1,3,5-Trimethylbenzene	6600		ug/kg	200	19.	2
1,2,4-Trimethylbenzene	21000		ug/kg	200	33.	2
Methyl Acetate	ND		ug/kg	390	93.	2
Cyclohexane	760	J	ug/kg	980	53.	2
1,4-Dioxane	ND		ug/kg	7800	3400	2
Freon-113	ND		ug/kg	390	68.	2
Methyl cyclohexane	2500		ug/kg	390	59.	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	113		70-130
Dibromofluoromethane	109		70-130



Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-05
 Client ID: WEST SIDEWALL #4 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:32
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/25/19 19:53
 Analyst: MKS
 Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.5	2.5	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	0.15	J	ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.25	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.55	0.22	1
Chlorobenzene	ND		ug/kg	0.55	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.4	0.77	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.28	1
1,1,1-Trichloroethane	ND		ug/kg	0.55	0.18	1
Bromodichloromethane	ND		ug/kg	0.55	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.55	0.17	1
Bromoform	ND		ug/kg	4.4	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.55	0.18	1
Benzene	ND		ug/kg	0.55	0.18	1
Toluene	ND		ug/kg	1.1	0.60	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.4	1.0	1
Bromomethane	ND		ug/kg	2.2	0.64	1
Vinyl chloride	ND		ug/kg	1.1	0.37	1
Chloroethane	ND		ug/kg	2.2	0.50	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.15	1
Trichloroethene	ND		ug/kg	0.55	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-05
 Client ID: WEST SIDEWALL #4 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:32
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	ND		ug/kg	2.2	0.62	1
o-Xylene	ND		ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	6.6	J	ug/kg	11	5.3	1
Carbon disulfide	ND		ug/kg	11	5.0	1
2-Butanone	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.31	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.30	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	0.21	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	0.37	1
Methyl Acetate	ND		ug/kg	4.4	1.0	1
Cyclohexane	ND		ug/kg	11	0.60	1
1,4-Dioxane	ND		ug/kg	88	39.	1
Freon-113	ND		ug/kg	4.4	0.76	1
Methyl cyclohexane	ND		ug/kg	4.4	0.67	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	86		70-130



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/25/19 11:43
 Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03,05 Batch: WG1301025-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.21	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	1.1	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/25/19 11:43
 Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03,05 Batch: WG1301025-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	0.30	J	ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/25/19 11:43
 Analyst: PK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03,05 Batch: WG1301025-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	87		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/27/19 13:36
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,04 Batch: WG1301651-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/27/19 13:36
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,04 Batch: WG1301651-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	4000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/27/19 13:36
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02,04 Batch: WG1301651-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	110		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03,05 Batch: WG1301025-3 WG1301025-4								
Methylene chloride	106		96		70-130	10		30
1,1-Dichloroethane	108		99		70-130	9		30
Chloroform	98		92		70-130	6		30
Carbon tetrachloride	105		97		70-130	8		30
1,2-Dichloropropane	107		100		70-130	7		30
Dibromochloromethane	100		94		70-130	6		30
1,1,2-Trichloroethane	105		99		70-130	6		30
Tetrachloroethene	97		88		70-130	10		30
Chlorobenzene	100		92		70-130	8		30
Trichlorofluoromethane	115		106		70-139	8		30
1,2-Dichloroethane	99		94		70-130	5		30
1,1,1-Trichloroethane	104		97		70-130	7		30
Bromodichloromethane	97		91		70-130	6		30
trans-1,3-Dichloropropene	96		91		70-130	5		30
cis-1,3-Dichloropropene	88		84		70-130	5		30
Bromoform	98		94		70-130	4		30
1,1,2,2-Tetrachloroethane	108		102		70-130	6		30
Benzene	101		94		70-130	7		30
Toluene	106		97		70-130	9		30
Ethylbenzene	109		101		70-130	8		30
Chloromethane	121		113		52-130	7		30
Bromomethane	114		109		57-147	4		30
Vinyl chloride	115		105		67-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03,05 Batch: WG1301025-3 WG1301025-4								
Chloroethane	117		108		50-151	8		30
1,1-Dichloroethene	111		103		65-135	7		30
trans-1,2-Dichloroethene	104		96		70-130	8		30
Trichloroethene	104		96		70-130	8		30
1,2-Dichlorobenzene	104		97		70-130	7		30
1,3-Dichlorobenzene	107		99		70-130	8		30
1,4-Dichlorobenzene	106		98		70-130	8		30
Methyl tert butyl ether	103		99		66-130	4		30
p/m-Xylene	106		98		70-130	8		30
o-Xylene	104		96		70-130	8		30
cis-1,2-Dichloroethene	99		92		70-130	7		30
Styrene	106		99		70-130	7		30
Dichlorodifluoromethane	127		117		30-146	8		30
Acetone	121		110		54-140	10		30
Carbon disulfide	109		99		59-130	10		30
2-Butanone	115		109		70-130	5		30
4-Methyl-2-pentanone	120		115		70-130	4		30
2-Hexanone	121		118		70-130	3		30
Bromochloromethane	94		89		70-130	5		30
1,2-Dibromoethane	100		94		70-130	6		30
n-Butylbenzene	117		107		70-130	9		30
sec-Butylbenzene	119		109		70-130	9		30
1,2-Dibromo-3-chloropropane	103		100		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03,05 Batch: WG1301025-3 WG1301025-4								
Isopropylbenzene	115		106		70-130	8		30
p-Isopropyltoluene	117		107		70-130	9		30
n-Propylbenzene	118		108		70-130	9		30
1,2,3-Trichlorobenzene	102		96		70-130	6		30
1,2,4-Trichlorobenzene	109		100		70-130	9		30
1,3,5-Trimethylbenzene	115		106		70-130	8		30
1,2,4-Trimethylbenzene	115		106		70-130	8		30
Methyl Acetate	118		113		51-146	4		30
Cyclohexane	126		116		59-142	8		30
1,4-Dioxane	108		104		65-136	4		30
Freon-113	114		106		50-139	7		30
Methyl cyclohexane	114		104		70-130	9		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		98		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	103		103		70-130
Dibromofluoromethane	87		88		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1301651-3 WG1301651-4								
Methylene chloride	94		88		70-130	7		30
1,1-Dichloroethane	107		100		70-130	7		30
Chloroform	116		112		70-130	4		30
Carbon tetrachloride	132	Q	121		70-130	9		30
1,2-Dichloropropane	104		99		70-130	5		30
Dibromochloromethane	121		115		70-130	5		30
1,1,2-Trichloroethane	106		100		70-130	6		30
Tetrachloroethene	112		105		70-130	6		30
Chlorobenzene	104		97		70-130	7		30
Trichlorofluoromethane	118		110		70-139	7		30
1,2-Dichloroethane	122		118		70-130	3		30
1,1,1-Trichloroethane	122		114		70-130	7		30
Bromodichloromethane	119		115		70-130	3		30
trans-1,3-Dichloropropene	119		112		70-130	6		30
cis-1,3-Dichloropropene	115		111		70-130	4		30
Bromoform	126		118		70-130	7		30
1,1,2,2-Tetrachloroethane	98		92		70-130	6		30
Benzene	103		96		70-130	7		30
Toluene	106		98		70-130	8		30
Ethylbenzene	107		99		70-130	8		30
Chloromethane	77		67		52-130	14		30
Bromomethane	111		96		57-147	14		30
Vinyl chloride	86		79		67-130	8		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1301651-3 WG1301651-4								
Chloroethane	106		98		50-151	8		30
1,1-Dichloroethene	106		99		65-135	7		30
trans-1,2-Dichloroethene	111		104		70-130	7		30
Trichloroethene	113		107		70-130	5		30
1,2-Dichlorobenzene	111		104		70-130	7		30
1,3-Dichlorobenzene	113		104		70-130	8		30
1,4-Dichlorobenzene	110		102		70-130	8		30
Methyl tert butyl ether	121		117		66-130	3		30
p/m-Xylene	107		99		70-130	8		30
o-Xylene	107		100		70-130	7		30
cis-1,2-Dichloroethene	114		108		70-130	5		30
Styrene	113		107		70-130	5		30
Dichlorodifluoromethane	69		62		30-146	11		30
Acetone	112		102		54-140	9		30
Carbon disulfide	98		89		59-130	10		30
2-Butanone	94		84		70-130	11		30
4-Methyl-2-pentanone	109		101		70-130	8		30
2-Hexanone	97		90		70-130	7		30
Bromochloromethane	125		117		70-130	7		30
1,2-Dibromoethane	116		110		70-130	5		30
n-Butylbenzene	105		97		70-130	8		30
sec-Butylbenzene	106		99		70-130	7		30
1,2-Dibromo-3-chloropropane	119		117		68-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04 Batch: WG1301651-3 WG1301651-4								
Isopropylbenzene	108		100		70-130	8		30
p-Isopropyltoluene	112		104		70-130	7		30
n-Propylbenzene	105		97		70-130	8		30
1,2,3-Trichlorobenzene	115		112		70-130	3		30
1,2,4-Trichlorobenzene	117		112		70-130	4		30
1,3,5-Trimethylbenzene	110		101		70-130	9		30
1,2,4-Trimethylbenzene	111		104		70-130	7		30
Methyl Acetate	109		103		51-146	6		30
Cyclohexane	99		92		59-142	7		30
1,4-Dioxane	117		112		65-136	4		30
Freon-113	109		100		50-139	9		30
Methyl cyclohexane	109		102		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	116		116		70-130
Toluene-d8	98		98		70-130
4-Bromofluorobenzene	101		100		70-130
Dibromofluoromethane	113		117		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04 QC Batch ID: WG1301651-11 WG1301651-12 QC Sample: L1949525-02 Client ID: WEST SIDEWALL #1 (7-9)												
Methylene chloride	ND	64000	56000	88		60000	93		70-130	6		30
1,1-Dichloroethane	ND	64000	64000	100		67000	104		70-130	4		30
Chloroform	ND	64000	70000	110		74000	115		70-130	5		30
Carbon tetrachloride	ND	64000	81000	127		83000	130		70-130	2		30
1,2-Dichloropropane	ND	64000	61000	96		64000	100		70-130	4		30
Dibromochloromethane	ND	64000	71000	111		77000	120		70-130	7		30
1,1,2-Trichloroethane	ND	64000	70000	110		75000	117		70-130	7		30
Tetrachloroethene	ND	64000	68000	106		68000	106		70-130	0		30
Chlorobenzene	ND	64000	60000	94		62000	97		70-130	3		30
Trichlorofluoromethane	ND	64000	75000	118		77000	121		70-139	2		30
1,2-Dichloroethane	ND	64000	71000	111		76000	119		70-130	7		30
1,1,1-Trichloroethane	ND	64000	75000	117		77000	120		70-130	3		30
Bromodichloromethane	ND	64000	70000	108		75000	117		70-130	7		30
trans-1,3-Dichloropropene	ND	64000	70000	109		75000	117		70-130	7		30
cis-1,3-Dichloropropene	ND	64000	69000	108		73000	114		70-130	6		30
Bromoform	ND	64000	73000	114		79000	123		70-130	8		30
1,1,1,2-Tetrachloroethane	ND	64000	56000	88		61000	95		70-130	7		30
Benzene	ND	64000	62000	97		65000	101		70-130	4		30
Toluene	3600	64000	66000	97		67000	100		70-130	3		30
Ethylbenzene	15000	64000	76000	96		77000	96		70-130	0		30
Chloromethane	ND	64000	43000	66		44000	69		52-130	3		30
Bromomethane	ND	64000	60000	94		64000	99		57-147	5		30
Vinyl chloride	ND	64000	57000	89		60000	93		67-130	5		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04 QC Batch ID: WG1301651-11 WG1301651-12 QC Sample: L1949525-02 Client ID: WEST SIDEWALL #1 (7-9)												
Chloroethane	ND	64000	62000	96		65000	101		50-151	5		30
1,1-Dichloroethene	ND	64000	68000	106		71000	110		65-135	4		30
trans-1,2-Dichloroethene	ND	64000	69000	107		71000	111		70-130	4		30
Trichloroethene	ND	64000	69000	108		70000	109		70-130	1		30
1,2-Dichlorobenzene	ND	64000	63000	99		64000	100		70-130	1		30
1,3-Dichlorobenzene	ND	64000	65000	101		64000	99		70-130	2		30
1,4-Dichlorobenzene	ND	64000	62000	97		61000	96		70-130	2		30
Methyl tert butyl ether	ND	64000	73000	113		78000	122		66-130	8		30
p/m-Xylene	74000	130000	190000	87		190000	88		70-130	1		30
o-Xylene	19000	130000	140000	93		140000	94		70-130	1		30
cis-1,2-Dichloroethene	ND	64000	69000	108		72000	113		70-130	5		30
Styrene	ND	130000	130000	102		130000	103		70-130	2		30
Dichlorodifluoromethane	ND	64000	43000	68		45000	70		30-146	3		30
Acetone	ND	64000	69000	108		73000	114		54-140	6		30
Carbon disulfide	ND	64000	61000	94		62000	98		59-130	3		30
2-Butanone	ND	64000	68000	106		75000	117		70-130	9		30
4-Methyl-2-pentanone	ND	64000	64000	99		70000	110		70-130	10		30
2-Hexanone	ND	64000	60000	93		66000	102		70-130	9		30
Bromochloromethane	ND	64000	73000	114		77000	120		70-130	6		30
1,2-Dibromoethane	ND	64000	67000	105		74000	115		70-130	9		30
n-Butylbenzene	6400	64000	70000	99		63000	88		70-130	10		30
sec-Butylbenzene	2000	64000	64000	98		60000	90		70-130	8		30
1,2-Dibromo-3-chloropropane	ND	64000	71000	112		78000	122		68-130	9		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02,04 QC Batch ID: WG1301651-11 WG1301651-12 QC Sample: L1949525-02 Client ID: WEST SIDEWALL #1 (7-9)												
Isopropylbenzene	2500	64000	67000	101		64000	97		70-130	4		30
p-Isopropyltoluene	1000	64000	70000	108		64000	99		70-130	9		30
n-Propylbenzene	13000	64000	74000	96		70000	89		70-130	6		30
1,2,3-Trichlorobenzene	ND	64000	68000	106		69000	108		70-130	1		30
1,2,4-Trichlorobenzene	ND	64000	68000	106		68000	106		70-130	0		30
1,3,5-Trimethylbenzene	34000	64000	94000	94		90000	88		70-130	4		30
1,2,4-Trimethylbenzene	120000	64000	170000	81		170000	72		70-130	4		30
Methyl Acetate	ND	64000	62000	97		69000	108		51-146	10		30
Cyclohexane	9700	64000	70000	94		71000	96		59-142	2		30
1,4-Dioxane	ND	3200000	3500000	110		3900000	122		65-136	11		30
Freon-113	ND	64000	69000	108		71000	111		50-139	3		30
Methyl cyclohexane	21000	64000	87000	103		90000	107		70-130	3		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		119		70-130
4-Bromofluorobenzene	102		105		70-130
Dibromofluoromethane	114		114		70-130
Toluene-d8	99		99		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-01
 Client ID: SOUTH SIDEWALL #1 (8-10)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:03
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/25/19 00:26
 Analyst: JRW
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 10/23/19 17:37

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	26.	1
2-Chloronaphthalene	ND		ug/kg	200	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	52.	1
2,4-Dinitrotoluene	ND		ug/kg	200	39.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	25.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	68.	1
Butyl benzyl phthalate	ND		ug/kg	200	49.	1
Di-n-butylphthalate	ND		ug/kg	200	37.	1
Di-n-octylphthalate	ND		ug/kg	200	66.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	41.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-01
 Client ID: SOUTH SIDEWALL #1 (8-10)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:03
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	ND		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	27.	1
Pyrene	ND		ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	81.	1
Dibenzofuran	ND		ug/kg	200	18.	1
2-Methylnaphthalene	ND		ug/kg	230	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	20.	1
Acetophenone	ND		ug/kg	200	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	200	29.	1
2-Chlorophenol	ND		ug/kg	200	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	31.	1
2,4-Dimethylphenol	ND		ug/kg	200	64.	1
2-Nitrophenol	ND		ug/kg	420	73.	1
4-Nitrophenol	ND		ug/kg	270	80.	1
2,4-Dinitrophenol	ND		ug/kg	940	91.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	94.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	200	29.	1
2-Methylphenol	ND		ug/kg	200	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	37.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	68.	1
Benzaldehyde	ND		ug/kg	260	53.	1

Project Name: 441 ELMWOOD**Lab Number:** L1949525**Project Number:** B0500-019-001**Report Date:** 10/29/19**SAMPLE RESULTS****Lab ID:** L1949525-01**Date Collected:** 10/21/19 15:03**Client ID:** SOUTH SIDEWALL #1 (8-10)**Date Received:** 10/22/19**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	59.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	39.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		25-120
Phenol-d6	52		10-120
Nitrobenzene-d5	39		23-120
2-Fluorobiphenyl	44		30-120
2,4,6-Tribromophenol	56		10-136
4-Terphenyl-d14	41		18-120

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-02 D
 Client ID: WEST SIDEWALL #1 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:14
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/29/19 01:55
 Analyst: JG
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 10/23/19 20:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	760	98.	5
Hexachlorobenzene	ND		ug/kg	570	110	5
Bis(2-chloroethyl)ether	ND		ug/kg	850	130	5
2-Chloronaphthalene	ND		ug/kg	950	94.	5
3,3'-Dichlorobenzidine	ND		ug/kg	950	250	5
2,4-Dinitrotoluene	ND		ug/kg	950	190	5
2,6-Dinitrotoluene	ND		ug/kg	950	160	5
Fluoranthene	ND		ug/kg	570	110	5
4-Chlorophenyl phenyl ether	ND		ug/kg	950	100	5
4-Bromophenyl phenyl ether	ND		ug/kg	950	140	5
Bis(2-chloroisopropyl)ether	ND		ug/kg	1100	160	5
Bis(2-chloroethoxy)methane	ND		ug/kg	1000	95.	5
Hexachlorobutadiene	ND		ug/kg	950	140	5
Hexachlorocyclopentadiene	ND		ug/kg	2700	860	5
Hexachloroethane	ND		ug/kg	760	150	5
Isophorone	ND		ug/kg	850	120	5
Naphthalene	10000		ug/kg	950	120	5
Nitrobenzene	ND		ug/kg	850	140	5
NDPA/DPA	ND		ug/kg	760	110	5
n-Nitrosodi-n-propylamine	ND		ug/kg	950	150	5
Bis(2-ethylhexyl)phthalate	ND		ug/kg	950	330	5
Butyl benzyl phthalate	ND		ug/kg	950	240	5
Di-n-butylphthalate	ND		ug/kg	950	180	5
Di-n-octylphthalate	ND		ug/kg	950	320	5
Diethyl phthalate	ND		ug/kg	950	88.	5
Dimethyl phthalate	ND		ug/kg	950	200	5
Benzo(a)anthracene	ND		ug/kg	570	110	5
Benzo(a)pyrene	ND		ug/kg	760	230	5

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-02 D
 Client ID: WEST SIDEWALL #1 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:14
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	570	160	5
Benzo(k)fluoranthene	ND		ug/kg	570	150	5
Chrysene	ND		ug/kg	570	99.	5
Acenaphthylene	ND		ug/kg	760	150	5
Anthracene	ND		ug/kg	570	180	5
Benzo(ghi)perylene	ND		ug/kg	760	110	5
Fluorene	ND		ug/kg	950	92.	5
Phenanthrene	ND		ug/kg	570	120	5
Dibenzo(a,h)anthracene	ND		ug/kg	570	110	5
Indeno(1,2,3-cd)pyrene	ND		ug/kg	760	130	5
Pyrene	ND		ug/kg	570	94.	5
Biphenyl	310	J	ug/kg	2200	220	5
4-Chloroaniline	ND		ug/kg	950	170	5
2-Nitroaniline	ND		ug/kg	950	180	5
3-Nitroaniline	ND		ug/kg	950	180	5
4-Nitroaniline	ND		ug/kg	950	390	5
Dibenzofuran	ND		ug/kg	950	90.	5
2-Methylnaphthalene	17000		ug/kg	1100	110	5
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	950	99.	5
Acetophenone	ND		ug/kg	950	120	5
2,4,6-Trichlorophenol	ND		ug/kg	570	180	5
p-Chloro-m-cresol	ND		ug/kg	950	140	5
2-Chlorophenol	ND		ug/kg	950	110	5
2,4-Dichlorophenol	ND		ug/kg	850	150	5
2,4-Dimethylphenol	ND		ug/kg	950	310	5
2-Nitrophenol	ND		ug/kg	2000	360	5
4-Nitrophenol	ND		ug/kg	1300	390	5
2,4-Dinitrophenol	ND		ug/kg	4600	440	5
4,6-Dinitro-o-cresol	ND		ug/kg	2500	460	5
Pentachlorophenol	ND		ug/kg	760	210	5
Phenol	ND		ug/kg	950	140	5
2-Methylphenol	ND		ug/kg	950	150	5
3-Methylphenol/4-Methylphenol	ND		ug/kg	1400	150	5
2,4,5-Trichlorophenol	ND		ug/kg	950	180	5
Carbazole	ND		ug/kg	950	92.	5
Atrazine	ND		ug/kg	760	330	5
Benzaldehyde	ND		ug/kg	1200	260	5

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-02 D
 Client ID: WEST SIDEWALL #1 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:14
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	950	290	5
2,3,4,6-Tetrachlorophenol	ND		ug/kg	950	190	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	82		25-120
Phenol-d6	77		10-120
Nitrobenzene-d5	63		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	95		10-136
4-Terphenyl-d14	65		18-120

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-03
 Client ID: WEST SIDEWALL #2 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:22
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/25/19 03:45
 Analyst: JG
 Percent Solids: 79%

Extraction Method: EPA 3546
 Extraction Date: 10/23/19 20:57

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	24.	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	250	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	590	180	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	180	27.	1
Naphthalene	ND		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	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	71.	1
Butyl benzyl phthalate	ND		ug/kg	200	52.	1
Di-n-butylphthalate	ND		ug/kg	200	39.	1
Di-n-octylphthalate	ND		ug/kg	200	70.	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

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-03
 Client ID: WEST SIDEWALL #2 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:22
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	32.	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	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	29.	1
Pyrene	ND		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	470	48.	1
4-Chloroaniline	ND		ug/kg	200	37.	1
2-Nitroaniline	ND		ug/kg	200	40.	1
3-Nitroaniline	ND		ug/kg	200	39.	1
4-Nitroaniline	ND		ug/kg	200	85.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	250	25.	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	39.	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	68.	1
2-Nitrophenol	ND		ug/kg	440	77.	1
4-Nitrophenol	ND		ug/kg	290	84.	1
2,4-Dinitrophenol	ND		ug/kg	980	96.	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	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	39.	1
Carbazole	ND		ug/kg	200	20.	1
Atrazine	ND		ug/kg	160	72.	1
Benzaldehyde	ND		ug/kg	270	55.	1

Project Name: 441 ELMWOOD**Lab Number:** L1949525**Project Number:** B0500-019-001**Report Date:** 10/29/19**SAMPLE RESULTS****Lab ID:** L1949525-03**Date Collected:** 10/21/19 15:22**Client ID:** WEST SIDEWALL #2 (7-9)**Date Received:** 10/22/19**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	62.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	41.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	97		25-120
Phenol-d6	102		10-120
Nitrobenzene-d5	81		23-120
2-Fluorobiphenyl	74		30-120
2,4,6-Tribromophenol	99		10-136
4-Terphenyl-d14	52		18-120

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-04
 Client ID: WEST SIDEWALL #3 (6-8)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:26
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/29/19 02:21
 Analyst: JG
 Percent Solids: 89%

Extraction Method: EPA 3546
 Extraction Date: 10/23/19 20:57

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	150	19.	1
Hexachlorobenzene	38	J	ug/kg	110	21.	1
Bis(2-chloroethyl)ether	ND		ug/kg	170	25.	1
2-Chloronaphthalene	49	J	ug/kg	190	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	32	J	ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	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	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	1700		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	64.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1
Di-n-butylphthalate	ND		ug/kg	190	35.	1
Di-n-octylphthalate	ND		ug/kg	190	63.	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	45.	1

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-04
 Client ID: WEST SIDEWALL #3 (6-8)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:26
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	18.	1
Phenanthrene	36	J	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	18.	1
Biphenyl	55	J	ug/kg	420	43.	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	77.	1
Dibenzofuran	27	J	ug/kg	190	18.	1
2-Methylnaphthalene	930		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	42	J	ug/kg	190	19.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	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	61.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	890	87.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	89.	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	65.	1
Benzaldehyde	ND		ug/kg	240	50.	1

Project Name: 441 ELMWOOD**Lab Number:** L1949525**Project Number:** B0500-019-001**Report Date:** 10/29/19**SAMPLE RESULTS****Lab ID:** L1949525-04**Date Collected:** 10/21/19 15:26**Client ID:** WEST SIDEWALL #3 (6-8)**Date Received:** 10/22/19**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	107		25-120
Phenol-d6	108		10-120
Nitrobenzene-d5	90		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	113		10-136
4-Terphenyl-d14	71		18-120

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-05
 Client ID: WEST SIDEWALL #4 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:32
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/25/19 04:31
 Analyst: JG
 Percent Solids: 86%

Extraction Method: EPA 3546
 Extraction Date: 10/23/19 20:57

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	33.	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	25.	1
Naphthalene	ND		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	66.	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	65.	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

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-05
 Client ID: WEST SIDEWALL #4 (7-9)
 Sample Location: BUFFALO

Date Collected: 10/21/19 15:32
 Date Received: 10/22/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
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	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	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	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	910	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	490	91.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	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

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-05
Client ID: WEST SIDEWALL #4 (7-9)
Sample Location: BUFFALO

Date Collected: 10/21/19 15:32
Date Received: 10/22/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	65		10-120
Nitrobenzene-d5	50		23-120
2-Fluorobiphenyl	50		30-120
2,4,6-Tribromophenol	65		10-136
4-Terphenyl-d14	47		18-120

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/24/19 23:17
Analyst: JRW

Extraction Method: EPA 3546
Extraction Date: 10/23/19 17:37

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1299820-1					
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	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/24/19 23:17
Analyst: JRW

Extraction Method: EPA 3546
Extraction Date: 10/23/19 17:37

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1299820-1					
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 10/24/19 23:17
Analyst: JRW

Extraction Method: EPA 3546
Extraction Date: 10/23/19 17:37

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1299820-1					
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	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		25-120
Phenol-d6	56		10-120
Nitrobenzene-d5	40		23-120
2-Fluorobiphenyl	47		30-120
2,4,6-Tribromophenol	55		10-136
4-Terphenyl-d14	46		18-120

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/25/19 01:04
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/23/19 20:57

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02-05 Batch: WG1299869-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	170	16.
3,3'-Dichlorobenzidine	ND		ug/kg	170	44.
2,4-Dinitrotoluene	ND		ug/kg	170	33.
2,6-Dinitrotoluene	ND		ug/kg	170	28.
Fluoranthene	ND		ug/kg	100	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	170	18.
4-Bromophenyl phenyl ether	ND		ug/kg	170	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	17.
Hexachlorobutadiene	ND		ug/kg	170	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
Naphthalene	ND		ug/kg	170	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	170	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	57.
Butyl benzyl phthalate	ND		ug/kg	170	42.
Di-n-butylphthalate	ND		ug/kg	170	31.
Di-n-octylphthalate	ND		ug/kg	170	56.
Diethyl phthalate	ND		ug/kg	170	15.
Dimethyl phthalate	ND		ug/kg	170	35.
Benzo(a)anthracene	ND		ug/kg	100	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/25/19 01:04
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/23/19 20:57

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02-05 Batch: WG1299869-1					
Benzo(k)fluoranthene	ND		ug/kg	100	26.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	170	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	170	30.
2-Nitroaniline	ND		ug/kg	170	32.
3-Nitroaniline	ND		ug/kg	170	31.
4-Nitroaniline	ND		ug/kg	170	69.
Dibenzofuran	ND		ug/kg	170	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	170	17.
Acetophenone	ND		ug/kg	170	20.
2,4,6-Trichlorophenol	ND		ug/kg	100	31.
p-Chloro-m-cresol	ND		ug/kg	170	25.
2-Chlorophenol	ND		ug/kg	170	20.
2,4-Dichlorophenol	ND		ug/kg	150	27.
2,4-Dimethylphenol	ND		ug/kg	170	55.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	68.
2,4-Dinitrophenol	ND		ug/kg	800	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/25/19 01:04
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/23/19 20:57

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 02-05 Batch: WG1299869-1					
Phenol	ND		ug/kg	170	25.
2-Methylphenol	ND		ug/kg	170	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	170	32.
Carbazole	ND		ug/kg	170	16.
Atrazine	ND		ug/kg	130	58.
Benzaldehyde	ND		ug/kg	220	45.
Caprolactam	ND		ug/kg	170	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	170	34.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	94		25-120
Phenol-d6	103		10-120
Nitrobenzene-d5	77		23-120
2-Fluorobiphenyl	74		30-120
2,4,6-Tribromophenol	104		10-136
4-Terphenyl-d14	76		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1299820-2 WG1299820-3								
Acenaphthene	53		59		31-137	11		50
Hexachlorobenzene	55		64		40-140	15		50
Bis(2-chloroethyl)ether	48		54		40-140	12		50
2-Chloronaphthalene	62		66		40-140	6		50
3,3'-Dichlorobenzidine	44		50		40-140	13		50
2,4-Dinitrotoluene	66		75		40-132	13		50
2,6-Dinitrotoluene	70		78		40-140	11		50
Fluoranthene	58		65		40-140	11		50
4-Chlorophenyl phenyl ether	55		63		40-140	14		50
4-Bromophenyl phenyl ether	59		63		40-140	7		50
Bis(2-chloroisopropyl)ether	42		44		40-140	5		50
Bis(2-chloroethoxy)methane	53		56		40-117	6		50
Hexachlorobutadiene	57		58		40-140	2		50
Hexachlorocyclopentadiene	46		48		40-140	4		50
Hexachloroethane	48		54		40-140	12		50
Isophorone	54		57		40-140	5		50
Naphthalene	54		58		40-140	7		50
Nitrobenzene	54		58		40-140	7		50
NDPA/DPA	56		64		36-157	13		50
n-Nitrosodi-n-propylamine	54		57		32-121	5		50
Bis(2-ethylhexyl)phthalate	59		67		40-140	13		50
Butyl benzyl phthalate	59		66		40-140	11		50
Di-n-butylphthalate	59		64		40-140	8		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1299820-2 WG1299820-3								
Di-n-octylphthalate	59		68		40-140	14		50
Diethyl phthalate	57		63		40-140	10		50
Dimethyl phthalate	66		70		40-140	6		50
Benzo(a)anthracene	55		63		40-140	14		50
Benzo(a)pyrene	56		66		40-140	16		50
Benzo(b)fluoranthene	61		69		40-140	12		50
Benzo(k)fluoranthene	59		68		40-140	14		50
Chrysene	56		64		40-140	13		50
Acenaphthylene	64		68		40-140	6		50
Anthracene	57		64		40-140	12		50
Benzo(ghi)perylene	59		68		40-140	14		50
Fluorene	57		64		40-140	12		50
Phenanthrene	55		61		40-140	10		50
Dibenzo(a,h)anthracene	58		66		40-140	13		50
Indeno(1,2,3-cd)pyrene	58		67		40-140	14		50
Pyrene	57		63		35-142	10		50
Biphenyl	59		64		37-127	8		50
4-Chloroaniline	33	Q	33	Q	40-140	0		50
2-Nitroaniline	71		76		47-134	7		50
3-Nitroaniline	49		56		26-129	13		50
4-Nitroaniline	53		63		41-125	17		50
Dibenzofuran	56		63		40-140	12		50
2-Methylnaphthalene	59		64		40-140	8		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1299820-2 WG1299820-3								
1,2,4,5-Tetrachlorobenzene	60		64		40-117	6		50
Acetophenone	55		57		14-144	4		50
2,4,6-Trichlorophenol	65		71		30-130	9		50
p-Chloro-m-cresol	64		70		26-103	9		50
2-Chlorophenol	58		63		25-102	8		50
2,4-Dichlorophenol	68		70		30-130	3		50
2,4-Dimethylphenol	57		62		30-130	8		50
2-Nitrophenol	69		72		30-130	4		50
4-Nitrophenol	54		60		11-114	11		50
2,4-Dinitrophenol	51		61		4-130	18		50
4,6-Dinitro-o-cresol	63		71		10-130	12		50
Pentachlorophenol	49		57		17-109	15		50
Phenol	54		58		26-90	7		50
2-Methylphenol	55		60		30-130	9		50
3-Methylphenol/4-Methylphenol	60		63		30-130	5		50
2,4,5-Trichlorophenol	69		75		30-130	8		50
Carbazole	57		63		54-128	10		50
Atrazine	65		70		40-140	7		50
Benzaldehyde	46		48		40-140	4		50
Caprolactam	48		50		15-130	4		50
2,3,4,6-Tetrachlorophenol	59		65		40-140	10		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1299820-2 WG1299820-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	51		53		25-120
Phenol-d6	55		57		10-120
Nitrobenzene-d5	41		44		23-120
2-Fluorobiphenyl	46		49		30-120
2,4,6-Tribromophenol	55		60		10-136
4-Terphenyl-d14	43		48		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1299869-2 WG1299869-3								
Acenaphthene	95		102		31-137	7		50
Hexachlorobenzene	97		104		40-140	7		50
Bis(2-chloroethyl)ether	92		90		40-140	2		50
2-Chloronaphthalene	97		99		40-140	2		50
3,3'-Dichlorobenzidine	62		70		40-140	12		50
2,4-Dinitrotoluene	101		109		40-132	8		50
2,6-Dinitrotoluene	107		114		40-140	6		50
Fluoranthene	98		102		40-140	4		50
4-Chlorophenyl phenyl ether	96		102		40-140	6		50
4-Bromophenyl phenyl ether	96		102		40-140	6		50
Bis(2-chloroisopropyl)ether	92		87		40-140	6		50
Bis(2-chloroethoxy)methane	98		99		40-117	1		50
Hexachlorobutadiene	87		83		40-140	5		50
Hexachlorocyclopentadiene	84		83		40-140	1		50
Hexachloroethane	88		82		40-140	7		50
Isophorone	103		104		40-140	1		50
Naphthalene	93		93		40-140	0		50
Nitrobenzene	95		92		40-140	3		50
NDPA/DPA	100		106		36-157	6		50
n-Nitrosodi-n-propylamine	102		104		32-121	2		50
Bis(2-ethylhexyl)phthalate	107		109		40-140	2		50
Butyl benzyl phthalate	108		110		40-140	2		50
Di-n-butylphthalate	101		105		40-140	4		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1299869-2 WG1299869-3								
Di-n-octylphthalate	105		108		40-140	3		50
Diethyl phthalate	101		107		40-140	6		50
Dimethyl phthalate	102		108		40-140	6		50
Benzo(a)anthracene	95		104		40-140	9		50
Benzo(a)pyrene	93		102		40-140	9		50
Benzo(b)fluoranthene	102		111		40-140	8		50
Benzo(k)fluoranthene	96		105		40-140	9		50
Chrysene	95		103		40-140	8		50
Acenaphthylene	100		105		40-140	5		50
Anthracene	95		101		40-140	6		50
Benzo(ghi)perylene	102		109		40-140	7		50
Fluorene	99		104		40-140	5		50
Phenanthrene	93		99		40-140	6		50
Dibenzo(a,h)anthracene	103		110		40-140	7		50
Indeno(1,2,3-cd)pyrene	104		112		40-140	7		50
Pyrene	95		100		35-142	5		50
Biphenyl	99		100		37-127	1		50
4-Chloroaniline	86		91		40-140	6		50
2-Nitroaniline	102		115		47-134	12		50
3-Nitroaniline	77		85		26-129	10		50
4-Nitroaniline	92		103		41-125	11		50
Dibenzofuran	96		102		40-140	6		50
2-Methylnaphthalene	99		100		40-140	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1299869-2 WG1299869-3								
1,2,4,5-Tetrachlorobenzene	94		96		40-117	2		50
Acetophenone	97		95		14-144	2		50
2,4,6-Trichlorophenol	101		108		30-130	7		50
p-Chloro-m-cresol	104	Q	112	Q	26-103	7		50
2-Chlorophenol	98		97		25-102	1		50
2,4-Dichlorophenol	105		110		30-130	5		50
2,4-Dimethylphenol	100		102		30-130	2		50
2-Nitrophenol	114		115		30-130	1		50
4-Nitrophenol	109		121	Q	11-114	10		50
2,4-Dinitrophenol	93		103		4-130	10		50
4,6-Dinitro-o-cresol	99		112		10-130	12		50
Pentachlorophenol	98		104		17-109	6		50
Phenol	93	Q	93	Q	26-90	0		50
2-Methylphenol	105		106		30-130	1		50
3-Methylphenol/4-Methylphenol	104		108		30-130	4		50
2,4,5-Trichlorophenol	104		108		30-130	4		50
Carbazole	98		105		54-128	7		50
Atrazine	102		105		40-140	3		50
Benzaldehyde	81		76		40-140	6		50
Caprolactam	114		127		15-130	11		50
2,3,4,6-Tetrachlorophenol	100		108		40-140	8		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 Batch: WG1299869-2 WG1299869-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	94		90		25-120
Phenol-d6	97		99		10-120
Nitrobenzene-d5	75		72		23-120
2-Fluorobiphenyl	71		73		30-120
2,4,6-Tribromophenol	105		115		10-136
4-Terphenyl-d14	73		76		18-120

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1299869-4 WG1299869-5 QC Sample: L1949525-02 Client ID: WEST SIDEWALL #1 (7-9)												
Acenaphthene	ND	1510	1500	100		1700	110		31-137	13		50
Hexachlorobenzene	ND	1510	1600	110		1900	130		40-140	17		50
Bis(2-chloroethyl)ether	ND	1510	1300	86		1500	99		40-140	14		50
2-Chloronaphthalene	ND	1510	1500	100		1700	110		40-140	13		50
3,3'-Dichlorobenzidine	ND	1510	1200	80		1500	99		40-140	22		50
2,4-Dinitrotoluene	ND	1510	1700	110		2000	130		40-132	16		50
2,6-Dinitrotoluene	ND	1510	1500	100		1600	110		40-140	6		50
Fluoranthene	ND	1510	1400	93		1700	110		40-140	19		50
4-Chlorophenyl phenyl ether	ND	1510	1500	100		1700	110		40-140	13		50
4-Bromophenyl phenyl ether	ND	1510	1600	110		1800	120		40-140	12		50
Bis(2-chloroisopropyl)ether	ND	1510	1000J	66		1100	73		40-140	10		50
Bis(2-chloroethoxy)methane	ND	1510	1500	100		1600	110		40-117	6		50
Hexachlorobutadiene	ND	1510	1400	93		1600	110		40-140	13		50
Hexachlorocyclopentadiene	ND	1510	1500J	100		1600J	110		40-140	6		50
Hexachloroethane	ND	1510	ND	0	Q	ND	0	Q	40-140	NC		50
Isophorone	ND	1510	1400	93		1600	110		40-140	13		50
Naphthalene	10000	1510	8100	0	Q	10000	0	Q	40-140	21		50
Nitrobenzene	ND	1510	1700	110		1500	99		40-140	13		50
NDPA/DPA	ND	1510	1600	110		1800	120		36-157	12		50
n-Nitrosodi-n-propylamine	ND	1510	1500	100		1800	120		32-121	18		50
Bis(2-ethylhexyl)phthalate	ND	1510	1600	110		1800	120		40-140	12		50
Butyl benzyl phthalate	ND	1510	1400	93		1700	110		40-140	19		50
Di-n-butylphthalate	ND	1510	1500	100		1700	110		40-140	13		50

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1299869-4 WG1299869-5 QC Sample: L1949525-02 Client ID: WEST SIDEWALL #1 (7-9)												
Di-n-octylphthalate	ND	1510	1600	110		1800	120		40-140	12		50
Diethyl phthalate	ND	1510	1500	100		1700	110		40-140	13		50
Dimethyl phthalate	ND	1510	1400	93		1700	110		40-140	19		50
Benzo(a)anthracene	ND	1510	1500	100		1700	110		40-140	13		50
Benzo(a)pyrene	ND	1510	1500	100		1700	110		40-140	13		50
Benzo(b)fluoranthene	ND	1510	1500	100		1800	120		40-140	18		50
Benzo(k)fluoranthene	ND	1510	1600	110		1700	110		40-140	6		50
Chrysene	ND	1510	1500	100		1700	110		40-140	13		50
Acenaphthylene	ND	1510	1500	100		1800	120		40-140	18		50
Anthracene	ND	1510	1400	93		1700	110		40-140	19		50
Benzo(ghi)perylene	ND	1510	1400	93		1600	110		40-140	13		50
Fluorene	ND	1510	1500	100		1800	120		40-140	18		50
Phenanthrene	ND	1510	1400	93		1700	110		40-140	19		50
Dibenzo(a,h)anthracene	ND	1510	1400	93		1600	110		40-140	13		50
Indeno(1,2,3-cd)pyrene	ND	1510	1400	93		1600	110		40-140	13		50
Pyrene	ND	1510	1400	93		1600	110		35-142	13		50
Biphenyl	310J	1510	1700J	110		2000J	130	Q	37-127	16		50
4-Chloroaniline	ND	1510	1200	80		1400	93		40-140	15		50
2-Nitroaniline	ND	1510	1700	110		1900	130		47-134	11		50
3-Nitroaniline	ND	1510	1400	93		1800	120		26-129	25		50
4-Nitroaniline	ND	1510	1600	110		1900	130	Q	41-125	17		50
Dibenzofuran	ND	1510	1500	100		1700	110		40-140	13		50
2-Methylnaphthalene	17000	1510	13000	0	Q	17000	0	Q	40-140	27		50

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1299869-4 WG1299869-5 QC Sample: L1949525-02 Client ID: WEST SIDEWALL #1 (7-9)												
1,2,4,5-Tetrachlorobenzene	ND	1510	1500	100		1700	110		40-117	13		50
Acetophenone	ND	1510	ND	0	Q	ND	0	Q	14-144	NC		50
2,4,6-Trichlorophenol	ND	1510	1600	110		1800	120		30-130	12		50
p-Chloro-m-cresol	ND	1510	1700	110	Q	1900	130	Q	26-103	11		50
2-Chlorophenol	ND	1510	1400	93		1700	110	Q	25-102	19		50
2,4-Dichlorophenol	ND	1510	1600	110		1800	120		30-130	12		50
2,4-Dimethylphenol	ND	1510	1800	120		2100	140	Q	30-130	15		50
2-Nitrophenol	ND	1510	1100J	73		1400J	93		30-130	24		50
4-Nitrophenol	ND	1510	1700	110		2000	130	Q	11-114	16		50
2,4-Dinitrophenol	ND	1510	ND	0	Q	ND	0	Q	4-130	NC		50
4,6-Dinitro-o-cresol	ND	1510	770J	51		870J	57		10-130	12		50
Pentachlorophenol	ND	1510	1400	93		1700	110	Q	17-109	19		50
Phenol	ND	1510	1400	93	Q	1700	110	Q	26-90	19		50
2-Methylphenol	ND	1510	1500	100		1700	110		30-130.	13		50
3-Methylphenol/4-Methylphenol	ND	1510	1500	100		1700	110		30-130	13		50
2,4,5-Trichlorophenol	ND	1510	1600	110		1800	120		30-130	12		50
Carbazole	ND	1510	1400	93		1700	110		54-128	19		50
Atrazine	ND	1510	1400	93		1700	110		40-140	19		50
Benzaldehyde	ND	1510	ND	0	Q	ND	0	Q	40-140	NC		50
Caprolactam	ND	1510	1500	100		1800	120		15-130	18		50
2,3,4,6-Tetrachlorophenol	ND	1510	1500	100		1800	120		40-140	18		50

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Lab Number: L1949525

Project Number: B0500-019-001

Report Date: 10/29/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 02-05 QC Batch ID: WG1299869-4 WG1299869-5 QC Sample: L1949525-02 Client ID: WEST SIDEWALL #1 (7-9)

Surrogate	MS		MSD		Acceptance Criteria
	% Recovery	Qualifier	% Recovery	Qualifier	
2,4,6-Tribromophenol	111		126		10-136
2-Fluorobiphenyl	74		85		30-120
2-Fluorophenol	96		103		25-120
4-Terphenyl-d14	74		84		18-120
Nitrobenzene-d5	69		78		23-120
Phenol-d6	92		101		10-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-01

Client ID: SOUTH SIDEWALL #1 (8-10)

Sample Location: BUFFALO

Date Collected: 10/21/19 15:03

Date Received: 10/22/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.9		%	0.100	NA	1	-	10/23/19 13:45	121,2540G	RI



Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1949525**Report Date:** 10/29/19**SAMPLE RESULTS****Lab ID:** L1949525-02**Client ID:** WEST SIDEWALL #1 (7-9)**Sample Location:** BUFFALO**Date Collected:** 10/21/19 15:14**Date Received:** 10/22/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.7		%	0.100	NA	1	-	10/23/19 13:45	121,2540G	RI



Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1949525**Report Date:** 10/29/19**SAMPLE RESULTS****Lab ID:** L1949525-03**Client ID:** WEST SIDEWALL #2 (7-9)**Sample Location:** BUFFALO**Date Collected:** 10/21/19 15:22**Date Received:** 10/22/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.8		%	0.100	NA	1	-	10/23/19 13:45	121,2540G	RI



Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1949525**Report Date:** 10/29/19**SAMPLE RESULTS****Lab ID:** L1949525-04**Client ID:** WEST SIDEWALL #3 (6-8)**Sample Location:** BUFFALO**Date Collected:** 10/21/19 15:26**Date Received:** 10/22/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.7		%	0.100	NA	1	-	10/23/19 13:45	121,2540G	RI



Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1949525

Report Date: 10/29/19

SAMPLE RESULTS

Lab ID: L1949525-05

Client ID: WEST SIDEWALL #4 (7-9)

Sample Location: BUFFALO

Date Collected: 10/21/19 15:32

Date Received: 10/22/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.7		%	0.100	NA	1	-	10/23/19 13:45	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1949525**Report Date:** 10/29/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1299674-1 QC Sample: L1949675-06 Client ID: DUP Sample						
Solids, Total	77.6	79.8	%	3		20

Project Name: 441 ELMWOOD**Lab Number:** L1949525**Project Number:** B0500-019-001**Report Date:** 10/29/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949525-01A	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		NYTCL-8270(14),TS(7)
L1949525-01B	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-01X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-01Y	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-01Z	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-02A	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		NYTCL-8270(14),TS(7)
L1949525-02A1	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		NYTCL-8270(14),TS(7)
L1949525-02A2	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		NYTCL-8270(14),TS(7)
L1949525-02B	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-02B1	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-02B2	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-02X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-02X1	Vial MeOH preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-02X2	Vial MeOH preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-02Y	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-02Y1	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-02Y2	Vial Water preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-02Z	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-02Z1	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-02Z2	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-03A	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		NYTCL-8270(14),TS(7)
L1949525-03B	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-03X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Serial_No:10291916:07
Lab Number: L1949525
Report Date: 10/29/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1949525-03Y	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-03Z	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-04A	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		NYTCL-8270(14),TS(7)
L1949525-04B	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-04X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-04Y	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-04Z	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-05A	Glass 120ml/4oz unpreserved	A	NA		4.0	Y	Absent		NYTCL-8270(14),TS(7)
L1949525-05B	Vial Large Septa unpreserved (4oz)	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-05X	Vial MeOH preserved split	A	NA		4.0	Y	Absent		NYTCL-8260-R2(14)
L1949525-05Y	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)
L1949525-05Z	Vial Water preserved split	A	NA		4.0	Y	Absent	25-OCT-19 04:32	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1949525
Report Date: 10/29/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 15

Published Date: 8/15/2019 9:53:42 AM

Page 1 of 1

Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

		NEW YORK CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Rd., Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave., Suite 105		Page L of /		Date Rec'd in Lab 10/23/19		ALPHA Job # LI949525		
		Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193	Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288								
Project Information					Deliverables			Billing Information			
Project Name: <u>44 Elmwood</u>					☐ ASP-A ☐ ASP-B			☐ Same as Client Info			
Project Location: <u>Buffalo</u>					☐ EQUIS (1 File) ☐ EQUIS (4 File)			PO # _____			
Project # <u>BOSD-019-001</u>					☐ Other						
(Use Project name as Project #) <u>A</u>					Regulatory Requirement			Disposal Site Information			
Client: <u>Berkshire Co.</u>					☐ NY TOGS ☐ NY Part 375			Please identify below location of applicable disposal facilities. _____ Disposal Facility: ☐ NJ ☐ NY ☐ Other:			
Address: <u>2558 Hurlingham Ln</u> <u>Lewiston, NY</u>					☐ AWQ Standards ☐ NY CP-51						
Phone: <u>(716) 818-8355</u>					☐ NY Restricted Use ☐ Other						
Fax: <u>(716) 856-0635</u>					☐ NY Unrestricted Use						
Email: <u>T.Berkshire@ny.gov</u>					☐ NYC Sewer Discharge						
Turn-Around Time											
☒ Standard Due Date: _____ ☐ Rush (only if pre approved) # of Days: _____											
These samples have been previously analyzed by Alpha ☐					ANALYSIS			Sample Filtration			
Other project specific requirements/comments: <u>Cat B</u>					<u>FLCL VOL 1P-51</u> <u>FLCL VOL 2P-51</u> <u>FLCL VOL 3P-51</u> <u>FLCL VOL 4P-51</u> <u>FLCL VOL 5P-51</u>			☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below) _____			
Please specify Metals or TAL.											
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials						
		Date	Time								
<u>49525 -01</u>	<u>South Sidewalk #1 (8-10)</u>	<u>10/21/19</u>	<u>1505</u>	<u>Soil</u>	<u>TAB</u>	X	X				
-02	<u>West sidewalk #1 (7-9) N/S</u>		<u>1514</u>			X	X				
-03	<u>West sidewalk #2 (7-9)</u>		<u>1522</u>			X	X				
-04	<u>West Sidewalk #3 (6-8)</u>		<u>1526</u>			X	X				
-05	<u>West sidewalk #4 (7-8)</u>		<u>1523</u>			X	X				
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other	Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle	Westboro Certification No: MA935 Mansfield Certification No: MA015		Container Type <u>AA</u>							
				Preservative <u>AA</u>							
Relinquished By: <u>[Signature]</u>		Date/Time <u>10/22/19 15:25</u>		Received By: <u>J. [Signature]</u>		Date/Time <u>10/23/19 05:30</u>		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)			
Form No: 01-25 HC (rev. 30-Sept-2013)											



ANALYTICAL REPORT

Lab Number:	L1950291
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	0500-019-001
Report Date:	10/31/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1950291-01	NORTH SIDEWALL #1 (10-12)	SOIL	BUFFALO	10/23/19 15:42	10/24/19

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

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

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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 Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 10/31/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950291**Project Number:** 0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950291-01
 Client ID: NORTH SIDEWALL #1 (10-12)
 Sample Location: BUFFALO

Date Collected: 10/23/19 15:42
 Date Received: 10/24/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/29/19 21:49
 Analyst: NLK
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.1	2.3	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.15	1
Chloroform	ND		ug/kg	1.5	0.14	1
Carbon tetrachloride	ND		ug/kg	1.0	0.23	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.13	1
Dibromochloromethane	ND		ug/kg	1.0	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27	1
Tetrachloroethene	ND		ug/kg	0.51	0.20	1
Chlorobenzene	ND		ug/kg	0.51	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.1	0.71	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.26	1
1,1,1-Trichloroethane	ND		ug/kg	0.51	0.17	1
Bromodichloromethane	ND		ug/kg	0.51	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.28	1
cis-1,3-Dichloropropene	ND		ug/kg	0.51	0.16	1
Bromoform	ND		ug/kg	4.1	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.51	0.17	1
Benzene	ND		ug/kg	0.51	0.17	1
Toluene	ND		ug/kg	1.0	0.55	1
Ethylbenzene	ND		ug/kg	1.0	0.14	1
Chloromethane	ND		ug/kg	4.1	0.95	1
Bromomethane	ND		ug/kg	2.0	0.59	1
Vinyl chloride	ND		ug/kg	1.0	0.34	1
Chloroethane	ND		ug/kg	2.0	0.46	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.24	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14	1
Trichloroethene	ND		ug/kg	0.51	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.15	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950291**Project Number:** 0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950291-01
 Client ID: NORTH SIDEWALL #1 (10-12)
 Sample Location: BUFFALO

Date Collected: 10/23/19 15:42
 Date Received: 10/24/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17	1
Methyl tert butyl ether	ND		ug/kg	2.0	0.20	1
p/m-Xylene	ND		ug/kg	2.0	0.57	1
o-Xylene	ND		ug/kg	1.0	0.30	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18	1
Styrene	ND		ug/kg	1.0	0.20	1
Dichlorodifluoromethane	ND		ug/kg	10	0.93	1
Acetone	ND		ug/kg	10	4.9	1
Carbon disulfide	ND		ug/kg	10	4.6	1
2-Butanone	ND		ug/kg	10	2.3	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.3	1
2-Hexanone	ND		ug/kg	10	1.2	1
Bromochloromethane	ND		ug/kg	2.0	0.21	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.28	1
n-Butylbenzene	ND		ug/kg	1.0	0.17	1
sec-Butylbenzene	ND		ug/kg	1.0	0.15	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	1.0	1
Isopropylbenzene	ND		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
n-Propylbenzene	ND		ug/kg	1.0	0.17	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.33	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.28	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.20	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.34	1
Methyl Acetate	ND		ug/kg	4.1	0.97	1
Cyclohexane	ND		ug/kg	10	0.55	1
1,4-Dioxane	ND		ug/kg	82	36.	1
Freon-113	ND		ug/kg	4.1	0.71	1
Methyl cyclohexane	ND		ug/kg	4.1	0.62	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	99		70-130

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/29/19 18:48
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1302338-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	1.3	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/29/19 18:48
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1302338-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/29/19 18:48
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1302338-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	90		70-130
Dibromofluoromethane	93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: 0500-019-001

Lab Number: L1950291

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1302338-3 WG1302338-4								
Methylene chloride	86		86		70-130	0		30
1,1-Dichloroethane	112		112		70-130	0		30
Chloroform	117		112		70-130	4		30
Carbon tetrachloride	110		109		70-130	1		30
1,2-Dichloropropane	106		108		70-130	2		30
Dibromochloromethane	108		99		70-130	9		30
1,1,2-Trichloroethane	98		84		70-130	15		30
Tetrachloroethene	117		113		70-130	3		30
Chlorobenzene	106		103		70-130	3		30
Trichlorofluoromethane	96		90		70-139	6		30
1,2-Dichloroethane	107		105		70-130	2		30
1,1,1-Trichloroethane	107		110		70-130	3		30
Bromodichloromethane	118		115		70-130	3		30
trans-1,3-Dichloropropene	103		101		70-130	2		30
cis-1,3-Dichloropropene	115		112		70-130	3		30
Bromoform	97		101		70-130	4		30
1,1,2,2-Tetrachloroethane	84		93		70-130	10		30
Benzene	113		105		70-130	7		30
Toluene	102		97		70-130	5		30
Ethylbenzene	109		106		70-130	3		30
Chloromethane	75		73		52-130	3		30
Bromomethane	92		82		57-147	11		30
Vinyl chloride	76		72		67-130	5		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Project Number: 0500-019-001

Lab Number: L1950291

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1302338-3 WG1302338-4								
Chloroethane	81		75		50-151	8		30
1,1-Dichloroethene	106		90		65-135	16		30
trans-1,2-Dichloroethene	110		107		70-130	3		30
Trichloroethene	115		111		70-130	4		30
1,2-Dichlorobenzene	95		100		70-130	5		30
1,3-Dichlorobenzene	104		106		70-130	2		30
1,4-Dichlorobenzene	103		104		70-130	1		30
Methyl tert butyl ether	91		100		66-130	9		30
p/m-Xylene	110		100		70-130	10		30
o-Xylene	108		103		70-130	5		30
cis-1,2-Dichloroethene	109		107		70-130	2		30
Styrene	110		108		70-130	2		30
Dichlorodifluoromethane	51		47		30-146	8		30
Acetone	120		121		54-140	1		30
Carbon disulfide	96		83		59-130	15		30
2-Butanone	105		117		70-130	11		30
4-Methyl-2-pentanone	104		100		70-130	4		30
2-Hexanone	111		112		70-130	1		30
Bromochloromethane	110		106		70-130	4		30
1,2-Dibromoethane	89		98		70-130	10		30
n-Butylbenzene	99		103		70-130	4		30
sec-Butylbenzene	104		101		70-130	3		30
1,2-Dibromo-3-chloropropane	97		94		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: 0500-019-001

Lab Number: L1950291

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1302338-3 WG1302338-4								
Isopropylbenzene	104		104		70-130	0		30
p-Isopropyltoluene	101		106		70-130	5		30
n-Propylbenzene	104		101		70-130	3		30
1,2,3-Trichlorobenzene	100		102		70-130	2		30
1,2,4-Trichlorobenzene	109		108		70-130	1		30
1,3,5-Trimethylbenzene	98		105		70-130	7		30
1,2,4-Trimethylbenzene	102		99		70-130	3		30
Methyl Acetate	131		131		51-146	0		30
Cyclohexane	109		110		59-142	1		30
1,4-Dioxane	143	Q	138	Q	65-136	4		30
Freon-113	106		92		50-139	14		30
Methyl cyclohexane	103		102		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		108		70-130
Toluene-d8	98		90		70-130
4-Bromofluorobenzene	93		94		70-130
Dibromofluoromethane	98		101		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950291**Project Number:** 0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950291-01
 Client ID: NORTH SIDEWALL #1 (10-12)
 Sample Location: BUFFALO

Date Collected: 10/23/19 15:42
 Date Received: 10/24/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/30/19 02:33
 Analyst: EK
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 10/27/19 18:29

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	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	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	28.	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	27.	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

Project Name: 441 ELMWOOD AVE

Lab Number: L1950291

Project Number: 0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950291-01
 Client ID: NORTH SIDEWALL #1 (10-12)
 Sample Location: BUFFALO

Date Collected: 10/23/19 15:42
 Date Received: 10/24/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	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	43.	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	ND		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	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	900	87.	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	50.	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950291**Project Number:** 0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950291-01**Date Collected:** 10/23/19 15:42**Client ID:** NORTH SIDEWALL #1 (10-12)**Date Received:** 10/24/19**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		25-120
Phenol-d6	82		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	68		30-120
2,4,6-Tribromophenol	87		10-136
4-Terphenyl-d14	54		18-120

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/30/19 14:13
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 10/27/19 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1301153-1					
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	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/30/19 14:13
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 10/27/19 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1301153-1					
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	20.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/30/19 14:13
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 10/27/19 00:16

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1301153-1					
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	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	99		25-120
Phenol-d6	102		10-120
Nitrobenzene-d5	101		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	77		10-136
4-Terphenyl-d14	84		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1950291

Project Number: 0500-019-001

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1301153-2 WG1301153-3								
Acenaphthene	71		82		31-137	14		50
Hexachlorobenzene	69		77		40-140	11		50
Bis(2-chloroethyl)ether	76		85		40-140	11		50
2-Chloronaphthalene	68		78		40-140	14		50
3,3'-Dichlorobenzidine	75		88		40-140	16		50
2,4-Dinitrotoluene	83		101		40-132	20		50
2,6-Dinitrotoluene	81		92		40-140	13		50
Fluoranthene	71		75		40-140	5		50
4-Chlorophenyl phenyl ether	69		75		40-140	8		50
4-Bromophenyl phenyl ether	71		77		40-140	8		50
Bis(2-chloroisopropyl)ether	60		75		40-140	22		50
Bis(2-chloroethoxy)methane	76		94		40-117	21		50
Hexachlorobutadiene	60		73		40-140	20		50
Hexachlorocyclopentadiene	64		79		40-140	21		50
Hexachloroethane	70		85		40-140	19		50
Isophorone	81		98		40-140	19		50
Naphthalene	71		86		40-140	19		50
Nitrobenzene	78		96		40-140	21		50
NDPA/DPA	78		82		36-157	5		50
n-Nitrosodi-n-propylamine	82		101		32-121	21		50
Bis(2-ethylhexyl)phthalate	90		108		40-140	18		50
Butyl benzyl phthalate	88		92		40-140	4		50
Di-n-butylphthalate	86		96		40-140	11		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: 0500-019-001

Lab Number: L1950291

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1301153-2 WG1301153-3								
Di-n-octylphthalate	108		123		40-140	13		50
Diethyl phthalate	81		87		40-140	7		50
Dimethyl phthalate	72		82		40-140	13		50
Benzo(a)anthracene	77		91		40-140	17		50
Benzo(a)pyrene	75		82		40-140	9		50
Benzo(b)fluoranthene	74		92		40-140	22		50
Benzo(k)fluoranthene	79		78		40-140	1		50
Chrysene	70		84		40-140	18		50
Acenaphthylene	69		81		40-140	16		50
Anthracene	72		87		40-140	19		50
Benzo(ghi)perylene	72		94		40-140	27		50
Fluorene	78		85		40-140	9		50
Phenanthrene	70		84		40-140	18		50
Dibenzo(a,h)anthracene	76		101		40-140	28		50
Indeno(1,2,3-cd)pyrene	83		106		40-140	24		50
Pyrene	67		75		35-142	11		50
Biphenyl	72		84		37-127	15		50
4-Chloroaniline	64		80		40-140	22		50
2-Nitroaniline	85		97		47-134	13		50
3-Nitroaniline	75		89		26-129	17		50
4-Nitroaniline	84		90		41-125	7		50
Dibenzofuran	72		86		40-140	18		50
2-Methylnaphthalene	72		85		40-140	17		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1950291

Project Number: 0500-019-001

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1301153-2 WG1301153-3								
1,2,4,5-Tetrachlorobenzene	65		76		40-117	16		50
Acetophenone	80		97		14-144	19		50
2,4,6-Trichlorophenol	73		87		30-130	18		50
p-Chloro-m-cresol	84		100		26-103	17		50
2-Chlorophenol	81		95		25-102	16		50
2,4-Dichlorophenol	78		94		30-130	19		50
2,4-Dimethylphenol	79		99		30-130	22		50
2-Nitrophenol	86		103		30-130	18		50
4-Nitrophenol	80		95		11-114	17		50
2,4-Dinitrophenol	61		73		4-130	18		50
4,6-Dinitro-o-cresol	94		103		10-130	9		50
Pentachlorophenol	73		94		17-109	25		50
Phenol	83		98	Q	26-90	17		50
2-Methylphenol	85		108		30-130	24		50
3-Methylphenol/4-Methylphenol	84		104		30-130	21		50
2,4,5-Trichlorophenol	74		90		30-130	20		50
Carbazole	74		90		54-128	20		50
Atrazine	79		102		40-140	25		50
Benzaldehyde	76		87		40-140	13		50
Caprolactam	81		97		15-130	18		50
2,3,4,6-Tetrachlorophenol	78		83		40-140	6		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE**Lab Number:** L1950291**Project Number:** 0500-019-001**Report Date:** 10/31/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1301153-2 WG1301153-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	78		90		25-120
Phenol-d6	82		95		10-120
Nitrobenzene-d5	75		92		23-120
2-Fluorobiphenyl	62		70		30-120
2,4,6-Tribromophenol	71		76		10-136
4-Terphenyl-d14	71		66		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE

Project Number: 0500-019-001

Lab Number: L1950291

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950291-01

Client ID: NORTH SIDEWALL #1 (10-12)

Sample Location: BUFFALO

Date Collected: 10/23/19 15:42

Date Received: 10/24/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	10/25/19 05:11	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** 0500-019-001**Lab Number:** L1950291**Report Date:** 10/31/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1300507-1 QC Sample: L1949741-15 Client ID: DUP Sample						
Solids, Total	72.5	71.4	%	2		20

Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Serial_No:10311910:25
Lab Number: L1950291
Report Date: 10/31/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1950291-01A	Vial Large Septa unpreserved (4oz)	A	NA		5.3	Y	Absent		NYTCL-8260-R2(14)
L1950291-01B	Glass 120ml/4oz unpreserved	A	NA		5.3	Y	Absent		NYTCL-8270(14),TS(7)
L1950291-01X	Vial MeOH preserved split	A	NA		5.3	Y	Absent		NYTCL-8260-R2(14)
L1950291-01Y	Vial Water preserved split	A	NA		5.3	Y	Absent	29-OCT-19 10:56	NYTCL-8260-R2(14)
L1950291-01Z	Vial Water preserved split	A	NA		5.3	Y	Absent	29-OCT-19 10:56	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950291**Project Number:** 0500-019-001**Report Date:** 10/31/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950291**Project Number:** 0500-019-001**Report Date:** 10/31/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: 0500-019-001

Lab Number: L1950291
Report Date: 10/31/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

[illegible]



ANALYTICAL REPORT

Lab Number:	L1950827
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	10/31/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1950827-01	NORTH SIDEWALL #3 (11-13)	SOIL	BUFFALO NY 14218	10/28/19 09:30	10/28/19
L1950827-02	BOTTOM #1 14.0'	SOIL	BUFFALO NY 14218	10/28/19 12:45	10/28/19
L1950827-03	BOTTOM #2 16.0'	SOIL	BUFFALO NY 14218	10/28/19 13:12	10/28/19
L1950827-04	BOTTOM #3 14.5'	SOIL	BUFFALO NY 14218	10/28/19 14:00	10/28/19
L1950827-05	BOTTOM #4 14.0'	SOIL	BUFFALO NY 14218	10/28/19 14:55	10/28/19
L1950827-06	BOTTOM #5 14.0'	SOIL	BUFFALO NY 14218	10/28/19 15:03	10/28/19
L1950827-07	BOTTOM #6 14.0'	SOIL	BUFFALO NY 14218	10/28/19 15:13	10/28/19
L1950827-08	BOTTOM #7 14.0'	SOIL	BUFFALO NY 14218	10/28/19 15:21	10/28/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Case Narrative (continued)

Report Submission

October 31, 2019: This final report includes the results of all requested analyses.

October 29, 2019: This is a preliminary report.

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

Volatile Organics

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

L1950827-07: The internal standard (IS) response(s) for fluorobenzene (43%) and chlorobenzene-d5 (49%) were below the acceptance criteria; however, re-analysis achieved similar results: fluorobenzene (25%), chlorobenzene-d5 (24%), and 1,4-dichlorobenzene-d4 (23%). The results of both analyses are reported.

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

Authorized Signature:

Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 10/31/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-01
 Client ID: NORTH SIDEWALL #3 (11-13)
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 09:30
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/29/19 07:59
 Analyst: MV
 Percent Solids: 90%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.5	2.5	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.25	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.29	1
Tetrachloroethene	ND		ug/kg	0.55	0.22	1
Chlorobenzene	ND		ug/kg	0.55	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.4	0.77	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.28	1
1,1,1-Trichloroethane	ND		ug/kg	0.55	0.18	1
Bromodichloromethane	ND		ug/kg	0.55	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.55	0.17	1
Bromoform	ND		ug/kg	4.4	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.55	0.18	1
Benzene	ND		ug/kg	0.55	0.18	1
Toluene	ND		ug/kg	1.1	0.60	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.4	1.0	1
Bromomethane	ND		ug/kg	2.2	0.64	1
Vinyl chloride	ND		ug/kg	1.1	0.37	1
Chloroethane	ND		ug/kg	2.2	0.50	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.15	1
Trichloroethene	ND		ug/kg	0.55	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-01
 Client ID: NORTH SIDEWALL #3 (11-13)
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 09:30
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	ND		ug/kg	2.2	0.62	1
o-Xylene	ND		ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.3	1
Carbon disulfide	ND		ug/kg	11	5.0	1
2-Butanone	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.31	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.30	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	0.21	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	0.37	1
Methyl Acetate	ND		ug/kg	4.4	1.0	1
Cyclohexane	ND		ug/kg	11	0.60	1
1,4-Dioxane	ND		ug/kg	88	39.	1
Freon-113	ND		ug/kg	4.4	0.76	1
Methyl cyclohexane	ND		ug/kg	4.4	0.66	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	98		70-130



Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-02
 Client ID: BOTTOM #1 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 12:45
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/29/19 07:45
 Analyst: MV
 Percent Solids: 81%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	320	150	1
1,1-Dichloroethane	ND		ug/kg	64	9.3	1
Chloroform	ND		ug/kg	96	9.0	1
Carbon tetrachloride	ND		ug/kg	64	15.	1
1,2-Dichloropropane	ND		ug/kg	64	8.0	1
Dibromochloromethane	ND		ug/kg	64	9.0	1
1,1,2-Trichloroethane	ND		ug/kg	64	17.	1
Tetrachloroethene	ND		ug/kg	32	13.	1
Chlorobenzene	ND		ug/kg	32	8.2	1
Trichlorofluoromethane	ND		ug/kg	260	45.	1
1,2-Dichloroethane	ND		ug/kg	64	16.	1
1,1,1-Trichloroethane	ND		ug/kg	32	11.	1
Bromodichloromethane	ND		ug/kg	32	7.0	1
trans-1,3-Dichloropropene	ND		ug/kg	64	18.	1
cis-1,3-Dichloropropene	ND		ug/kg	32	10.	1
Bromoform	ND		ug/kg	260	16.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	32	11.	1
Benzene	ND		ug/kg	32	11.	1
Toluene	590		ug/kg	64	35.	1
Ethylbenzene	1400		ug/kg	64	9.1	1
Chloromethane	ND		ug/kg	260	60.	1
Bromomethane	ND		ug/kg	130	37.	1
Vinyl chloride	ND		ug/kg	64	22.	1
Chloroethane	ND		ug/kg	130	29.	1
1,1-Dichloroethene	ND		ug/kg	64	15.	1
trans-1,2-Dichloroethene	ND		ug/kg	96	8.8	1
Trichloroethene	ND		ug/kg	32	8.8	1
1,2-Dichlorobenzene	ND		ug/kg	130	9.2	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-02
 Client ID: BOTTOM #1 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 12:45
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	130	9.5	1
1,4-Dichlorobenzene	ND		ug/kg	130	11.	1
Methyl tert butyl ether	ND		ug/kg	130	13.	1
p/m-Xylene	6000		ug/kg	130	36.	1
o-Xylene	1900		ug/kg	64	19.	1
cis-1,2-Dichloroethene	ND		ug/kg	64	11.	1
Styrene	ND		ug/kg	64	13.	1
Dichlorodifluoromethane	ND		ug/kg	640	59.	1
Acetone	ND		ug/kg	640	310	1
Carbon disulfide	ND		ug/kg	640	290	1
2-Butanone	ND		ug/kg	640	140	1
4-Methyl-2-pentanone	ND		ug/kg	640	82.	1
2-Hexanone	ND		ug/kg	640	76.	1
Bromochloromethane	ND		ug/kg	130	13.	1
1,2-Dibromoethane	ND		ug/kg	64	18.	1
n-Butylbenzene	92		ug/kg	64	11.	1
sec-Butylbenzene	43	J	ug/kg	64	9.4	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	190	64.	1
Isopropylbenzene	120		ug/kg	64	7.0	1
p-Isopropyltoluene	17	J	ug/kg	64	7.0	1
n-Propylbenzene	410		ug/kg	64	11.	1
1,2,3-Trichlorobenzene	ND		ug/kg	130	21.	1
1,2,4-Trichlorobenzene	ND		ug/kg	130	17.	1
1,3,5-Trimethylbenzene	640		ug/kg	130	12.	1
1,2,4-Trimethylbenzene	2400		ug/kg	130	21.	1
Methyl Acetate	ND		ug/kg	260	61.	1
Cyclohexane	160	J	ug/kg	640	35.	1
1,4-Dioxane	ND		ug/kg	5100	2200	1
Freon-113	ND		ug/kg	260	44.	1
Methyl cyclohexane	220	J	ug/kg	260	39.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	98		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	110		70-130

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-03
 Client ID: BOTTOM #2 16.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 13:12
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 10/29/19 08:23

Analyst: MV

Percent Solids: 88%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.5	2.5	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.25	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.29	1
Tetrachloroethene	ND		ug/kg	0.55	0.22	1
Chlorobenzene	ND		ug/kg	0.55	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.4	0.76	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.28	1
1,1,1-Trichloroethane	ND		ug/kg	0.55	0.18	1
Bromodichloromethane	ND		ug/kg	0.55	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.55	0.17	1
Bromoform	ND		ug/kg	4.4	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.55	0.18	1
Benzene	1.4		ug/kg	0.55	0.18	1
Toluene	ND		ug/kg	1.1	0.60	1
Ethylbenzene	79		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.4	1.0	1
Bromomethane	ND		ug/kg	2.2	0.64	1
Vinyl chloride	ND		ug/kg	1.1	0.37	1
Chloroethane	ND		ug/kg	2.2	0.50	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.15	1
Trichloroethene	ND		ug/kg	0.55	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-03
 Client ID: BOTTOM #2 16.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 13:12
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	3.8		ug/kg	2.2	0.62	1
o-Xylene	0.76	J	ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.3	1
Carbon disulfide	ND		ug/kg	11	5.0	1
2-Butanone	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.22	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.31	1
n-Butylbenzene	0.81	J	ug/kg	1.1	0.18	1
sec-Butylbenzene	0.67	J	ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	1.1	1
Isopropylbenzene	2.7		ug/kg	1.1	0.12	1
p-Isopropyltoluene	0.38	J	ug/kg	1.1	0.12	1
n-Propylbenzene	12		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.35	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.30	1
1,3,5-Trimethylbenzene	0.24	J	ug/kg	2.2	0.21	1
1,2,4-Trimethylbenzene	40		ug/kg	2.2	0.37	1
Methyl Acetate	ND		ug/kg	4.4	1.0	1
Cyclohexane	1.0	J	ug/kg	11	0.60	1
1,4-Dioxane	ND		ug/kg	88	39.	1
Freon-113	ND		ug/kg	4.4	0.76	1
Methyl cyclohexane	0.92	J	ug/kg	4.4	0.66	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	87		70-130
Dibromofluoromethane	85		70-130

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-04
 Client ID: BOTTOM #3 14.5'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:00
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/29/19 08:11
 Analyst: MV
 Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	320	140	1
1,1-Dichloroethane	ND		ug/kg	63	9.2	1
Chloroform	ND		ug/kg	95	8.8	1
Carbon tetrachloride	ND		ug/kg	63	14.	1
1,2-Dichloropropane	ND		ug/kg	63	7.9	1
Dibromochloromethane	ND		ug/kg	63	8.8	1
1,1,2-Trichloroethane	ND		ug/kg	63	17.	1
Tetrachloroethene	ND		ug/kg	32	12.	1
Chlorobenzene	ND		ug/kg	32	8.0	1
Trichlorofluoromethane	ND		ug/kg	250	44.	1
1,2-Dichloroethane	ND		ug/kg	63	16.	1
1,1,1-Trichloroethane	ND		ug/kg	32	10.	1
Bromodichloromethane	ND		ug/kg	32	6.9	1
trans-1,3-Dichloropropene	ND		ug/kg	63	17.	1
cis-1,3-Dichloropropene	ND		ug/kg	32	10.	1
Bromoform	ND		ug/kg	250	16.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	32	10.	1
Benzene	ND		ug/kg	32	10.	1
Toluene	ND		ug/kg	63	34.	1
Ethylbenzene	300		ug/kg	63	8.9	1
Chloromethane	ND		ug/kg	250	59.	1
Bromomethane	ND		ug/kg	130	37.	1
Vinyl chloride	ND		ug/kg	63	21.	1
Chloroethane	ND		ug/kg	130	28.	1
1,1-Dichloroethene	ND		ug/kg	63	15.	1
trans-1,2-Dichloroethene	ND		ug/kg	95	8.7	1
Trichloroethene	ND		ug/kg	32	8.7	1
1,2-Dichlorobenzene	ND		ug/kg	130	9.1	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-04
 Client ID: BOTTOM #3 14.5'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:00
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	130	9.4	1
1,4-Dichlorobenzene	ND		ug/kg	130	11.	1
Methyl tert butyl ether	ND		ug/kg	130	13.	1
p/m-Xylene	1400		ug/kg	130	35.	1
o-Xylene	ND		ug/kg	63	18.	1
cis-1,2-Dichloroethene	ND		ug/kg	63	11.	1
Styrene	ND		ug/kg	63	12.	1
Dichlorodifluoromethane	ND		ug/kg	630	58.	1
Acetone	ND		ug/kg	630	300	1
Carbon disulfide	ND		ug/kg	630	290	1
2-Butanone	ND		ug/kg	630	140	1
4-Methyl-2-pentanone	ND		ug/kg	630	81.	1
2-Hexanone	ND		ug/kg	630	75.	1
Bromochloromethane	ND		ug/kg	130	13.	1
1,2-Dibromoethane	ND		ug/kg	63	18.	1
n-Butylbenzene	30	J	ug/kg	63	10.	1
sec-Butylbenzene	20	J	ug/kg	63	9.2	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	190	63.	1
Isopropylbenzene	35	J	ug/kg	63	6.9	1
p-Isopropyltoluene	8.1	J	ug/kg	63	6.9	1
n-Propylbenzene	150		ug/kg	63	11.	1
1,2,3-Trichlorobenzene	ND		ug/kg	130	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	130	17.	1
1,3,5-Trimethylbenzene	130		ug/kg	130	12.	1
1,2,4-Trimethylbenzene	1100		ug/kg	130	21.	1
Methyl Acetate	ND		ug/kg	250	60.	1
Cyclohexane	39	J	ug/kg	630	34.	1
1,4-Dioxane	ND		ug/kg	5100	2200	1
Freon-113	ND		ug/kg	250	44.	1
Methyl cyclohexane	66	J	ug/kg	250	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	116		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	112		70-130

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-05
 Client ID: BOTTOM #4 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:55
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/29/19 08:48
 Analyst: MV
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.8	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.17	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.2	0.27	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.14	1
Dibromochloromethane	ND		ug/kg	1.2	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.31	1
Tetrachloroethene	ND		ug/kg	0.58	0.23	1
Chlorobenzene	ND		ug/kg	0.58	0.15	1
Trichlorofluoromethane	ND		ug/kg	4.6	0.80	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.30	1
1,1,1-Trichloroethane	ND		ug/kg	0.58	0.19	1
Bromodichloromethane	ND		ug/kg	0.58	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.32	1
cis-1,3-Dichloropropene	ND		ug/kg	0.58	0.18	1
Bromoform	ND		ug/kg	4.6	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.58	0.19	1
Benzene	ND		ug/kg	0.58	0.19	1
Toluene	ND		ug/kg	1.2	0.63	1
Ethylbenzene	ND		ug/kg	1.2	0.16	1
Chloromethane	ND		ug/kg	4.6	1.1	1
Bromomethane	ND		ug/kg	2.3	0.67	1
Vinyl chloride	ND		ug/kg	1.2	0.39	1
Chloroethane	ND		ug/kg	2.3	0.52	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.28	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1
Trichloroethene	ND		ug/kg	0.58	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.17	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-05
 Client ID: BOTTOM #4 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:55
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	62		ug/kg	2.3	0.65	1
o-Xylene	57		ug/kg	1.2	0.34	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.20	1
Styrene	ND		ug/kg	1.2	0.23	1
Dichlorodifluoromethane	ND		ug/kg	12	1.0	1
Acetone	ND		ug/kg	12	5.6	1
Carbon disulfide	ND		ug/kg	12	5.3	1
2-Butanone	ND		ug/kg	12	2.6	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.5	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.3	0.24	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.32	1
n-Butylbenzene	2.6		ug/kg	1.2	0.19	1
sec-Butylbenzene	2.3		ug/kg	1.2	0.17	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.5	1.2	1
Isopropylbenzene	0.60	J	ug/kg	1.2	0.13	1
p-Isopropyltoluene	3.3		ug/kg	1.2	0.13	1
n-Propylbenzene	0.66	J	ug/kg	1.2	0.20	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.37	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.32	1
1,3,5-Trimethylbenzene	94		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	140		ug/kg	2.3	0.39	1
Methyl Acetate	ND		ug/kg	4.6	1.1	1
Cyclohexane	2.3	J	ug/kg	12	0.63	1
1,4-Dioxane	ND		ug/kg	93	41.	1
Freon-113	ND		ug/kg	4.6	0.80	1
Methyl cyclohexane	10		ug/kg	4.6	0.70	1

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-06
Client ID: BOTTOM #5 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:03
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/29/19 09:12
Analyst: MV
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.0	2.3	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.14	1
Chloroform	ND		ug/kg	1.5	0.14	1
Carbon tetrachloride	ND		ug/kg	1.0	0.23	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.12	1
Dibromochloromethane	ND		ug/kg	1.0	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27	1
Tetrachloroethene	ND		ug/kg	0.50	0.20	1
Chlorobenzene	ND		ug/kg	0.50	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.0	0.70	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.26	1
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17	1
Bromodichloromethane	ND		ug/kg	0.50	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27	1
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16	1
Bromoform	ND		ug/kg	4.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17	1
Benzene	ND		ug/kg	0.50	0.17	1
Toluene	1.7		ug/kg	1.0	0.54	1
Ethylbenzene	3.7		ug/kg	1.0	0.14	1
Chloromethane	ND		ug/kg	4.0	0.94	1
Bromomethane	ND		ug/kg	2.0	0.58	1
Vinyl chloride	ND		ug/kg	1.0	0.34	1
Chloroethane	ND		ug/kg	2.0	0.45	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.24	1
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14	1
Trichloroethene	ND		ug/kg	0.50	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-06
 Client ID: BOTTOM #5 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:03
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17	1
Methyl tert butyl ether	ND		ug/kg	2.0	0.20	1
p/m-Xylene	53		ug/kg	2.0	0.56	1
o-Xylene	26		ug/kg	1.0	0.29	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18	1
Styrene	ND		ug/kg	1.0	0.20	1
Dichlorodifluoromethane	ND		ug/kg	10	0.92	1
Acetone	ND		ug/kg	10	4.8	1
Carbon disulfide	ND		ug/kg	10	4.6	1
2-Butanone	ND		ug/kg	10	2.2	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.3	1
2-Hexanone	ND		ug/kg	10	1.2	1
Bromochloromethane	ND		ug/kg	2.0	0.20	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.28	1
n-Butylbenzene	4.6		ug/kg	1.0	0.17	1
sec-Butylbenzene	3.8		ug/kg	1.0	0.15	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0	1
Isopropylbenzene	1.2		ug/kg	1.0	0.11	1
p-Isopropyltoluene	1.5		ug/kg	1.0	0.11	1
n-Propylbenzene	4.8		ug/kg	1.0	0.17	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27	1
1,3,5-Trimethylbenzene	42		ug/kg	2.0	0.19	1
1,2,4-Trimethylbenzene	130		ug/kg	2.0	0.34	1
Methyl Acetate	ND		ug/kg	4.0	0.95	1
Cyclohexane	2.5	J	ug/kg	10	0.55	1
1,4-Dioxane	ND		ug/kg	80	35.	1
Freon-113	ND		ug/kg	4.0	0.70	1
Methyl cyclohexane	7.1		ug/kg	4.0	0.60	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	101		70-130
Toluene-d8	99		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	99		70-130



Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-07
 Client ID: BOTTOM #6 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:13
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/29/19 09:37
 Analyst: MV
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	6.1	2.8	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.8	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.28	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.15	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.32	1
Tetrachloroethene	ND		ug/kg	0.61	0.24	1
Chlorobenzene	ND		ug/kg	0.61	0.15	1
Trichlorofluoromethane	ND		ug/kg	4.8	0.84	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.31	1
1,1,1-Trichloroethane	0.90		ug/kg	0.61	0.20	1
Bromodichloromethane	ND		ug/kg	0.61	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.33	1
cis-1,3-Dichloropropene	ND		ug/kg	0.61	0.19	1
Bromoform	ND		ug/kg	4.8	0.30	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.61	0.20	1
Benzene	ND		ug/kg	0.61	0.20	1
Toluene	ND		ug/kg	1.2	0.66	1
Ethylbenzene	ND		ug/kg	1.2	0.17	1
Chloromethane	ND		ug/kg	4.8	1.1	1
Bromomethane	ND		ug/kg	2.4	0.70	1
Vinyl chloride	ND		ug/kg	1.2	0.41	1
Chloroethane	ND		ug/kg	2.4	0.55	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.29	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.17	1
Trichloroethene	ND		ug/kg	0.61	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	0.17	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-07
 Client ID: BOTTOM #6 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:13
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.4	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.24	1
p/m-Xylene	ND		ug/kg	2.4	0.68	1
o-Xylene	ND		ug/kg	1.2	0.35	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.21	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	5.8	1
Carbon disulfide	ND		ug/kg	12	5.5	1
2-Butanone	ND		ug/kg	12	2.7	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.4	0.25	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.34	1
n-Butylbenzene	ND		ug/kg	1.2	0.20	1
sec-Butylbenzene	ND		ug/kg	1.2	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.6	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.13	1
n-Propylbenzene	ND		ug/kg	1.2	0.21	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	0.39	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	0.33	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	0.23	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	0.40	1
Methyl Acetate	ND		ug/kg	4.8	1.2	1
Cyclohexane	ND		ug/kg	12	0.66	1
1,4-Dioxane	ND		ug/kg	97	42.	1
Freon-113	ND		ug/kg	4.8	0.84	1
Methyl cyclohexane	ND		ug/kg	4.8	0.73	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	100		70-130



Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-07 R

Date Collected: 10/28/19 15:13

Client ID: BOTTOM #6 14.0'

Date Received: 10/28/19

Sample Location: BUFFALO NY 14218

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 10/29/19 10:49

Analyst: MV

Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.9	2.7	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.17	1
Chloroform	ND		ug/kg	1.8	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.27	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.15	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.32	1
Tetrachloroethene	ND		ug/kg	0.59	0.23	1
Chlorobenzene	ND		ug/kg	0.59	0.15	1
Trichlorofluoromethane	ND		ug/kg	4.8	0.82	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.30	1
1,1,1-Trichloroethane	0.40	J	ug/kg	0.59	0.20	1
Bromodichloromethane	ND		ug/kg	0.59	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.32	1
cis-1,3-Dichloropropene	ND		ug/kg	0.59	0.19	1
Bromoform	ND		ug/kg	4.8	0.29	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.59	0.20	1
Benzene	ND		ug/kg	0.59	0.20	1
Toluene	ND		ug/kg	1.2	0.64	1
Ethylbenzene	ND		ug/kg	1.2	0.17	1
Chloromethane	ND		ug/kg	4.8	1.1	1
Bromomethane	ND		ug/kg	2.4	0.69	1
Vinyl chloride	ND		ug/kg	1.2	0.40	1
Chloroethane	ND		ug/kg	2.4	0.54	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.28	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.16	1
Trichloroethene	ND		ug/kg	0.59	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	0.17	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-07 R

Date Collected: 10/28/19 15:13

Client ID: BOTTOM #6 14.0'

Date Received: 10/28/19

Sample Location: BUFFALO NY 14218

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.4	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.24	1
p/m-Xylene	ND		ug/kg	2.4	0.66	1
o-Xylene	ND		ug/kg	1.2	0.34	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.21	1
Styrene	ND		ug/kg	1.2	0.23	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	5.7	1
Carbon disulfide	ND		ug/kg	12	5.4	1
2-Butanone	ND		ug/kg	12	2.6	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.5	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.4	0.24	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.33	1
n-Butylbenzene	ND		ug/kg	1.2	0.20	1
sec-Butylbenzene	ND		ug/kg	1.2	0.17	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.6	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.13	1
n-Propylbenzene	ND		ug/kg	1.2	0.20	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	0.38	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	0.32	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	0.23	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	0.40	1
Methyl Acetate	ND		ug/kg	4.8	1.1	1
Cyclohexane	ND		ug/kg	12	0.65	1
1,4-Dioxane	ND		ug/kg	95	42.	1
Freon-113	ND		ug/kg	4.8	0.82	1
Methyl cyclohexane	ND		ug/kg	4.8	0.72	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	94		70-130

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-08
 Client ID: BOTTOM #7 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:21
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 10/29/19 11:13

Analyst: MV

Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.7	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.57	0.22	1
Chlorobenzene	ND		ug/kg	0.57	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.6	0.79	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.29	1
1,1,1-Trichloroethane	3.2		ug/kg	0.57	0.19	1
Bromodichloromethane	ND		ug/kg	0.57	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.31	1
cis-1,3-Dichloropropene	ND		ug/kg	0.57	0.18	1
Bromoform	ND		ug/kg	4.6	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.57	0.19	1
Benzene	ND		ug/kg	0.57	0.19	1
Toluene	ND		ug/kg	1.1	0.62	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.6	1.1	1
Bromomethane	ND		ug/kg	2.3	0.66	1
Vinyl chloride	ND		ug/kg	1.1	0.38	1
Chloroethane	ND		ug/kg	2.3	0.52	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.27	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1
Trichloroethene	ND		ug/kg	0.57	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.16	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-08
 Client ID: BOTTOM #7 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:21
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	ND		ug/kg	2.3	0.64	1
o-Xylene	ND		ug/kg	1.1	0.33	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.5	1
Carbon disulfide	ND		ug/kg	11	5.2	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.5	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.3	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.32	1
n-Butylbenzene	ND		ug/kg	1.1	0.19	1
sec-Butylbenzene	ND		ug/kg	1.1	0.17	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.20	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.37	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	0.38	1
Methyl Acetate	ND		ug/kg	4.6	1.1	1
Cyclohexane	ND		ug/kg	11	0.62	1
1,4-Dioxane	ND		ug/kg	91	40.	1
Freon-113	ND		ug/kg	4.6	0.79	1
Methyl cyclohexane	ND		ug/kg	4.6	0.69	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	91		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/29/19 07:20
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02,04 Batch: WG1301846-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/29/19 07:20
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02,04 Batch: WG1301846-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	4000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/29/19 07:20
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02,04 Batch: WG1301846-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	114		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	111		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/29/19 07:35
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05-08 Batch: WG1301879-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/29/19 07:35
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05-08 Batch: WG1301879-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/29/19 07:35
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01,03,05-08 Batch: WG1301879-5					

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

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1950827

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02,04 Batch: WG1301846-3 WG1301846-4								
Methylene chloride	82		79		70-130	4		30
1,1-Dichloroethane	94		89		70-130	5		30
Chloroform	105		100		70-130	5		30
Carbon tetrachloride	117		114		70-130	3		30
1,2-Dichloropropane	92		88		70-130	4		30
Dibromochloromethane	106		103		70-130	3		30
1,1,2-Trichloroethane	93		90		70-130	3		30
Tetrachloroethene	100		95		70-130	5		30
Chlorobenzene	91		87		70-130	4		30
Trichlorofluoromethane	106		101		70-139	5		30
1,2-Dichloroethane	110		104		70-130	6		30
1,1,1-Trichloroethane	109		104		70-130	5		30
Bromodichloromethane	106		102		70-130	4		30
trans-1,3-Dichloropropene	104		100		70-130	4		30
cis-1,3-Dichloropropene	104		99		70-130	5		30
Bromoform	109		105		70-130	4		30
1,1,2,2-Tetrachloroethane	84		82		70-130	2		30
Benzene	92		88		70-130	4		30
Toluene	92		88		70-130	4		30
Ethylbenzene	94		90		70-130	4		30
Chloromethane	62		57		52-130	8		30
Bromomethane	91		88		57-147	3		30
Vinyl chloride	76		70		67-130	8		30

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1950827

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02,04 Batch: WG1301846-3 WG1301846-4								
Chloroethane	93		87		50-151	7		30
1,1-Dichloroethene	94		90		65-135	4		30
trans-1,2-Dichloroethene	98		94		70-130	4		30
Trichloroethene	102		97		70-130	5		30
1,2-Dichlorobenzene	98		94		70-130	4		30
1,3-Dichlorobenzene	98		95		70-130	3		30
1,4-Dichlorobenzene	98		93		70-130	5		30
Methyl tert butyl ether	108		105		66-130	3		30
p/m-Xylene	94		90		70-130	4		30
o-Xylene	94		90		70-130	4		30
cis-1,2-Dichloroethene	100		97		70-130	3		30
Styrene	100		96		70-130	4		30
Dichlorodifluoromethane	58		55		30-146	5		30
Acetone	99		90		54-140	10		30
Carbon disulfide	85		80		59-130	6		30
2-Butanone	81		74		70-130	9		30
4-Methyl-2-pentanone	92		89		70-130	3		30
2-Hexanone	81		79		70-130	3		30
Bromochloromethane	110		105		70-130	5		30
1,2-Dibromoethane	103		99		70-130	4		30
n-Butylbenzene	93		89		70-130	4		30
sec-Butylbenzene	94		89		70-130	5		30
1,2-Dibromo-3-chloropropane	106		103		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1950827

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02,04 Batch: WG1301846-3 WG1301846-4								
Isopropylbenzene	95		91		70-130	4		30
p-Isopropyltoluene	99		95		70-130	4		30
n-Propylbenzene	92		88		70-130	4		30
1,2,3-Trichlorobenzene	102		98		70-130	4		30
1,2,4-Trichlorobenzene	105		100		70-130	5		30
1,3,5-Trimethylbenzene	95		91		70-130	4		30
1,2,4-Trimethylbenzene	97		93		70-130	4		30
Methyl Acetate	94		88		51-146	7		30
Cyclohexane	89		84		59-142	6		30
1,4-Dioxane	107		101		65-136	6		30
Freon-113	99		93		50-139	6		30
Methyl cyclohexane	99		96		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	116		118		70-130
Toluene-d8	97		97		70-130
4-Bromofluorobenzene	100		101		70-130
Dibromofluoromethane	114		114		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1950827

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05-08 Batch: WG1301879-3 WG1301879-4								
Methylene chloride	78		76		70-130	3		30
1,1-Dichloroethane	83		87		70-130	5		30
Chloroform	85		91		70-130	7		30
Carbon tetrachloride	92		94		70-130	2		30
1,2-Dichloropropane	90		90		70-130	0		30
Dibromochloromethane	100		103		70-130	3		30
1,1,2-Trichloroethane	92		92		70-130	0		30
Tetrachloroethene	102		106		70-130	4		30
Chlorobenzene	94		95		70-130	1		30
Trichlorofluoromethane	71		78		70-139	9		30
1,2-Dichloroethane	91		90		70-130	1		30
1,1,1-Trichloroethane	93		94		70-130	1		30
Bromodichloromethane	96		98		70-130	2		30
trans-1,3-Dichloropropene	95		98		70-130	3		30
cis-1,3-Dichloropropene	94		96		70-130	2		30
Bromoform	98		97		70-130	1		30
1,1,2,2-Tetrachloroethane	89		90		70-130	1		30
Benzene	87		88		70-130	1		30
Toluene	90		91		70-130	1		30
Ethylbenzene	93		97		70-130	4		30
Chloromethane	63		69		52-130	9		30
Bromomethane	64		71		57-147	10		30
Vinyl chloride	62	Q	64	Q	67-130	3		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05-08 Batch: WG1301879-3 WG1301879-4								
Chloroethane	57		62		50-151	8		30
1,1-Dichloroethene	84		82		65-135	2		30
trans-1,2-Dichloroethene	83		86		70-130	4		30
Trichloroethene	87		94		70-130	8		30
1,2-Dichlorobenzene	94		95		70-130	1		30
1,3-Dichlorobenzene	97		99		70-130	2		30
1,4-Dichlorobenzene	96		98		70-130	2		30
Methyl tert butyl ether	91		88		66-130	3		30
p/m-Xylene	95		100		70-130	5		30
o-Xylene	94		98		70-130	4		30
cis-1,2-Dichloroethene	88		88		70-130	0		30
Styrene	97		101		70-130	4		30
Dichlorodifluoromethane	44		47		30-146	7		30
Acetone	117		111		54-140	5		30
Carbon disulfide	75		75		59-130	0		30
2-Butanone	106		96		70-130	10		30
4-Methyl-2-pentanone	98		100		70-130	2		30
2-Hexanone	109		112		70-130	3		30
Bromochloromethane	86		92		70-130	7		30
1,2-Dibromoethane	89		97		70-130	9		30
n-Butylbenzene	94		98		70-130	4		30
sec-Butylbenzene	90		96		70-130	6		30
1,2-Dibromo-3-chloropropane	93		93		68-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01,03,05-08 Batch: WG1301879-3 WG1301879-4								
Isopropylbenzene	89		96		70-130	8		30
p-Isopropyltoluene	94		98		70-130	4		30
n-Propylbenzene	92		96		70-130	4		30
1,2,3-Trichlorobenzene	94		101		70-130	7		30
1,2,4-Trichlorobenzene	105		108		70-130	3		30
1,3,5-Trimethylbenzene	91		96		70-130	5		30
1,2,4-Trimethylbenzene	94		96		70-130	2		30
Methyl Acetate	110		109		51-146	1		30
Cyclohexane	82		87		59-142	6		30
1,4-Dioxane	113		109		65-136	4		30
Freon-113	86		86		50-139	0		30
Methyl cyclohexane	81		88		70-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		96		70-130
Toluene-d8	98		96		70-130
4-Bromofluorobenzene	93		95		70-130
Dibromofluoromethane	98		98		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-01
 Client ID: NORTH SIDEWALL #3 (11-13)
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 09:30
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/29/19 14:55
 Analyst: RC
 Percent Solids: 90%

Extraction Method: EPA 3546
 Extraction Date: 10/29/19 10:06

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	180	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	180	49.	1
2,4-Dinitrotoluene	ND		ug/kg	180	37.	1
2,6-Dinitrotoluene	ND		ug/kg	180	32.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	28.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	220	32.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	200	18.	1
Hexachlorobutadiene	ND		ug/kg	180	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	170	27.	1
NDPA/DPA	ND		ug/kg	150	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	29.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	64.	1
Butyl benzyl phthalate	ND		ug/kg	180	47.	1
Di-n-butylphthalate	ND		ug/kg	180	35.	1
Di-n-octylphthalate	ND		ug/kg	180	63.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	39.	1
Benzo(a)anthracene	ND		ug/kg	110	21.	1
Benzo(a)pyrene	ND		ug/kg	150	45.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-01
 Client ID: NORTH SIDEWALL #3 (11-13)
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 09:30
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	180	18.	1
Phenanthrene	ND		ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	21.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	150	26.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	43.	1
4-Chloroaniline	ND		ug/kg	180	34.	1
2-Nitroaniline	ND		ug/kg	180	36.	1
3-Nitroaniline	ND		ug/kg	180	35.	1
4-Nitroaniline	ND		ug/kg	180	77.	1
Dibenzofuran	ND		ug/kg	180	18.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	19.	1
Acetophenone	ND		ug/kg	180	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	1
p-Chloro-m-cresol	ND		ug/kg	180	28.	1
2-Chlorophenol	ND		ug/kg	180	22.	1
2,4-Dichlorophenol	ND		ug/kg	170	30.	1
2,4-Dimethylphenol	ND		ug/kg	180	61.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	890	86.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	89.	1
Pentachlorophenol	ND		ug/kg	150	41.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	29.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	270	29.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	36.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	150	65.	1
Benzaldehyde	ND		ug/kg	240	50.	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950827-01**Date Collected:** 10/28/19 09:30**Client ID:** NORTH SIDEWALL #3 (11-13)**Date Received:** 10/28/19**Sample Location:** BUFFALO NY 14218**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	56.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	64		25-120
Phenol-d6	63		10-120
Nitrobenzene-d5	46		23-120
2-Fluorobiphenyl	49		30-120
2,4,6-Tribromophenol	73		10-136
4-Terphenyl-d14	50		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-02
Client ID: BOTTOM #1 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 12:45
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/29/19 13:56
Analyst: JG
Percent Solids: 81%

Extraction Method: EPA 3546
Extraction Date: 10/29/19 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	130	J	ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	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	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-02
 Client ID: BOTTOM #1 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 12:45
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	450	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	46	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	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	75.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	950	93.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	95.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	70.	1
Benzaldehyde	ND		ug/kg	260	54.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-02
Client ID: BOTTOM #1 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 12:45
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	60.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		25-120
Phenol-d6	45		10-120
Nitrobenzene-d5	34		23-120
2-Fluorobiphenyl	32		30-120
2,4,6-Tribromophenol	49		10-136
4-Terphenyl-d14	27		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-03
Client ID: BOTTOM #2 16.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 13:12
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/29/19 15:22
Analyst: JG
Percent Solids: 88%

Extraction Method: EPA 3546
Extraction Date: 10/29/19 10:06

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	25.	1
Naphthalene	ND		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	66.	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

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-03
 Client ID: BOTTOM #2 16.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 13:12
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
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	36.	1
4-Nitroaniline	ND		ug/kg	190	78.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		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	29.	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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-03
Client ID: BOTTOM #2 16.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 13:12
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		25-120
Phenol-d6	65		10-120
Nitrobenzene-d5	50		23-120
2-Fluorobiphenyl	53		30-120
2,4,6-Tribromophenol	80		10-136
4-Terphenyl-d14	47		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-04
Client ID: BOTTOM #3 14.5'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:00
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/29/19 14:35
Analyst: EK
Percent Solids: 83%

Extraction Method: EPA 3546
Extraction Date: 10/29/19 10:06

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	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	70	J	ug/kg	200	24.	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	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-04
 Client ID: BOTTOM #3 14.5'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:00
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	38.	1
4-Nitroaniline	ND		ug/kg	200	83.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	44	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	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	75.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	960	93.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	96.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	70.	1
Benzaldehyde	ND		ug/kg	260	54.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-04
Client ID: BOTTOM #3 14.5'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:00
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	61.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	49		25-120
Phenol-d6	46		10-120
Nitrobenzene-d5	36		23-120
2-Fluorobiphenyl	42		30-120
2,4,6-Tribromophenol	51		10-136
4-Terphenyl-d14	35		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-05
Client ID: BOTTOM #4 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:55
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/29/19 14:59
Analyst: EK
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 10/29/19 10:06

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	24.	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	250	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	590	180	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	180	27.	1
Naphthalene	ND		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	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	71.	1
Butyl benzyl phthalate	ND		ug/kg	200	52.	1
Di-n-butylphthalate	ND		ug/kg	200	39.	1
Di-n-octylphthalate	ND		ug/kg	200	70.	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

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-05
 Client ID: BOTTOM #4 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:55
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	32.	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	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	28.	1
Pyrene	ND		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	470	48.	1
4-Chloroaniline	ND		ug/kg	200	37.	1
2-Nitroaniline	ND		ug/kg	200	40.	1
3-Nitroaniline	ND		ug/kg	200	39.	1
4-Nitroaniline	ND		ug/kg	200	85.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	250	25.	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	39.	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	68.	1
2-Nitrophenol	ND		ug/kg	440	77.	1
4-Nitrophenol	ND		ug/kg	290	84.	1
2,4-Dinitrophenol	ND		ug/kg	980	96.	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	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	39.	1
Carbazole	ND		ug/kg	200	20.	1
Atrazine	ND		ug/kg	160	72.	1
Benzaldehyde	ND		ug/kg	270	55.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-05
Client ID: BOTTOM #4 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:55
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	62.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	41.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	44		25-120
Phenol-d6	44		10-120
Nitrobenzene-d5	35		23-120
2-Fluorobiphenyl	39		30-120
2,4,6-Tribromophenol	46		10-136
4-Terphenyl-d14	32		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-06
Client ID: BOTTOM #5 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:03
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/29/19 15:22
Analyst: EK
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 10/29/19 10:06

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	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	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	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-06
 Client ID: BOTTOM #5 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:03
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	38.	1
4-Nitroaniline	ND		ug/kg	200	83.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	27	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	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	75.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	960	93.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	96.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	70.	1
Benzaldehyde	ND		ug/kg	260	54.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-06
Client ID: BOTTOM #5 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:03
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	61.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		25-120
Phenol-d6	50		10-120
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	42		30-120
2,4,6-Tribromophenol	53		10-136
4-Terphenyl-d14	37		18-120

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**SAMPLE RESULTS**

Lab ID: L1950827-07
 Client ID: BOTTOM #6 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:13
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 10/29/19 15:45
 Analyst: EK
 Percent Solids: 80%

Extraction Method: EPA 3546
 Extraction Date: 10/29/19 10:06

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	190	28.	1
2-Chloronaphthalene	ND		ug/kg	210	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	55.	1
2,4-Dinitrotoluene	ND		ug/kg	210	41.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	ND		ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	21.	1
Hexachlorobutadiene	ND		ug/kg	210	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	590	190	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	ND		ug/kg	210	25.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	160	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	72.	1
Butyl benzyl phthalate	ND		ug/kg	210	52.	1
Di-n-butylphthalate	ND		ug/kg	210	39.	1
Di-n-octylphthalate	ND		ug/kg	210	70.	1
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	43.	1
Benzo(a)anthracene	ND		ug/kg	120	23.	1
Benzo(a)pyrene	ND		ug/kg	160	50.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-07
 Client ID: BOTTOM #6 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:13
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	35.	1
Benzo(k)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	22.	1
Acenaphthylene	ND		ug/kg	160	32.	1
Anthracene	ND		ug/kg	120	40.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	210	20.	1
Phenanthrene	ND		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	29.	1
Pyrene	ND		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	470	48.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	39.	1
4-Nitroaniline	ND		ug/kg	210	86.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	39.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	24.	1
2,4-Dichlorophenol	ND		ug/kg	190	33.	1
2,4-Dimethylphenol	ND		ug/kg	210	68.	1
2-Nitrophenol	ND		ug/kg	450	78.	1
4-Nitrophenol	ND		ug/kg	290	84.	1
2,4-Dinitrophenol	ND		ug/kg	990	96.	1
4,6-Dinitro-o-cresol	ND		ug/kg	540	99.	1
Pentachlorophenol	ND		ug/kg	160	46.	1
Phenol	ND		ug/kg	210	31.	1
2-Methylphenol	ND		ug/kg	210	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Carbazole	ND		ug/kg	210	20.	1
Atrazine	ND		ug/kg	160	72.	1
Benzaldehyde	ND		ug/kg	270	56.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-07
Client ID: BOTTOM #6 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:13
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	63.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	42.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		25-120
Phenol-d6	50		10-120
Nitrobenzene-d5	37		23-120
2-Fluorobiphenyl	41		30-120
2,4,6-Tribromophenol	53		10-136
4-Terphenyl-d14	38		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-08
Client ID: BOTTOM #7 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:21
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/29/19 15:28
Analyst: JG
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 10/29/19 10:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	170	22.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	28.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	56.	1
2,4-Dinitrotoluene	ND		ug/kg	210	42.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	ND		ug/kg	130	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	600	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	ND		ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	73.	1
Butyl benzyl phthalate	ND		ug/kg	210	53.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	72.	1
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	44.	1
Benzo(a)anthracene	ND		ug/kg	130	24.	1
Benzo(a)pyrene	ND		ug/kg	170	51.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-08
 Client ID: BOTTOM #7 14.0'
 Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:21
 Date Received: 10/28/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	130	35.	1
Benzo(k)fluoranthene	ND		ug/kg	130	34.	1
Chrysene	ND		ug/kg	130	22.	1
Acenaphthylene	ND		ug/kg	170	32.	1
Anthracene	ND		ug/kg	130	41.	1
Benzo(ghi)perylene	ND		ug/kg	170	25.	1
Fluorene	ND		ug/kg	210	20.	1
Phenanthrene	ND		ug/kg	130	26.	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	29.	1
Pyrene	ND		ug/kg	130	21.	1
Biphenyl	ND		ug/kg	480	49.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	87.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	40.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	69.	1
2-Nitrophenol	ND		ug/kg	450	79.	1
4-Nitrophenol	ND		ug/kg	290	86.	1
2,4-Dinitrophenol	ND		ug/kg	1000	98.	1
4,6-Dinitro-o-cresol	ND		ug/kg	550	100	1
Pentachlorophenol	ND		ug/kg	170	46.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	33.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	33.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Carbazole	ND		ug/kg	210	20.	1
Atrazine	ND		ug/kg	170	74.	1
Benzaldehyde	ND		ug/kg	280	57.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-08
Client ID: BOTTOM #7 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:21
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	64.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	42.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	50		25-120
Phenol-d6	54		10-120
Nitrobenzene-d5	40		23-120
2-Fluorobiphenyl	39		30-120
2,4,6-Tribromophenol	60		10-136
4-Terphenyl-d14	38		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/19 13:36
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/29/19 08:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1301774-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	27.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/19 13:36
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/29/19 08:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1301774-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/19 13:36
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/29/19 08:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-08 Batch: WG1301774-1					
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	210	44.
Caprolactam	ND		ug/kg	160	49.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-120
Phenol-d6	60		10-120
Nitrobenzene-d5	44		23-120
2-Fluorobiphenyl	45		30-120
2,4,6-Tribromophenol	80		10-136
4-Terphenyl-d14	54		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1950827

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1301774-2 WG1301774-3								
Acenaphthene	60		55		31-137	9		50
Hexachlorobenzene	66		61		40-140	8		50
Bis(2-chloroethyl)ether	57		53		40-140	7		50
2-Chloronaphthalene	61		56		40-140	9		50
3,3'-Dichlorobenzidine	45		41		40-140	9		50
2,4-Dinitrotoluene	66		61		40-132	8		50
2,6-Dinitrotoluene	65		59		40-140	10		50
Fluoranthene	58		53		40-140	9		50
4-Chlorophenyl phenyl ether	60		56		40-140	7		50
4-Bromophenyl phenyl ether	62		59		40-140	5		50
Bis(2-chloroisopropyl)ether	41		39	Q	40-140	5		50
Bis(2-chloroethoxy)methane	55		52		40-117	6		50
Hexachlorobutadiene	58		52		40-140	11		50
Hexachlorocyclopentadiene	57		54		40-140	5		50
Hexachloroethane	55		51		40-140	8		50
Isophorone	57		54		40-140	5		50
Naphthalene	58		54		40-140	7		50
Nitrobenzene	58		54		40-140	7		50
NDPA/DPA	62		57		36-157	8		50
n-Nitrosodi-n-propylamine	57		52		32-121	9		50
Bis(2-ethylhexyl)phthalate	66		61		40-140	8		50
Butyl benzyl phthalate	60		56		40-140	7		50
Di-n-butylphthalate	60		56		40-140	7		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1301774-2 WG1301774-3								
Di-n-octylphthalate	67		63		40-140	6		50
Diethyl phthalate	62		57		40-140	8		50
Dimethyl phthalate	59		54		40-140	9		50
Benzo(a)anthracene	59		55		40-140	7		50
Benzo(a)pyrene	63		58		40-140	8		50
Benzo(b)fluoranthene	64		60		40-140	6		50
Benzo(k)fluoranthene	66		62		40-140	6		50
Chrysene	61		56		40-140	9		50
Acenaphthylene	61		57		40-140	7		50
Anthracene	58		54		40-140	7		50
Benzo(ghi)perylene	60		56		40-140	7		50
Fluorene	62		57		40-140	8		50
Phenanthrene	57		52		40-140	9		50
Dibenzo(a,h)anthracene	60		56		40-140	7		50
Indeno(1,2,3-cd)pyrene	61		56		40-140	9		50
Pyrene	56		52		35-142	7		50
Biphenyl	62		56		37-127	10		50
4-Chloroaniline	47		43		40-140	9		50
2-Nitroaniline	65		60		47-134	8		50
3-Nitroaniline	52		45		26-129	14		50
4-Nitroaniline	57		52		41-125	9		50
Dibenzofuran	61		55		40-140	10		50
2-Methylnaphthalene	62		56		40-140	10		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1301774-2 WG1301774-3								
1,2,4,5-Tetrachlorobenzene	61		56		40-117	9		50
Acetophenone	60		54		14-144	11		50
2,4,6-Trichlorophenol	64		60		30-130	6		50
p-Chloro-m-cresol	67		63		26-103	6		50
2-Chlorophenol	63		59		25-102	7		50
2,4-Dichlorophenol	66		63		30-130	5		50
2,4-Dimethylphenol	69		65		30-130	6		50
2-Nitrophenol	64		60		30-130	6		50
4-Nitrophenol	63		59		11-114	7		50
2,4-Dinitrophenol	22		22		4-130	0		50
4,6-Dinitro-o-cresol	56		51		10-130	9		50
Pentachlorophenol	54		49		17-109	10		50
Phenol	63		58		26-90	8		50
2-Methylphenol	64		61		30-130.	5		50
3-Methylphenol/4-Methylphenol	62		59		30-130	5		50
2,4,5-Trichlorophenol	63		60		30-130	5		50
Carbazole	59		54		54-128	9		50
Atrazine	63		58		40-140	8		50
Benzaldehyde	58		52		40-140	11		50
Caprolactam	53		50		15-130	6		50
2,3,4,6-Tetrachlorophenol	63		59		40-140	7		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1950827

Project Number: B0500-019-001

Report Date: 10/31/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-08 Batch: WG1301774-2 WG1301774-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64		60		25-120
Phenol-d6	64		60		10-120
Nitrobenzene-d5	47		43		23-120
2-Fluorobiphenyl	47		44		30-120
2,4,6-Tribromophenol	70		66		10-136
4-Terphenyl-d14	48		45		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1950827**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950827-01**Client ID:** NORTH SIDEWALL #3 (11-13)**Sample Location:** BUFFALO NY 14218**Date Collected:** 10/28/19 09:30**Date Received:** 10/28/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	89.6		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1950827**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950827-02**Client ID:** BOTTOM #1 14.0'**Sample Location:** BUFFALO NY 14218**Date Collected:** 10/28/19 12:45**Date Received:** 10/28/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.2		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1950827**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950827-03**Client ID:** BOTTOM #2 16.0'**Sample Location:** BUFFALO NY 14218**Date Collected:** 10/28/19 13:12**Date Received:** 10/28/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.5		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1950827**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950827-04**Client ID:** BOTTOM #3 14.5'**Sample Location:** BUFFALO NY 14218**Date Collected:** 10/28/19 14:00**Date Received:** 10/28/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-05
Client ID: BOTTOM #4 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 14:55
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.8		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

SAMPLE RESULTS

Lab ID: L1950827-06
Client ID: BOTTOM #5 14.0'
Sample Location: BUFFALO NY 14218

Date Collected: 10/28/19 15:03
Date Received: 10/28/19
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	81.9		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1950827**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950827-07**Client ID:** BOTTOM #6 14.0'**Sample Location:** BUFFALO NY 14218**Date Collected:** 10/28/19 15:13**Date Received:** 10/28/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.7		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1950827**Report Date:** 10/31/19**SAMPLE RESULTS****Lab ID:** L1950827-08**Client ID:** BOTTOM #7 14.0'**Sample Location:** BUFFALO NY 14218**Date Collected:** 10/28/19 15:21**Date Received:** 10/28/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.4		%	0.100	NA	1	-	10/29/19 09:28	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1950827**Report Date:** 10/31/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-08 QC Batch ID: WG1301800-1 QC Sample: L1950803-01 Client ID: DUP Sample						
Solids, Total	86.3	86.0	%	0		20

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1950827-01A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-01B	Glass 120ml/4oz unpreserved	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-01X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-01Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-01Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 08:58	NYTCL-8260-R2(14)
L1950827-02A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-02B	Glass 120ml/4oz unpreserved	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-02X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-02Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-02Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-03A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-03B	Glass 120ml/4oz unpreserved	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-03X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-03Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-03Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 08:58	NYTCL-8260-R2(14)
L1950827-04A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-04B	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-04X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-04Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-04Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-05A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-05B	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-05X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19**Container Information**

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1950827-05Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 08:58	NYTCL-8260-R2(14)
L1950827-05Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-06A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-06B	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-06X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-06Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 08:58	NYTCL-8260-R2(14)
L1950827-06Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 23:56	NYTCL-8260-R2(14)
L1950827-07A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-07B	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-07X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-07Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 10:24	NYTCL-8260-R2(14)
L1950827-07Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 08:58	NYTCL-8260-R2(14)
L1950827-08A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-08B	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1950827-08X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1950827-08Y	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 10:24	NYTCL-8260-R2(14)
L1950827-08Z	Vial Water preserved split	A	NA		4.9	Y	Absent	29-OCT-19 08:58	NYTCL-8260-R2(14)

Container Comments

L1950827-01Z

Project Name: 441 ELMWOOD AVE**Lab Number:** L1950827**Project Number:** B0500-019-001**Report Date:** 10/31/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1950827
Report Date: 10/31/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 15

Published Date: 8/15/2019 9:53:42 AM

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 10/29/19		ALPHA Job # L1950827			
		Project Information Project Name: 441 Edmund Ave Project Location: Buffalo NY 14218 Project # B0500-019-001 (Use Project name as Project #) ☒ Project Manager: Nick Mueley ALPHAQuote #: Turn-Around Time: Standard ☐ Due Date: Rush (only if pre approved) ☒ # of Days: 24hr TAT		Deliverables ☐ ASP-A ☐ ASP-B ☐ EQuIS (1 File) ☐ EQuIS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #					
Client Information Client: Benchmark Eng Address: 2558 Hunting Turnpike Lunkin NY 14218 Phone: 716 816-8958 Fax: 716 816-0523 Email: T.Benchmark@turnkeyllc.com		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:							
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: LATB Please specify Metals or TAL.						ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)			
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection Date Time		Sample Matrix		Sampler's Initials		Sample Specific Comments	
50827-01		North Siderwall #3 (11-13)		10/28/19 730		Soil		TAB		3 DAY TAT	
-02		Bottom #1 14.0'		1245						24hr TAT	
-03		Bottom #2 16.0'		1312							
-04		Bottom #3 14.5'		1400							
-05		Bottom #4 14.0'		1455							
-06		Bottom #5 14.0		1503							
-07		Bottom #6 14.0		1513							
-08		Bottom #7 14.0		1521							
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code: P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type AA		Preservative AA		Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved, BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)	
Form No: 01-25 HC (rev. 30-Sept-2013)		Relinquished By: [Signature] AAC		Date/Time 10/28/19 16:10 10/28/19 16:45		Received By: [Signature] AAC [Signature] AAC		Date/Time 10/28/19 16:10 10/29/19 10:55			



ANALYTICAL REPORT

Lab Number:	L1951073
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	10/30/19

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

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1951073-01	BOTTOM #8 14.0'	SOIL	BUFFALO	10/29/19 14:20	10/29/19
L1951073-02	BOTTOM #9 14.0'	SOIL	BUFFALO	10/29/19 14:25	10/29/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Case Narrative (continued)

Report Submission

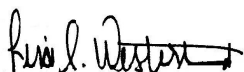
All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Volatile Organics

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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

Authorized Signature:



Lisa Westerlind

Title: Technical Director/Representative

Date: 10/30/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951073**Project Number:** B0500-019-001**Report Date:** 10/30/19**SAMPLE RESULTS**

Lab ID: L1951073-01
 Client ID: BOTTOM #8 14.0'
 Sample Location: BUFFALO

Date Collected: 10/29/19 14:20
 Date Received: 10/29/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 10/30/19 09:56
 Analyst: JC
 Percent Solids: 79%

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

Project Name: 441 ELMWOOD AVE

Lab Number: L1951073

Project Number: B0500-019-001

Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-01
 Client ID: BOTTOM #8 14.0'
 Sample Location: BUFFALO

Date Collected: 10/29/19 14:20
 Date Received: 10/29/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	ND		ug/kg	2.3	0.63	1
o-Xylene	ND		ug/kg	1.1	0.33	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.4	1
Carbon disulfide	ND		ug/kg	11	5.2	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.3	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.32	1
n-Butylbenzene	ND		ug/kg	1.1	0.19	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	0.38	1
Methyl Acetate	ND		ug/kg	4.5	1.1	1
Cyclohexane	ND		ug/kg	11	0.62	1
1,4-Dioxane	ND		ug/kg	91	40.	1
Freon-113	ND		ug/kg	4.5	0.78	1
Methyl cyclohexane	ND		ug/kg	4.5	0.68	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	115		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	112		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-02
Client ID: BOTTOM #9 14.0'
Sample Location: BUFFALO

Date Collected: 10/29/19 14:25
Date Received: 10/29/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 10/30/19 10:22
Analyst: JC
Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	6.1	2.8	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.8	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.28	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.15	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.33	1
Tetrachloroethene	ND		ug/kg	0.61	0.24	1
Chlorobenzene	ND		ug/kg	0.61	0.16	1
Trichlorofluoromethane	ND		ug/kg	4.9	0.85	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.32	1
1,1,1-Trichloroethane	0.93		ug/kg	0.61	0.20	1
Bromodichloromethane	ND		ug/kg	0.61	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.34	1
cis-1,3-Dichloropropene	ND		ug/kg	0.61	0.19	1
Bromoform	ND		ug/kg	4.9	0.30	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.61	0.20	1
Benzene	ND		ug/kg	0.61	0.20	1
Toluene	ND		ug/kg	1.2	0.67	1
Ethylbenzene	ND		ug/kg	1.2	0.17	1
Chloromethane	ND		ug/kg	4.9	1.1	1
Bromomethane	ND		ug/kg	2.4	0.71	1
Vinyl chloride	ND		ug/kg	1.2	0.41	1
Chloroethane	ND		ug/kg	2.4	0.56	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.29	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.17	1
Trichloroethene	ND		ug/kg	0.61	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	0.18	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-02
Client ID: BOTTOM #9 14.0'
Sample Location: BUFFALO

Date Collected: 10/29/19 14:25
Date Received: 10/29/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.4	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.25	1
p/m-Xylene	ND		ug/kg	2.4	0.69	1
o-Xylene	ND		ug/kg	1.2	0.36	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.22	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	5.9	1
Carbon disulfide	ND		ug/kg	12	5.6	1
2-Butanone	ND		ug/kg	12	2.7	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.4	0.25	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.34	1
n-Butylbenzene	ND		ug/kg	1.2	0.20	1
sec-Butylbenzene	ND		ug/kg	1.2	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.7	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.13	1
n-Propylbenzene	ND		ug/kg	1.2	0.21	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	0.40	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	0.33	1
1,3,5-Trimethylbenzene	0.32	J	ug/kg	2.4	0.24	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	0.41	1
Methyl Acetate	ND		ug/kg	4.9	1.2	1
Cyclohexane	ND		ug/kg	12	0.67	1
1,4-Dioxane	ND		ug/kg	98	43.	1
Freon-113	ND		ug/kg	4.9	0.85	1
Methyl cyclohexane	ND		ug/kg	4.9	0.74	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	113		70-130



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/30/19 07:49
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1302470-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 10/30/19 07:49
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1302470-5					
1,4-Dichlorobenzene	0.18	J	ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	0.11	J	ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	0.63	J	ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	0.42	J	ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 10/30/19 07:49
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1302470-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	119		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	110		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1951073

Project Number: B0500-019-001

Report Date: 10/30/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1302470-3 WG1302470-4								
Methylene chloride	88		86		70-130	2		30
1,1-Dichloroethane	101		99		70-130	2		30
Chloroform	115		112		70-130	3		30
Carbon tetrachloride	131	Q	127		70-130	3		30
1,2-Dichloropropane	99		96		70-130	3		30
Dibromochloromethane	117		116		70-130	1		30
1,1,2-Trichloroethane	102		100		70-130	2		30
Tetrachloroethene	110		109		70-130	1		30
Chlorobenzene	100		100		70-130	0		30
Trichlorofluoromethane	110		107		70-139	3		30
1,2-Dichloroethane	122		118		70-130	3		30
1,1,1-Trichloroethane	123		119		70-130	3		30
Bromodichloromethane	119		116		70-130	3		30
trans-1,3-Dichloropropene	114		113		70-130	1		30
cis-1,3-Dichloropropene	114		112		70-130	2		30
Bromoform	117		115		70-130	2		30
1,1,2,2-Tetrachloroethane	91		87		70-130	4		30
Benzene	100		97		70-130	3		30
Toluene	101		100		70-130	1		30
Ethylbenzene	104		103		70-130	1		30
Chloromethane	46	Q	42	Q	52-130	9		30
Bromomethane	89		85		57-147	5		30
Vinyl chloride	67		61	Q	67-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951073

Report Date: 10/30/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1302470-3 WG1302470-4								
Chloroethane	92		87		50-151	6		30
1,1-Dichloroethene	98		96		65-135	2		30
trans-1,2-Dichloroethene	105		101		70-130	4		30
Trichloroethene	112		108		70-130	4		30
1,2-Dichlorobenzene	107		104		70-130	3		30
1,3-Dichlorobenzene	107		104		70-130	3		30
1,4-Dichlorobenzene	104		103		70-130	1		30
Methyl tert butyl ether	120		116		66-130	3		30
p/m-Xylene	104		102		70-130	2		30
o-Xylene	105		103		70-130	2		30
cis-1,2-Dichloroethene	110		107		70-130	3		30
Styrene	111		109		70-130	2		30
Dichlorodifluoromethane	29	Q	28	Q	30-146	4		30
Acetone	105		96		54-140	9		30
Carbon disulfide	79		77		59-130	3		30
2-Butanone	87		95		70-130	9		30
4-Methyl-2-pentanone	102		98		70-130	4		30
2-Hexanone	91		86		70-130	6		30
Bromochloromethane	121		117		70-130	3		30
1,2-Dibromoethane	112		112		70-130	0		30
n-Butylbenzene	102		100		70-130	2		30
sec-Butylbenzene	104		100		70-130	4		30
1,2-Dibromo-3-chloropropane	115		113		68-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Parameter	LCS %Recovery	Qual	LCS %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1302470-3 WG1302470-4								
Isopropylbenzene	104		102		70-130	2		30
p-Isopropyltoluene	108		105		70-130	3		30
n-Propylbenzene	100		98		70-130	2		30
1,2,3-Trichlorobenzene	112		108		70-130	4		30
1,2,4-Trichlorobenzene	114		111		70-130	3		30
1,3,5-Trimethylbenzene	105		102		70-130	3		30
1,2,4-Trimethylbenzene	106		104		70-130	2		30
Methyl Acetate	101		95		51-146	6		30
Cyclohexane	94		89		59-142	5		30
1,4-Dioxane	95		98		65-136	3		30
Freon-113	104		100		50-139	4		30
Methyl cyclohexane	110		105		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	118		116		70-130
Toluene-d8	96		97		70-130
4-Bromofluorobenzene	98		100		70-130
Dibromofluoromethane	114		114		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-01
Client ID: BOTTOM #8 14.0'
Sample Location: BUFFALO

Date Collected: 10/29/19 14:20
Date Received: 10/29/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/30/19 11:18
Analyst: IM
Percent Solids: 79%

Extraction Method: EPA 3546
Extraction Date: 10/30/19 04:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	170	22.	1
Hexachlorobenzene	ND		ug/kg	120	23.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	28.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	56.	1
2,4-Dinitrotoluene	ND		ug/kg	210	42.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	ND		ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	21.	1
Hexachlorobutadiene	ND		ug/kg	210	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	600	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	27.	1
Naphthalene	ND		ug/kg	210	25.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	72.	1
Butyl benzyl phthalate	ND		ug/kg	210	53.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	71.	1
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	44.	1
Benzo(a)anthracene	ND		ug/kg	120	24.	1
Benzo(a)pyrene	ND		ug/kg	170	51.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1951073

Project Number: B0500-019-001

Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-01
 Client ID: BOTTOM #8 14.0'
 Sample Location: BUFFALO

Date Collected: 10/29/19 14:20
 Date Received: 10/29/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	35.	1
Benzo(k)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	22.	1
Acenaphthylene	ND		ug/kg	170	32.	1
Anthracene	ND		ug/kg	120	41.	1
Benzo(ghi)perylene	ND		ug/kg	170	24.	1
Fluorene	ND		ug/kg	210	20.	1
Phenanthrene	ND		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	29.	1
Pyrene	ND		ug/kg	120	21.	1
Biphenyl	ND		ug/kg	480	48.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	39.	1
4-Nitroaniline	ND		ug/kg	210	86.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	40.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	69.	1
2-Nitrophenol	ND		ug/kg	450	78.	1
4-Nitrophenol	ND		ug/kg	290	85.	1
2,4-Dinitrophenol	ND		ug/kg	1000	97.	1
4,6-Dinitro-o-cresol	ND		ug/kg	540	100	1
Pentachlorophenol	ND		ug/kg	170	46.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	33.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Carbazole	ND		ug/kg	210	20.	1
Atrazine	ND		ug/kg	170	73.	1
Benzaldehyde	ND		ug/kg	280	56.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-01
Client ID: BOTTOM #8 14.0'
Sample Location: BUFFALO

Date Collected: 10/29/19 14:20
Date Received: 10/29/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	64.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	42.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	58		10-120
Nitrobenzene-d5	44		23-120
2-Fluorobiphenyl	47		30-120
2,4,6-Tribromophenol	67		10-136
4-Terphenyl-d14	42		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-02
Client ID: BOTTOM #9 14.0'
Sample Location: BUFFALO

Date Collected: 10/29/19 14:25
Date Received: 10/29/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 10/30/19 11:45
Analyst: IM
Percent Solids: 77%

Extraction Method: EPA 3546
Extraction Date: 10/30/19 04:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	170	22.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	29.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	57.	1
2,4-Dinitrotoluene	ND		ug/kg	210	43.	1
2,6-Dinitrotoluene	ND		ug/kg	210	37.	1
Fluoranthene	ND		ug/kg	130	25.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	33.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	260	37.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	610	190	1
Hexachloroethane	ND		ug/kg	170	35.	1
Isophorone	ND		ug/kg	190	28.	1
Naphthalene	ND		ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	32.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	33.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	74.	1
Butyl benzyl phthalate	ND		ug/kg	210	54.	1
Di-n-butylphthalate	ND		ug/kg	210	41.	1
Di-n-octylphthalate	ND		ug/kg	210	73.	1
Diethyl phthalate	ND		ug/kg	210	20.	1
Dimethyl phthalate	ND		ug/kg	210	45.	1
Benzo(a)anthracene	ND		ug/kg	130	24.	1
Benzo(a)pyrene	ND		ug/kg	170	52.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1951073

Project Number: B0500-019-001

Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-02
 Client ID: BOTTOM #9 14.0'
 Sample Location: BUFFALO

Date Collected: 10/29/19 14:25
 Date Received: 10/29/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	130	36.	1
Benzo(k)fluoranthene	ND		ug/kg	130	34.	1
Chrysene	ND		ug/kg	130	22.	1
Acenaphthylene	ND		ug/kg	170	33.	1
Anthracene	ND		ug/kg	130	42.	1
Benzo(ghi)perylene	ND		ug/kg	170	25.	1
Fluorene	ND		ug/kg	210	21.	1
Phenanthrene	ND		ug/kg	130	26.	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	25.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	30.	1
Pyrene	ND		ug/kg	130	21.	1
Biphenyl	ND		ug/kg	490	50.	1
4-Chloroaniline	ND		ug/kg	210	39.	1
2-Nitroaniline	ND		ug/kg	210	41.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	89.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	260	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	41.	1
p-Chloro-m-cresol	ND		ug/kg	210	32.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	71.	1
2-Nitrophenol	ND		ug/kg	460	81.	1
4-Nitrophenol	ND		ug/kg	300	88.	1
2,4-Dinitrophenol	ND		ug/kg	1000	100	1
4,6-Dinitro-o-cresol	ND		ug/kg	560	100	1
Pentachlorophenol	ND		ug/kg	170	47.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	33.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	310	34.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	41.	1
Carbazole	ND		ug/kg	210	21.	1
Atrazine	ND		ug/kg	170	75.	1
Benzaldehyde	ND		ug/kg	280	58.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-02
Client ID: BOTTOM #9 14.0'
Sample Location: BUFFALO

Date Collected: 10/29/19 14:25
Date Received: 10/29/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	65.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	43.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-120
Phenol-d6	61		10-120
Nitrobenzene-d5	48		23-120
2-Fluorobiphenyl	50		30-120
2,4,6-Tribromophenol	73		10-136
4-Terphenyl-d14	44		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/19 13:36
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/29/19 08:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1301774-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	18.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	27.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/19 13:36
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/29/19 08:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1301774-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 10/29/19 13:36
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 10/29/19 08:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1301774-1					
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	210	44.
Caprolactam	ND		ug/kg	160	49.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-120
Phenol-d6	60		10-120
Nitrobenzene-d5	44		23-120
2-Fluorobiphenyl	45		30-120
2,4,6-Tribromophenol	80		10-136
4-Terphenyl-d14	54		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1951073

Project Number: B0500-019-001

Report Date: 10/30/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1301774-2 WG1301774-3								
Acenaphthene	60		55		31-137	9		50
Hexachlorobenzene	66		61		40-140	8		50
Bis(2-chloroethyl)ether	57		53		40-140	7		50
2-Chloronaphthalene	61		56		40-140	9		50
3,3'-Dichlorobenzidine	45		41		40-140	9		50
2,4-Dinitrotoluene	66		61		40-132	8		50
2,6-Dinitrotoluene	65		59		40-140	10		50
Fluoranthene	58		53		40-140	9		50
4-Chlorophenyl phenyl ether	60		56		40-140	7		50
4-Bromophenyl phenyl ether	62		59		40-140	5		50
Bis(2-chloroisopropyl)ether	41		39	Q	40-140	5		50
Bis(2-chloroethoxy)methane	55		52		40-117	6		50
Hexachlorobutadiene	58		52		40-140	11		50
Hexachlorocyclopentadiene	57		54		40-140	5		50
Hexachloroethane	55		51		40-140	8		50
Isophorone	57		54		40-140	5		50
Naphthalene	58		54		40-140	7		50
Nitrobenzene	58		54		40-140	7		50
NDPA/DPA	62		57		36-157	8		50
n-Nitrosodi-n-propylamine	57		52		32-121	9		50
Bis(2-ethylhexyl)phthalate	66		61		40-140	8		50
Butyl benzyl phthalate	60		56		40-140	7		50
Di-n-butylphthalate	60		56		40-140	7		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1951073

Project Number: B0500-019-001

Report Date: 10/30/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1301774-2 WG1301774-3								
Di-n-octylphthalate	67		63		40-140	6		50
Diethyl phthalate	62		57		40-140	8		50
Dimethyl phthalate	59		54		40-140	9		50
Benzo(a)anthracene	59		55		40-140	7		50
Benzo(a)pyrene	63		58		40-140	8		50
Benzo(b)fluoranthene	64		60		40-140	6		50
Benzo(k)fluoranthene	66		62		40-140	6		50
Chrysene	61		56		40-140	9		50
Acenaphthylene	61		57		40-140	7		50
Anthracene	58		54		40-140	7		50
Benzo(ghi)perylene	60		56		40-140	7		50
Fluorene	62		57		40-140	8		50
Phenanthrene	57		52		40-140	9		50
Dibenzo(a,h)anthracene	60		56		40-140	7		50
Indeno(1,2,3-cd)pyrene	61		56		40-140	9		50
Pyrene	56		52		35-142	7		50
Biphenyl	62		56		37-127	10		50
4-Chloroaniline	47		43		40-140	9		50
2-Nitroaniline	65		60		47-134	8		50
3-Nitroaniline	52		45		26-129	14		50
4-Nitroaniline	57		52		41-125	9		50
Dibenzofuran	61		55		40-140	10		50
2-Methylnaphthalene	62		56		40-140	10		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1951073

Project Number: B0500-019-001

Report Date: 10/30/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1301774-2 WG1301774-3								
1,2,4,5-Tetrachlorobenzene	61		56		40-117	9		50
Acetophenone	60		54		14-144	11		50
2,4,6-Trichlorophenol	64		60		30-130	6		50
p-Chloro-m-cresol	67		63		26-103	6		50
2-Chlorophenol	63		59		25-102	7		50
2,4-Dichlorophenol	66		63		30-130	5		50
2,4-Dimethylphenol	69		65		30-130	6		50
2-Nitrophenol	64		60		30-130	6		50
4-Nitrophenol	63		59		11-114	7		50
2,4-Dinitrophenol	22		22		4-130	0		50
4,6-Dinitro-o-cresol	56		51		10-130	9		50
Pentachlorophenol	54		49		17-109	10		50
Phenol	63		58		26-90	8		50
2-Methylphenol	64		61		30-130.	5		50
3-Methylphenol/4-Methylphenol	62		59		30-130	5		50
2,4,5-Trichlorophenol	63		60		30-130	5		50
Carbazole	59		54		54-128	9		50
Atrazine	63		58		40-140	8		50
Benzaldehyde	58		52		40-140	11		50
Caprolactam	53		50		15-130	6		50
2,3,4,6-Tetrachlorophenol	63		59		40-140	7		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE**Lab Number:** L1951073**Project Number:** B0500-019-001**Report Date:** 10/30/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1301774-2 WG1301774-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64		60		25-120
Phenol-d6	64		60		10-120
Nitrobenzene-d5	47		43		23-120
2-Fluorobiphenyl	47		44		30-120
2,4,6-Tribromophenol	70		66		10-136
4-Terphenyl-d14	48		45		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951073

Report Date: 10/30/19

SAMPLE RESULTS

Lab ID: L1951073-01

Client ID: BOTTOM #8 14.0'

Sample Location: BUFFALO

Date Collected: 10/29/19 14:20

Date Received: 10/29/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.5		%	0.100	NA	1	-	10/30/19 03:50	121,2540G	YA



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1951073**Report Date:** 10/30/19**SAMPLE RESULTS****Lab ID:** L1951073-02**Client ID:** BOTTOM #9 14.0'**Sample Location:** BUFFALO**Date Collected:** 10/29/19 14:25**Date Received:** 10/29/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.0		%	0.100	NA	1	-	10/30/19 03:50	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1951073**Report Date:** 10/30/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1302220-1 QC Sample: L1950942-13 Client ID: DUP Sample						
Solids, Total	85.5	85.8	%	0		20

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951073**Project Number:** B0500-019-001**Report Date:** 10/30/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1951073-01A	Vial Large Septa unpreserved (4oz)	A	NA		3.3	Y	Absent		NYTCL-8260-R2(14)
L1951073-01B	Vial Large Septa unpreserved (4oz)	A	NA		3.3	Y	Absent		NYTCL-8270(14),TS(7)
L1951073-01X	Vial MeOH preserved split	A	NA		3.3	Y	Absent		NYTCL-8260-R2(14)
L1951073-01Y	Vial Water preserved split	A	NA		3.3	Y	Absent	30-OCT-19 04:45	NYTCL-8260-R2(14)
L1951073-01Z	Vial Water preserved split	A	NA		3.3	Y	Absent	30-OCT-19 04:45	NYTCL-8260-R2(14)
L1951073-02A	Vial Large Septa unpreserved (4oz)	A	NA		3.3	Y	Absent		NYTCL-8260-R2(14)
L1951073-02B	Vial Large Septa unpreserved (4oz)	A	NA		3.3	Y	Absent		NYTCL-8270(14),TS(7)
L1951073-02X	Vial MeOH preserved split	A	NA		3.3	Y	Absent		NYTCL-8260-R2(14)
L1951073-02Y	Vial Water preserved split	A	NA		3.3	Y	Absent	30-OCT-19 04:45	NYTCL-8260-R2(14)
L1951073-02Z	Vial Water preserved split	A	NA		3.3	Y	Absent	30-OCT-19 04:45	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951073
Report Date: 10/30/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

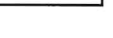
3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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





ANALYTICAL REPORT

Lab Number:	L1951582
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	11/01/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1951582-01	BOTTOM #10 16.0'	SOIL	BUFFALO, NY	10/31/19 12:26	10/31/19
L1951582-02	BOTTOM #11 16.0'	SOIL	BUFFALO, NY	10/31/19 12:35	10/31/19
L1951582-03	BOTTOM #12 16.0'	SOIL	BUFFALO, NY	10/31/19 13:55	10/31/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

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

L1951582-01: The collection date and time on the chain of custody was 31-OCT-19 12:35; however, the collection date/time on the container label was 31-OCT-19 12:26. At the client's request, the collection date/time is reported as 31-OCT-19 12:26.

L1951582-02: The collection date and time on the chain of custody was 31-OCT-19 12:26; however, the collection date/time on the container label was 31-OCT-19 12:35. At the client's request, the collection date/time is reported as 31-OCT-19 12:35.

Volatile Organics

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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

Authorized Signature:



Cristin Walker

Title: Technical Director/Representative

Date: 11/01/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-01
Client ID: BOTTOM #10 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:26
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 11/01/19 08:52
Analyst: MV
Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	6.0	2.8	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.8	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.28	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.15	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.32	1
Tetrachloroethene	ND		ug/kg	0.60	0.24	1
Chlorobenzene	ND		ug/kg	0.60	0.15	1
Trichlorofluoromethane	ND		ug/kg	4.8	0.84	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.31	1
1,1,1-Trichloroethane	0.55	J	ug/kg	0.60	0.20	1
Bromodichloromethane	ND		ug/kg	0.60	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.33	1
cis-1,3-Dichloropropene	ND		ug/kg	0.60	0.19	1
Bromoform	ND		ug/kg	4.8	0.30	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.60	0.20	1
Benzene	0.20	J	ug/kg	0.60	0.20	1
Toluene	ND		ug/kg	1.2	0.66	1
Ethylbenzene	ND		ug/kg	1.2	0.17	1
Chloromethane	ND		ug/kg	4.8	1.1	1
Bromomethane	ND		ug/kg	2.4	0.70	1
Vinyl chloride	ND		ug/kg	1.2	0.40	1
Chloroethane	ND		ug/kg	2.4	0.55	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.29	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.16	1
Trichloroethene	ND		ug/kg	0.60	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.4	0.17	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951582**Project Number:** B0500-019-001**Report Date:** 11/01/19**SAMPLE RESULTS**

Lab ID: L1951582-01
 Client ID: BOTTOM #10 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:26
 Date Received: 10/31/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.4	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.4	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.4	0.24	1
p/m-Xylene	ND		ug/kg	2.4	0.68	1
o-Xylene	ND		ug/kg	1.2	0.35	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.21	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	5.8	1
Carbon disulfide	ND		ug/kg	12	5.5	1
2-Butanone	ND		ug/kg	12	2.7	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.5	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.4	0.25	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.34	1
n-Butylbenzene	ND		ug/kg	1.2	0.20	1
sec-Butylbenzene	ND		ug/kg	1.2	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.6	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.13	1
n-Propylbenzene	ND		ug/kg	1.2	0.21	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.4	0.39	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.4	0.33	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.4	0.23	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.4	0.40	1
Methyl Acetate	ND		ug/kg	4.8	1.1	1
Cyclohexane	ND		ug/kg	12	0.66	1
1,4-Dioxane	ND		ug/kg	97	42.	1
Freon-113	ND		ug/kg	4.8	0.84	1
Methyl cyclohexane	ND		ug/kg	4.8	0.73	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	100		70-130

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951582**Project Number:** B0500-019-001**Report Date:** 11/01/19**SAMPLE RESULTS**

Lab ID: L1951582-02
 Client ID: BOTTOM #11 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:35
 Date Received: 10/31/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/01/19 09:17
 Analyst: MV
 Percent Solids: 80%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.6	2.5	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	0.25	J	ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.56	0.22	1
Chlorobenzene	ND		ug/kg	0.56	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.4	0.77	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.28	1
1,1,1-Trichloroethane	ND		ug/kg	0.56	0.18	1
Bromodichloromethane	ND		ug/kg	0.56	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.56	0.18	1
Bromoform	ND		ug/kg	4.4	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.56	0.18	1
Benzene	ND		ug/kg	0.56	0.18	1
Toluene	ND		ug/kg	1.1	0.60	1
Ethylbenzene	0.88	J	ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.4	1.0	1
Bromomethane	ND		ug/kg	2.2	0.64	1
Vinyl chloride	ND		ug/kg	1.1	0.37	1
Chloroethane	ND		ug/kg	2.2	0.50	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.15	1
Trichloroethene	ND		ug/kg	0.56	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-02
Client ID: BOTTOM #11 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:35
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	6.2		ug/kg	2.2	0.62	1
o-Xylene	3.7		ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.3	1
Carbon disulfide	ND		ug/kg	11	5.0	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.31	1
n-Butylbenzene	2.3		ug/kg	1.1	0.18	1
sec-Butylbenzene	1.0	J	ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	1.1	1
Isopropylbenzene	2.8		ug/kg	1.1	0.12	1
p-Isopropyltoluene	0.36	J	ug/kg	1.1	0.12	1
n-Propylbenzene	13		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.30	1
1,3,5-Trimethylbenzene	2.0	J	ug/kg	2.2	0.21	1
1,2,4-Trimethylbenzene	89		ug/kg	2.2	0.37	1
Methyl Acetate	ND		ug/kg	4.4	1.0	1
Cyclohexane	6.6	J	ug/kg	11	0.60	1
1,4-Dioxane	ND		ug/kg	89	39.	1
Freon-113	ND		ug/kg	4.4	0.77	1
Methyl cyclohexane	7.7		ug/kg	4.4	0.67	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	98		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-03
Client ID: BOTTOM #12 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 13:55
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 11/01/19 09:43
Analyst: MV
Percent Solids: 86%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	2.4	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.15	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.24	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.13	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.28	1
Tetrachloroethene	ND		ug/kg	0.53	0.21	1
Chlorobenzene	ND		ug/kg	0.53	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.2	0.74	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.27	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	0.18	1
Bromodichloromethane	ND		ug/kg	0.53	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.29	1
cis-1,3-Dichloropropene	ND		ug/kg	0.53	0.17	1
Bromoform	ND		ug/kg	4.2	0.26	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	0.18	1
Benzene	ND		ug/kg	0.53	0.18	1
Toluene	ND		ug/kg	1.1	0.58	1
Ethylbenzene	ND		ug/kg	1.1	0.15	1
Chloromethane	ND		ug/kg	4.2	0.99	1
Bromomethane	ND		ug/kg	2.1	0.62	1
Vinyl chloride	ND		ug/kg	1.1	0.36	1
Chloroethane	ND		ug/kg	2.1	0.48	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.14	1
Trichloroethene	ND		ug/kg	0.53	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	0.15	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951582**Project Number:** B0500-019-001**Report Date:** 11/01/19**SAMPLE RESULTS**

Lab ID: L1951582-03
 Client ID: BOTTOM #12 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 10/31/19 13:55
 Date Received: 10/31/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.1	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.1	0.21	1
p/m-Xylene	ND		ug/kg	2.1	0.60	1
o-Xylene	ND		ug/kg	1.1	0.31	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.21	1
Dichlorodifluoromethane	ND		ug/kg	11	0.97	1
Acetone	ND		ug/kg	11	5.1	1
Carbon disulfide	ND		ug/kg	11	4.8	1
2-Butanone	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.2	1
Bromochloromethane	ND		ug/kg	2.1	0.22	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.30	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.18	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.1	0.34	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	0.29	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	0.20	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	0.36	1
Methyl Acetate	ND		ug/kg	4.2	1.0	1
Cyclohexane	ND		ug/kg	11	0.58	1
1,4-Dioxane	ND		ug/kg	85	37.	1
Freon-113	ND		ug/kg	4.2	0.74	1
Methyl cyclohexane	ND		ug/kg	4.2	0.64	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	104		70-130



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/01/19 08:26
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1303385-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.17	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/01/19 08:26
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1303385-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/01/19 08:26
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1303385-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951582

Report Date: 11/01/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1303385-3 WG1303385-4								
Methylene chloride	95		91		70-130	4		30
1,1-Dichloroethane	94		90		70-130	4		30
Chloroform	86		83		70-130	4		30
Carbon tetrachloride	81		77		70-130	5		30
1,2-Dichloropropane	99		95		70-130	4		30
Dibromochloromethane	93		91		70-130	2		30
1,1,2-Trichloroethane	98		95		70-130	3		30
Tetrachloroethene	82		81		70-130	1		30
Chlorobenzene	90		89		70-130	1		30
Trichlorofluoromethane	77		74		70-139	4		30
1,2-Dichloroethane	88		84		70-130	5		30
1,1,1-Trichloroethane	84		81		70-130	4		30
Bromodichloromethane	90		86		70-130	5		30
trans-1,3-Dichloropropene	99		96		70-130	3		30
cis-1,3-Dichloropropene	97		93		70-130	4		30
Bromoform	99		93		70-130	6		30
1,1,2,2-Tetrachloroethane	104		99		70-130	5		30
Benzene	90		88		70-130	2		30
Toluene	92		90		70-130	2		30
Ethylbenzene	89		88		70-130	1		30
Chloromethane	74		70		52-130	6		30
Bromomethane	65		64		57-147	2		30
Vinyl chloride	81		76		67-130	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1951582

Project Number: B0500-019-001

Report Date: 11/01/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1303385-3 WG1303385-4								
Chloroethane	73		70		50-151	4		30
1,1-Dichloroethene	82		82		65-135	0		30
trans-1,2-Dichloroethene	89		87		70-130	2		30
Trichloroethene	86		84		70-130	2		30
1,2-Dichlorobenzene	95		92		70-130	3		30
1,3-Dichlorobenzene	94		92		70-130	2		30
1,4-Dichlorobenzene	93		90		70-130	3		30
Methyl tert butyl ether	98		94		66-130	4		30
p/m-Xylene	89		88		70-130	1		30
o-Xylene	90		88		70-130	2		30
cis-1,2-Dichloroethene	93		89		70-130	4		30
Styrene	92		90		70-130	2		30
Dichlorodifluoromethane	52		50		30-146	4		30
Acetone	108		85		54-140	24		30
Carbon disulfide	82		81		59-130	1		30
2-Butanone	92		77		70-130	18		30
4-Methyl-2-pentanone	111		102		70-130	8		30
2-Hexanone	91		83		70-130	9		30
Bromochloromethane	93		90		70-130	3		30
1,2-Dibromoethane	97		96		70-130	1		30
n-Butylbenzene	95		91		70-130	4		30
sec-Butylbenzene	94		90		70-130	4		30
1,2-Dibromo-3-chloropropane	94		92		68-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1951582

Project Number: B0500-019-001

Report Date: 11/01/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1303385-3 WG1303385-4								
Isopropylbenzene	95		92		70-130	3		30
p-Isopropyltoluene	95		92		70-130	3		30
n-Propylbenzene	97		93		70-130	4		30
1,2,3-Trichlorobenzene	94		90		70-130	4		30
1,2,4-Trichlorobenzene	94		92		70-130	2		30
1,3,5-Trimethylbenzene	94		92		70-130	2		30
1,2,4-Trimethylbenzene	96		92		70-130	4		30
Methyl Acetate	117		104		51-146	12		30
Cyclohexane	98		94		59-142	4		30
1,4-Dioxane	123		110		65-136	11		30
Freon-113	84		86		50-139	2		30
Methyl cyclohexane	94		91		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		93		70-130
Toluene-d8	105		105		70-130
4-Bromofluorobenzene	113		109		70-130
Dibromofluoromethane	101		99		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-01
Client ID: BOTTOM #10 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:26
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 11/01/19 12:39
Analyst: CB
Percent Solids: 78%

Extraction Method: EPA 3546
Extraction Date: 11/01/19 07:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	170	22.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	29.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	56.	1
2,4-Dinitrotoluene	ND		ug/kg	210	42.	1
2,6-Dinitrotoluene	ND		ug/kg	210	36.	1
Fluoranthene	92	J	ug/kg	130	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	36.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	21.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	610	190	1
Hexachloroethane	ND		ug/kg	170	34.	1
Isophorone	ND		ug/kg	190	28.	1
Naphthalene	ND		ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	31.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	33.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	73.	1
Butyl benzyl phthalate	ND		ug/kg	210	53.	1
Di-n-butylphthalate	ND		ug/kg	210	40.	1
Di-n-octylphthalate	ND		ug/kg	210	72.	1
Diethyl phthalate	ND		ug/kg	210	20.	1
Dimethyl phthalate	ND		ug/kg	210	44.	1
Benzo(a)anthracene	44	J	ug/kg	130	24.	1
Benzo(a)pyrene	ND		ug/kg	170	52.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1951582

Project Number: B0500-019-001

Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-01
 Client ID: BOTTOM #10 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:26
 Date Received: 10/31/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	130	36.	1
Benzo(k)fluoranthene	ND		ug/kg	130	34.	1
Chrysene	36	J	ug/kg	130	22.	1
Acenaphthylene	ND		ug/kg	170	33.	1
Anthracene	ND		ug/kg	130	41.	1
Benzo(ghi)perylene	ND		ug/kg	170	25.	1
Fluorene	ND		ug/kg	210	21.	1
Phenanthrene	110	J	ug/kg	130	26.	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	30.	1
Pyrene	83	J	ug/kg	130	21.	1
Biphenyl	ND		ug/kg	480	49.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	41.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	88.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	250	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	40.	1
p-Chloro-m-cresol	ND		ug/kg	210	32.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	70.	1
2-Nitrophenol	ND		ug/kg	460	80.	1
4-Nitrophenol	ND		ug/kg	300	86.	1
2,4-Dinitrophenol	ND		ug/kg	1000	99.	1
4,6-Dinitro-o-cresol	ND		ug/kg	550	100	1
Pentachlorophenol	ND		ug/kg	170	47.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	33.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	33.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	41.	1
Carbazole	ND		ug/kg	210	21.	1
Atrazine	ND		ug/kg	170	74.	1
Benzaldehyde	ND		ug/kg	280	57.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-01
Client ID: BOTTOM #10 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:26
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	64.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	43.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	74		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	56		30-120
2,4,6-Tribromophenol	67		10-136
4-Terphenyl-d14	50		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-02
Client ID: BOTTOM #11 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:35
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 11/01/19 13:03
Analyst: CB
Percent Solids: 80%

Extraction Method: EPA 3546
Extraction Date: 11/01/19 07:11

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	210	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	55.	1
2,4-Dinitrotoluene	ND		ug/kg	210	41.	1
2,6-Dinitrotoluene	ND		ug/kg	210	35.	1
Fluoranthene	ND		ug/kg	120	24.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	22.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	32.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	35.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	21.	1
Hexachlorobutadiene	ND		ug/kg	210	30.	1
Hexachlorocyclopentadiene	ND		ug/kg	590	190	1
Hexachloroethane	ND		ug/kg	160	33.	1
Isophorone	ND		ug/kg	180	27.	1
Naphthalene	28	J	ug/kg	210	25.	1
Nitrobenzene	ND		ug/kg	180	30.	1
NDPA/DPA	ND		ug/kg	160	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	32.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	71.	1
Butyl benzyl phthalate	ND		ug/kg	210	52.	1
Di-n-butylphthalate	ND		ug/kg	210	39.	1
Di-n-octylphthalate	ND		ug/kg	210	70.	1
Diethyl phthalate	ND		ug/kg	210	19.	1
Dimethyl phthalate	ND		ug/kg	210	43.	1
Benzo(a)anthracene	ND		ug/kg	120	23.	1
Benzo(a)pyrene	ND		ug/kg	160	50.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1951582

Project Number: B0500-019-001

Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-02
 Client ID: BOTTOM #11 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:35
 Date Received: 10/31/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	35.	1
Benzo(k)fluoranthene	ND		ug/kg	120	33.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	32.	1
Anthracene	ND		ug/kg	120	40.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	210	20.	1
Phenanthrene	ND		ug/kg	120	25.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	24.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	29.	1
Pyrene	ND		ug/kg	120	20.	1
Biphenyl	ND		ug/kg	470	48.	1
4-Chloroaniline	ND		ug/kg	210	38.	1
2-Nitroaniline	ND		ug/kg	210	40.	1
3-Nitroaniline	ND		ug/kg	210	39.	1
4-Nitroaniline	ND		ug/kg	210	86.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	64	J	ug/kg	250	25.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	39.	1
p-Chloro-m-cresol	ND		ug/kg	210	31.	1
2-Chlorophenol	ND		ug/kg	210	24.	1
2,4-Dichlorophenol	ND		ug/kg	180	33.	1
2,4-Dimethylphenol	ND		ug/kg	210	68.	1
2-Nitrophenol	ND		ug/kg	450	78.	1
4-Nitrophenol	ND		ug/kg	290	84.	1
2,4-Dinitrophenol	ND		ug/kg	990	96.	1
4,6-Dinitro-o-cresol	ND		ug/kg	540	99.	1
Pentachlorophenol	ND		ug/kg	160	45.	1
Phenol	ND		ug/kg	210	31.	1
2-Methylphenol	ND		ug/kg	210	32.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	32.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	40.	1
Carbazole	ND		ug/kg	210	20.	1
Atrazine	ND		ug/kg	160	72.	1
Benzaldehyde	ND		ug/kg	270	56.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-02
Client ID: BOTTOM #11 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 12:35
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	63.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	42.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	71		10-120
Nitrobenzene-d5	54		23-120
2-Fluorobiphenyl	54		30-120
2,4,6-Tribromophenol	68		10-136
4-Terphenyl-d14	45		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-03
Client ID: BOTTOM #12 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 13:55
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 11/01/19 13:27
Analyst: ALS
Percent Solids: 86%

Extraction Method: EPA 3546
Extraction Date: 11/01/19 07:11

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	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	35	J	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	17.	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

Project Name: 441 ELMWOOD AVE

Lab Number: L1951582

Project Number: B0500-019-001

Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-03
 Client ID: BOTTOM #12 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 10/31/19 13:55
 Date Received: 10/31/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
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	36.	1
4-Nitroaniline	ND		ug/kg	190	78.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	81	J	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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

SAMPLE RESULTS

Lab ID: L1951582-03
Client ID: BOTTOM #12 16.0'
Sample Location: BUFFALO, NY

Date Collected: 10/31/19 13:55
Date Received: 10/31/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	61		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	52		23-120
2-Fluorobiphenyl	56		30-120
2,4,6-Tribromophenol	64		10-136
4-Terphenyl-d14	48		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 11/01/19 11:26
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 10/31/19 12:39

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1303026-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	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	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/01/19 11:26
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 10/31/19 12:39

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1303026-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/01/19 11:26
Analyst: ALS

Extraction Method: EPA 3546
Extraction Date: 10/31/19 12:39

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1303026-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	220	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	82		25-120
Phenol-d6	100		10-120
Nitrobenzene-d5	80		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	101		10-136
4-Terphenyl-d14	69		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951582

Report Date: 11/01/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1303026-2 WG1303026-3								
Acenaphthene	86		90		31-137	5		50
Hexachlorobenzene	97		104		40-140	7		50
Bis(2-chloroethyl)ether	98		104		40-140	6		50
2-Chloronaphthalene	90		98		40-140	9		50
3,3'-Dichlorobenzidine	66		69		40-140	4		50
2,4-Dinitrotoluene	82		89		40-132	8		50
2,6-Dinitrotoluene	92		95		40-140	3		50
Fluoranthene	90		96		40-140	6		50
4-Chlorophenyl phenyl ether	92		98		40-140	6		50
4-Bromophenyl phenyl ether	93		100		40-140	7		50
Bis(2-chloroisopropyl)ether	106		116		40-140	9		50
Bis(2-chloroethoxy)methane	100		107		40-117	7		50
Hexachlorobutadiene	98		106		40-140	8		50
Hexachlorocyclopentadiene	58		64		40-140	10		50
Hexachloroethane	95		100		40-140	5		50
Isophorone	106		117		40-140	10		50
Naphthalene	86		91		40-140	6		50
Nitrobenzene	110		119		40-140	8		50
NDPA/DPA	90		96		36-157	6		50
n-Nitrosodi-n-propylamine	114		122	Q	32-121	7		50
Bis(2-ethylhexyl)phthalate	80		83		40-140	4		50
Butyl benzyl phthalate	84		88		40-140	5		50
Di-n-butylphthalate	82		87		40-140	6		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1951582

Project Number: B0500-019-001

Report Date: 11/01/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1303026-2 WG1303026-3								
Di-n-octylphthalate	80		83		40-140	4		50
Diethyl phthalate	97		103		40-140	6		50
Dimethyl phthalate	94		102		40-140	8		50
Benzo(a)anthracene	86		91		40-140	6		50
Benzo(a)pyrene	76		81		40-140	6		50
Benzo(b)fluoranthene	82		92		40-140	11		50
Benzo(k)fluoranthene	85		84		40-140	1		50
Chrysene	87		90		40-140	3		50
Acenaphthylene	92		99		40-140	7		50
Anthracene	91		97		40-140	6		50
Benzo(ghi)perylene	84		89		40-140	6		50
Fluorene	97		105		40-140	8		50
Phenanthrene	84		88		40-140	5		50
Dibenzo(a,h)anthracene	83		86		40-140	4		50
Indeno(1,2,3-cd)pyrene	84		88		40-140	5		50
Pyrene	90		96		35-142	6		50
Biphenyl	94		100		37-127	6		50
4-Chloroaniline	120		133		40-140	10		50
2-Nitroaniline	85		90		47-134	6		50
3-Nitroaniline	70		73		26-129	4		50
4-Nitroaniline	74		77		41-125	4		50
Dibenzofuran	88		94		40-140	7		50
2-Methylnaphthalene	94		100		40-140	6		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951582

Report Date: 11/01/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1303026-2 WG1303026-3								
1,2,4,5-Tetrachlorobenzene	97		108		40-117	11		50
Acetophenone	97		103		14-144	6		50
2,4,6-Trichlorophenol	100		104		30-130	4		50
p-Chloro-m-cresol	106	Q	114	Q	26-103	7		50
2-Chlorophenol	87		89		25-102	2		50
2,4-Dichlorophenol	89		97		30-130	9		50
2,4-Dimethylphenol	106		113		30-130	6		50
2-Nitrophenol	74		81		30-130	9		50
4-Nitrophenol	87		96		11-114	10		50
2,4-Dinitrophenol	18		25		4-130	33		50
4,6-Dinitro-o-cresol	73		82		10-130	12		50
Pentachlorophenol	79		82		17-109	4		50
Phenol	98	Q	106	Q	26-90	8		50
2-Methylphenol	100		106		30-130	6		50
3-Methylphenol/4-Methylphenol	105		114		30-130	8		50
2,4,5-Trichlorophenol	96		102		30-130	6		50
Carbazole	81		86		54-128	6		50
Atrazine	105		113		40-140	7		50
Benzaldehyde	85		90		40-140	6		50
Caprolactam	105		116		15-130	10		50
2,3,4,6-Tetrachlorophenol	97		104		40-140	7		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE**Lab Number:** L1951582**Project Number:** B0500-019-001**Report Date:** 11/01/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1303026-2 WG1303026-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	87		92		25-120
Phenol-d6	100		108		10-120
Nitrobenzene-d5	87		93		23-120
2-Fluorobiphenyl	71		77		30-120
2,4,6-Tribromophenol	105		113		10-136
4-Terphenyl-d14	66		70		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1951582**Report Date:** 11/01/19**SAMPLE RESULTS****Lab ID:** L1951582-01**Client ID:** BOTTOM #10 16.0'**Sample Location:** BUFFALO, NY**Date Collected:** 10/31/19 12:26**Date Received:** 10/31/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.9		%	0.100	NA	1	-	11/01/19 05:57	121,2540G	YA



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1951582**Report Date:** 11/01/19**SAMPLE RESULTS****Lab ID:** L1951582-02**Client ID:** BOTTOM #11 16.0'**Sample Location:** BUFFALO, NY**Date Collected:** 10/31/19 12:35**Date Received:** 10/31/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.8		%	0.100	NA	1	-	11/01/19 05:57	121,2540G	YA



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1951582**Report Date:** 11/01/19**SAMPLE RESULTS****Lab ID:** L1951582-03**Client ID:** BOTTOM #12 16.0'**Sample Location:** BUFFALO, NY**Date Collected:** 10/31/19 13:55**Date Received:** 10/31/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.6		%	0.100	NA	1	-	11/01/19 05:57	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1951582**Report Date:** 11/01/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1303286-1 QC Sample: L1951547-03 Client ID: DUP Sample						
Solids, Total	95.0	94.9	%	0		20

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Serial_No:11011914:44
Lab Number: L1951582
Report Date: 11/01/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1951582-01A	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1951582-01B	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1951582-01X	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1951582-01Y	Vial Water preserved split	A	NA		3.4	Y	Absent	01-NOV-19 06:16	NYTCL-8260-R2(14)
L1951582-01Z	Vial Water preserved split	A	NA		3.4	Y	Absent	01-NOV-19 06:16	NYTCL-8260-R2(14)
L1951582-02A	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1951582-02B	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1951582-02X	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1951582-02Y	Vial Water preserved split	A	NA		3.4	Y	Absent	01-NOV-19 06:16	NYTCL-8260-R2(14)
L1951582-02Z	Vial Water preserved split	A	NA		3.4	Y	Absent	01-NOV-19 06:16	NYTCL-8260-R2(14)
L1951582-03A	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1951582-03B	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1951582-03X	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1951582-03Y	Vial Water preserved split	A	NA		3.4	Y	Absent	01-NOV-19 06:16	NYTCL-8260-R2(14)
L1951582-03Z	Vial Water preserved split	A	NA		3.4	Y	Absent	01-NOV-19 06:16	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951582**Project Number:** B0500-019-001**Report Date:** 11/01/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951582**Project Number:** B0500-019-001**Report Date:** 11/01/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951582
Report Date: 11/01/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 15

Published Date: 8/15/2019 9:53:42 AM

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

L1951582

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.)



ANALYTICAL REPORT

Lab Number:	L1951950
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE.
Project Number:	B0500-019-001
Report Date:	11/04/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1951950-01	BOTTOM #1 17.0'	SOIL	BUFFALO, NY	11/01/19 12:30	11/01/19
L1951950-02	BOTTOM #3 17.0'	SOIL	BUFFALO, NY	11/01/19 12:40	11/01/19

Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

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:



Kelly Stenstrom

Title: Technical Director/Representative

Date: 11/04/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-01
 Client ID: BOTTOM #1 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:30
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/02/19 12:37
 Analyst: JC
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
Methylene chloride	ND		ug/kg	310	140	1
1,1-Dichloroethane	ND		ug/kg	62	9.0	1
Chloroform	13	J	ug/kg	94	8.7	1
Carbon tetrachloride	ND		ug/kg	62	14.	1
1,2-Dichloropropane	ND		ug/kg	62	7.8	1
Dibromochloromethane	ND		ug/kg	62	8.7	1
1,1,2-Trichloroethane	ND		ug/kg	62	17.	1
Tetrachloroethene	ND		ug/kg	31	12.	1
Chlorobenzene	ND		ug/kg	31	7.9	1
Trichlorofluoromethane	ND		ug/kg	250	43.	1
1,2-Dichloroethane	ND		ug/kg	62	16.	1
1,1,1-Trichloroethane	ND		ug/kg	31	10.	1
Bromodichloromethane	ND		ug/kg	31	6.8	1
trans-1,3-Dichloropropene	ND		ug/kg	62	17.	1
cis-1,3-Dichloropropene	ND		ug/kg	31	9.9	1
Bromoform	ND		ug/kg	250	15.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	31	10.	1
Benzene	ND		ug/kg	31	10.	1
Toluene	ND		ug/kg	62	34.	1
Ethylbenzene	310		ug/kg	62	8.8	1
Chloromethane	ND		ug/kg	250	58.	1
Bromomethane	44	J	ug/kg	120	36.	1
Vinyl chloride	ND		ug/kg	62	21.	1
Chloroethane	ND		ug/kg	120	28.	1
1,1-Dichloroethene	ND		ug/kg	62	15.	1
trans-1,2-Dichloroethene	ND		ug/kg	94	8.6	1
Trichloroethene	ND		ug/kg	31	8.6	1
1,2-Dichlorobenzene	ND		ug/kg	120	9.0	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-01
 Client ID: BOTTOM #1 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:30
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 High - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	120	9.2	1
1,4-Dichlorobenzene	ND		ug/kg	120	11.	1
Methyl tert butyl ether	ND		ug/kg	120	12.	1
p/m-Xylene	1500		ug/kg	120	35.	1
o-Xylene	590		ug/kg	62	18.	1
cis-1,2-Dichloroethene	ND		ug/kg	62	11.	1
Styrene	ND		ug/kg	62	12.	1
Dichlorodifluoromethane	ND		ug/kg	620	57.	1
Acetone	ND		ug/kg	620	300	1
Carbon disulfide	ND		ug/kg	620	280	1
2-Butanone	ND		ug/kg	620	140	1
4-Methyl-2-pentanone	ND		ug/kg	620	80.	1
2-Hexanone	ND		ug/kg	620	74.	1
Bromochloromethane	ND		ug/kg	120	13.	1
1,2-Dibromoethane	ND		ug/kg	62	17.	1
n-Butylbenzene	ND		ug/kg	62	10.	1
sec-Butylbenzene	ND		ug/kg	62	9.1	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	190	62.	1
Isopropylbenzene	24	J	ug/kg	62	6.8	1
p-Isopropyltoluene	ND		ug/kg	62	6.8	1
n-Propylbenzene	80		ug/kg	62	11.	1
1,2,3-Trichlorobenzene	ND		ug/kg	120	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	120	17.	1
1,3,5-Trimethylbenzene	150		ug/kg	120	12.	1
1,2,4-Trimethylbenzene	660		ug/kg	120	21.	1
Methyl Acetate	ND		ug/kg	250	59.	1
Cyclohexane	ND		ug/kg	620	34.	1
1,4-Dioxane	ND		ug/kg	5000	2200	1
Freon-113	ND		ug/kg	250	43.	1
Methyl cyclohexane	ND		ug/kg	250	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	80		70-130
Dibromofluoromethane	103		70-130

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-02
 Client ID: BOTTOM #3 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:40
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/02/19 13:03
 Analyst: JC
 Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	2.4	1
1,1-Dichloroethane	0.23	J	ug/kg	1.0	0.15	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.0	0.24	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.13	1
Dibromochloromethane	ND		ug/kg	1.0	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.28	1
Tetrachloroethene	ND		ug/kg	0.53	0.21	1
Chlorobenzene	ND		ug/kg	0.53	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.2	0.73	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.27	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	0.18	1
Bromodichloromethane	ND		ug/kg	0.53	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.29	1
cis-1,3-Dichloropropene	ND		ug/kg	0.53	0.17	1
Bromoform	ND		ug/kg	4.2	0.26	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	0.18	1
Benzene	5.3		ug/kg	0.53	0.18	1
Toluene	3.0		ug/kg	1.0	0.57	1
Ethylbenzene	25		ug/kg	1.0	0.15	1
Chloromethane	ND		ug/kg	4.2	0.98	1
Bromomethane	ND		ug/kg	2.1	0.61	1
Vinyl chloride	ND		ug/kg	1.0	0.35	1
Chloroethane	ND		ug/kg	2.1	0.48	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.14	1
Trichloroethene	ND		ug/kg	0.53	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	0.15	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-02
Client ID: BOTTOM #3 17.0'
Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:40
Date Received: 11/01/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.1	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.1	0.21	1
p/m-Xylene	7.0		ug/kg	2.1	0.59	1
o-Xylene	0.71	J	ug/kg	1.0	0.31	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18	1
Styrene	ND		ug/kg	1.0	0.21	1
Dichlorodifluoromethane	ND		ug/kg	10	0.96	1
Acetone	ND		ug/kg	10	5.1	1
Carbon disulfide	ND		ug/kg	10	4.8	1
2-Butanone	ND		ug/kg	10	2.3	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.4	1
2-Hexanone	ND		ug/kg	10	1.2	1
Bromochloromethane	ND		ug/kg	2.1	0.22	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.29	1
n-Butylbenzene	ND		ug/kg	1.0	0.18	1
sec-Butylbenzene	0.36	J	ug/kg	1.0	0.15	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	1.0	1
Isopropylbenzene	1.0		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
n-Propylbenzene	2.1		ug/kg	1.0	0.18	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.1	0.34	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	0.29	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	0.20	1
1,2,4-Trimethylbenzene	0.84	J	ug/kg	2.1	0.35	1
Methyl Acetate	ND		ug/kg	4.2	1.0	1
Cyclohexane	9.5	J	ug/kg	10	0.57	1
1,4-Dioxane	ND		ug/kg	84	37.	1
Freon-113	ND		ug/kg	4.2	0.73	1
Methyl cyclohexane	2.6	J	ug/kg	4.2	0.64	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	96		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	82		70-130
Dibromofluoromethane	102		70-130

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/02/19 09:09
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1304116-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.22	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	1.3	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/02/19 09:09
 Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1304116-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	0.26	J	ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/02/19 09:09
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 02 Batch: WG1304116-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	101		70-130

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/02/19 09:09
 Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1304117-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	11	J	ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	67	J	ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/02/19 09:09
 Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1304117-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	13	J	ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	4000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/02/19 09:09
 Analyst: JC

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1304117-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1304116-3 WG1304116-4								
Methylene chloride	104		102		70-130	2		30
1,1-Dichloroethane	103		98		70-130	5		30
Chloroform	106		105		70-130	1		30
Carbon tetrachloride	113		107		70-130	5		30
1,2-Dichloropropane	99		97		70-130	2		30
Dibromochloromethane	101		100		70-130	1		30
1,1,2-Trichloroethane	97		96		70-130	1		30
Tetrachloroethene	105		100		70-130	5		30
Chlorobenzene	95		93		70-130	2		30
Trichlorofluoromethane	160	Q	154	Q	70-139	4		30
1,2-Dichloroethane	108		106		70-130	2		30
1,1,1-Trichloroethane	107		102		70-130	5		30
Bromodichloromethane	103		101		70-130	2		30
trans-1,3-Dichloropropene	98		96		70-130	2		30
cis-1,3-Dichloropropene	103		101		70-130	2		30
Bromoform	93		94		70-130	1		30
1,1,2,2-Tetrachloroethane	83		84		70-130	1		30
Benzene	99		96		70-130	3		30
Toluene	94		91		70-130	3		30
Ethylbenzene	97		94		70-130	3		30
Chloromethane	101		93		52-130	8		30
Bromomethane	135		125		57-147	8		30
Vinyl chloride	116		106		67-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: B0500-019-001

Lab Number: L1951950

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1304116-3 WG1304116-4								
Chloroethane	132		126		50-151	5		30
1,1-Dichloroethene	108		102		65-135	6		30
trans-1,2-Dichloroethene	105		101		70-130	4		30
Trichloroethene	102		99		70-130	3		30
1,2-Dichlorobenzene	95		95		70-130	0		30
1,3-Dichlorobenzene	97		95		70-130	2		30
1,4-Dichlorobenzene	96		95		70-130	1		30
Methyl tert butyl ether	107		105		66-130	2		30
p/m-Xylene	97		93		70-130	4		30
o-Xylene	95		93		70-130	2		30
cis-1,2-Dichloroethene	105		102		70-130	3		30
Styrene	97		95		70-130	2		30
Dichlorodifluoromethane	126		115		30-146	9		30
Acetone	113		110		54-140	3		30
Carbon disulfide	101		96		59-130	5		30
2-Butanone	105		107		70-130	2		30
4-Methyl-2-pentanone	85		84		70-130	1		30
2-Hexanone	83		83		70-130	0		30
Bromochloromethane	113		110		70-130	3		30
1,2-Dibromoethane	99		98		70-130	1		30
n-Butylbenzene	96		94		70-130	2		30
sec-Butylbenzene	91		88		70-130	3		30
1,2-Dibromo-3-chloropropane	89		91		68-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 02 Batch: WG1304116-3 WG1304116-4								
Isopropylbenzene	89		85		70-130	5		30
p-Isopropyltoluene	93		91		70-130	2		30
n-Propylbenzene	90		88		70-130	2		30
1,2,3-Trichlorobenzene	101		100		70-130	1		30
1,2,4-Trichlorobenzene	102		101		70-130	1		30
1,3,5-Trimethylbenzene	91		88		70-130	3		30
1,2,4-Trimethylbenzene	91		89		70-130	2		30
Methyl Acetate	102		104		51-146	2		30
Cyclohexane	102		95		59-142	7		30
1,4-Dioxane	80		81		65-136	1		30
Freon-113	118		112		50-139	5		30
Methyl cyclohexane	106		101		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		99		70-130
Toluene-d8	89		89		70-130
4-Bromofluorobenzene	85		84		70-130
Dibromofluoromethane	102		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1304117-3 WG1304117-4								
Methylene chloride	104		102		70-130	2		30
1,1-Dichloroethane	103		98		70-130	5		30
Chloroform	106		105		70-130	1		30
Carbon tetrachloride	113		107		70-130	5		30
1,2-Dichloropropane	99		97		70-130	2		30
Dibromochloromethane	101		100		70-130	1		30
1,1,2-Trichloroethane	97		96		70-130	1		30
Tetrachloroethene	105		100		70-130	5		30
Chlorobenzene	95		93		70-130	2		30
Trichlorofluoromethane	160	Q	154	Q	70-139	4		30
1,2-Dichloroethane	108		106		70-130	2		30
1,1,1-Trichloroethane	107		102		70-130	5		30
Bromodichloromethane	103		101		70-130	2		30
trans-1,3-Dichloropropene	98		96		70-130	2		30
cis-1,3-Dichloropropene	103		101		70-130	2		30
Bromoform	93		94		70-130	1		30
1,1,2,2-Tetrachloroethane	83		84		70-130	1		30
Benzene	99		96		70-130	3		30
Toluene	94		91		70-130	3		30
Ethylbenzene	97		94		70-130	3		30
Chloromethane	101		93		52-130	8		30
Bromomethane	135		125		57-147	8		30
Vinyl chloride	116		106		67-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: B0500-019-001

Lab Number: L1951950

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1304117-3 WG1304117-4								
Chloroethane	132		126		50-151	5		30
1,1-Dichloroethene	108		102		65-135	6		30
trans-1,2-Dichloroethene	105		101		70-130	4		30
Trichloroethene	102		99		70-130	3		30
1,2-Dichlorobenzene	95		95		70-130	0		30
1,3-Dichlorobenzene	97		95		70-130	2		30
1,4-Dichlorobenzene	96		95		70-130	1		30
Methyl tert butyl ether	107		105		66-130	2		30
p/m-Xylene	97		93		70-130	4		30
o-Xylene	95		93		70-130	2		30
cis-1,2-Dichloroethene	105		102		70-130	3		30
Styrene	97		95		70-130	2		30
Dichlorodifluoromethane	126		115		30-146	9		30
Acetone	113		110		54-140	3		30
Carbon disulfide	101		96		59-130	5		30
2-Butanone	105		107		70-130	2		30
4-Methyl-2-pentanone	85		84		70-130	1		30
2-Hexanone	83		83		70-130	0		30
Bromochloromethane	113		110		70-130	3		30
1,2-Dibromoethane	99		98		70-130	1		30
n-Butylbenzene	96		94		70-130	2		30
sec-Butylbenzene	91		88		70-130	3		30
1,2-Dibromo-3-chloropropane	89		91		68-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Project Number: B0500-019-001

Lab Number: L1951950

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1304117-3 WG1304117-4								
Isopropylbenzene	89		85		70-130	5		30
p-Isopropyltoluene	93		91		70-130	2		30
n-Propylbenzene	90		88		70-130	2		30
1,2,3-Trichlorobenzene	101		100		70-130	1		30
1,2,4-Trichlorobenzene	102		101		70-130	1		30
1,3,5-Trimethylbenzene	91		88		70-130	3		30
1,2,4-Trimethylbenzene	91		89		70-130	2		30
Methyl Acetate	102		104		51-146	2		30
Cyclohexane	102		95		59-142	7		30
1,4-Dioxane	80		81		65-136	1		30
Freon-113	118		112		50-139	5		30
Methyl cyclohexane	106		101		70-130	5		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		99		70-130
Toluene-d8	89		89		70-130
4-Bromofluorobenzene	85		85		70-130
Dibromofluoromethane	102		103		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-01
 Client ID: BOTTOM #1 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:30
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/04/19 04:35
 Analyst: RC
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 11/02/19 03:16

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	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	ND		ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	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	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	120	J	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	64.	1
Butyl benzyl phthalate	ND		ug/kg	190	47.	1
Di-n-butylphthalate	ND		ug/kg	190	35.	1
Di-n-octylphthalate	ND		ug/kg	190	63.	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	45.	1

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

SAMPLE RESULTS

Lab ID: L1951950-01
 Client ID: BOTTOM #1 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:30
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	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	18.	1
Biphenyl	ND		ug/kg	420	43.	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	77.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	19.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	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	61.	1
2-Nitrophenol	ND		ug/kg	400	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	890	87.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	89.	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	65.	1
Benzaldehyde	ND		ug/kg	240	50.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-01
 Client ID: BOTTOM #1 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:30
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	100		25-120
Phenol-d6	102		10-120
Nitrobenzene-d5	94		23-120
2-Fluorobiphenyl	72		30-120
2,4,6-Tribromophenol	92		10-136
4-Terphenyl-d14	76		18-120

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-02
 Client ID: BOTTOM #3 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:40
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/04/19 04:57
 Analyst: RC
 Percent Solids: 83%

Extraction Method: EPA 3546
 Extraction Date: 11/02/19 03:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	27	J	ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	23.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	31.	1
Bis(2-ethylhexyl)phthalate	110	J	ug/kg	200	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

SAMPLE RESULTS

Lab ID: L1951950-02
 Client ID: BOTTOM #3 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:40
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	450	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		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	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	75.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	950	93.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	95.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	70.	1
Benzaldehyde	ND		ug/kg	260	54.	1

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**SAMPLE RESULTS**

Lab ID: L1951950-02
 Client ID: BOTTOM #3 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:40
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	60.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	93		25-120
Phenol-d6	94		10-120
Nitrobenzene-d5	91		23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	75		10-136
4-Terphenyl-d14	74		18-120

Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/03/19 22:34
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/02/19 01:23

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1303704-1					
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	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	42.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	35.
Benzo(a)anthracene	ND		ug/kg	99	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	99	28.

Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/03/19 22:34
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/02/19 01:23

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1303704-1					
Benzo(k)fluoranthene	ND		ug/kg	99	26.
Chrysene	ND		ug/kg	99	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	99	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	99	20.
Dibenzo(a,h)anthracene	ND		ug/kg	99	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	99	16.
Biphenyl	ND		ug/kg	380	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	99	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/03/19 22:34
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/02/19 01:23

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1303704-1					
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	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	86		25-120
Phenol-d6	92		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	71		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	84		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1303704-2 WG1303704-3								
Acenaphthene	86		84		31-137	2		50
Hexachlorobenzene	79		79		40-140	0		50
Bis(2-chloroethyl)ether	92		86		40-140	7		50
2-Chloronaphthalene	79		77		40-140	3		50
3,3'-Dichlorobenzidine	81		78		40-140	4		50
2,4-Dinitrotoluene	101		101		40-132	0		50
2,6-Dinitrotoluene	91		89		40-140	2		50
Fluoranthene	86		84		40-140	2		50
4-Chlorophenyl phenyl ether	79		78		40-140	1		50
4-Bromophenyl phenyl ether	78		79		40-140	1		50
Bis(2-chloroisopropyl)ether	76		68		40-140	11		50
Bis(2-chloroethoxy)methane	96		87		40-117	10		50
Hexachlorobutadiene	71		70		40-140	1		50
Hexachlorocyclopentadiene	79		77		40-140	3		50
Hexachloroethane	92		80		40-140	14		50
Isophorone	102		91		40-140	11		50
Naphthalene	83		81		40-140	2		50
Nitrobenzene	98		87		40-140	12		50
NDPA/DPA	88		86		36-157	2		50
n-Nitrosodi-n-propylamine	104		94		32-121	10		50
Bis(2-ethylhexyl)phthalate	110		107		40-140	3		50
Butyl benzyl phthalate	108		104		40-140	4		50
Di-n-butylphthalate	105		104		40-140	1		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE.

Project Number: B0500-019-001

Lab Number: L1951950

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1303704-2 WG1303704-3								
Di-n-octylphthalate	132		121		40-140	9		50
Diethyl phthalate	91		90		40-140	1		50
Dimethyl phthalate	81		79		40-140	3		50
Benzo(a)anthracene	94		93		40-140	1		50
Benzo(a)pyrene	90		84		40-140	7		50
Benzo(b)fluoranthene	94		86		40-140	9		50
Benzo(k)fluoranthene	97		90		40-140	7		50
Chrysene	84		82		40-140	2		50
Acenaphthylene	82		80		40-140	2		50
Anthracene	88		87		40-140	1		50
Benzo(ghi)perylene	93		88		40-140	6		50
Fluorene	89		89		40-140	0		50
Phenanthrene	84		83		40-140	1		50
Dibenzo(a,h)anthracene	96		95		40-140	1		50
Indeno(1,2,3-cd)pyrene	105		103		40-140	2		50
Pyrene	82		81		35-142	1		50
Biphenyl	84		83		37-127	1		50
4-Chloroaniline	58		59		40-140	2		50
2-Nitroaniline	97		96		47-134	1		50
3-Nitroaniline	80		82		26-129	2		50
4-Nitroaniline	92		91		41-125	1		50
Dibenzofuran	87		87		40-140	0		50
2-Methylnaphthalene	83		82		40-140	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE.

Lab Number: L1951950

Project Number: B0500-019-001

Report Date: 11/04/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1303704-2 WG1303704-3								
1,2,4,5-Tetrachlorobenzene	76		75		40-117	1		50
Acetophenone	101		88		14-144	14		50
2,4,6-Trichlorophenol	85		84		30-130	1		50
p-Chloro-m-cresol	96		93		26-103	3		50
2-Chlorophenol	99		92		25-102	7		50
2,4-Dichlorophenol	94		88		30-130	7		50
2,4-Dimethylphenol	99		89		30-130	11		50
2-Nitrophenol	106		95		30-130	11		50
4-Nitrophenol	100		100		11-114	0		50
2,4-Dinitrophenol	57		59		4-130	3		50
4,6-Dinitro-o-cresol	98		100		10-130	2		50
Pentachlorophenol	76		79		17-109	4		50
Phenol	98	Q	92	Q	26-90	6		50
2-Methylphenol	108		96		30-130	12		50
3-Methylphenol/4-Methylphenol	106		94		30-130	12		50
2,4,5-Trichlorophenol	89		84		30-130	6		50
Carbazole	93		90		54-128	3		50
Atrazine	80		88		40-140	10		50
Benzaldehyde	98		90		40-140	9		50
Caprolactam	80		80		15-130	0		50
2,3,4,6-Tetrachlorophenol	84		81		40-140	4		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1303704-2 WG1303704-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	99		96		25-120
Phenol-d6	104		100		10-120
Nitrobenzene-d5	105		97		23-120
2-Fluorobiphenyl	77		76		30-120
2,4,6-Tribromophenol	89		89		10-136
4-Terphenyl-d14	85		83		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE.**Project Number:** B0500-019-001**Lab Number:** L1951950**Report Date:** 11/04/19**SAMPLE RESULTS****Lab ID:** L1951950-01**Client ID:** BOTTOM #1 17.0'**Sample Location:** BUFFALO, NY**Date Collected:** 11/01/19 12:30**Date Received:** 11/01/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	11/02/19 02:45	121,2540G	YA



Project Name: 441 ELMWOOD AVE.

Project Number: B0500-019-001

Lab Number: L1951950

Report Date: 11/04/19

SAMPLE RESULTS

Lab ID: L1951950-02

Client ID: BOTTOM #3 17.0'

Sample Location: BUFFALO, NY

Date Collected: 11/01/19 12:40

Date Received: 11/01/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.0		%	0.100	NA	1	-	11/02/19 02:45	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE.**Project Number:** B0500-019-001**Lab Number:** L1951950**Report Date:** 11/04/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1303709-1 QC Sample: L1949664-13 Client ID: DUP Sample						
Solids, Total	94.4	94.8	%	0		20

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1951950-01A	5 gram Encore Sampler	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-01B	5 gram Encore Sampler	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-01C	5 gram Encore Sampler	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-01D	Vial Large Septa unpreserved (4oz)	A	NA		3.0	Y	Absent		NYTCL-8270(14),TS(7)
L1951950-01E	Vial Large Septa unpreserved (4oz)	A	NA		3.0	Y	Absent		NYTCL-8270(14),TS(7)
L1951950-01X	Vial MeOH preserved split	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-01Y	Vial Water preserved split	A	NA		3.0	Y	Absent	02-NOV-19 03:50	NYTCL-8260HLW(14)
L1951950-01Z	Vial Water preserved split	A	NA		3.0	Y	Absent	02-NOV-19 03:50	NYTCL-8260HLW(14)
L1951950-02A	5 gram Encore Sampler	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-02B	5 gram Encore Sampler	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-02C	5 gram Encore Sampler	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-02D	Vial Large Septa unpreserved (4oz)	A	NA		3.0	Y	Absent		NYTCL-8270(14),TS(7)
L1951950-02E	Vial Large Septa unpreserved (4oz)	A	NA		3.0	Y	Absent		NYTCL-8270(14),TS(7)
L1951950-02X	Vial MeOH preserved split	A	NA		3.0	Y	Absent		NYTCL-8260HLW(14)
L1951950-02Y	Vial Water preserved split	A	NA		3.0	Y	Absent	02-NOV-19 03:50	NYTCL-8260HLW(14)
L1951950-02Z	Vial Water preserved split	A	NA		3.0	Y	Absent	02-NOV-19 03:50	NYTCL-8260HLW(14)

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE.**Lab Number:** L1951950**Project Number:** B0500-019-001**Report Date:** 11/04/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE.
Project Number: B0500-019-001

Lab Number: L1951950
Report Date: 11/04/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

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ANALYTICAL REPORT

Lab Number:	L1951952
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	11/06/19

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

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1951952-01	BOTTOM #1 18.0'	SOIL	BUFFALO, NY	11/01/19 13:00	11/01/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Case Narrative (continued)

Report Revision

November 06, 2019: At the client's request, L1951952-01 was re-analyzed for Volatile Organics. The results of both analyses are reported.

Report Submission

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

Volatile Organics

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 11/06/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

SAMPLE RESULTS

Lab ID: L1951952-01
Client ID: BOTTOM #1 18.0'
Sample Location: BUFFALO, NY

Date Collected: 11/01/19 13:00
Date Received: 11/01/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 11/05/19 02:06
Analyst: NLK
Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	6.2	2.9	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.9	0.18	1
Carbon tetrachloride	ND		ug/kg	1.2	0.29	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.16	1
Dibromochloromethane	ND		ug/kg	1.2	0.18	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.33	1
Tetrachloroethene	ND		ug/kg	0.62	0.24	1
Chlorobenzene	ND		ug/kg	0.62	0.16	1
Trichlorofluoromethane	ND		ug/kg	5.0	0.87	1
1,2-Dichloroethane	0.47	J	ug/kg	1.2	0.32	1
1,1,1-Trichloroethane	ND		ug/kg	0.62	0.21	1
Bromodichloromethane	ND		ug/kg	0.62	0.14	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.34	1
cis-1,3-Dichloropropene	ND		ug/kg	0.62	0.20	1
Bromoform	ND		ug/kg	5.0	0.31	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.62	0.21	1
Benzene	79		ug/kg	0.62	0.21	1
Toluene	1.6		ug/kg	1.2	0.68	1
Ethylbenzene	56		ug/kg	1.2	0.18	1
Chloromethane	ND		ug/kg	5.0	1.2	1
Bromomethane	ND		ug/kg	2.5	0.73	1
Vinyl chloride	ND		ug/kg	1.2	0.42	1
Chloroethane	ND		ug/kg	2.5	0.56	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.30	1
trans-1,2-Dichloroethene	ND		ug/kg	1.9	0.17	1
Trichloroethene	ND		ug/kg	0.62	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	0.18	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951952**Project Number:** B0500-019-001**Report Date:** 11/06/19**SAMPLE RESULTS**

Lab ID: L1951952-01
 Client ID: BOTTOM #1 18.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/01/19 13:00
 Date Received: 11/01/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.5	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.5	0.25	1
p/m-Xylene	150		ug/kg	2.5	0.70	1
o-Xylene	2.7		ug/kg	1.2	0.36	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.22	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	8.8	J	ug/kg	12	6.0	1
Carbon disulfide	ND		ug/kg	12	5.7	1
2-Butanone	ND		ug/kg	12	2.8	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.5	1
Bromochloromethane	ND		ug/kg	2.5	0.26	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.35	1
n-Butylbenzene	1.3		ug/kg	1.2	0.21	1
sec-Butylbenzene	1.3		ug/kg	1.2	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.8	1.2	1
Isopropylbenzene	4.2		ug/kg	1.2	0.14	1
p-Isopropyltoluene	0.27	J	ug/kg	1.2	0.14	1
n-Propylbenzene	15		ug/kg	1.2	0.21	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	0.40	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	0.34	1
1,3,5-Trimethylbenzene	1.4	J	ug/kg	2.5	0.24	1
1,2,4-Trimethylbenzene	110		ug/kg	2.5	0.42	1
Methyl Acetate	ND		ug/kg	5.0	1.2	1
Cyclohexane	7.0	J	ug/kg	12	0.68	1
1,4-Dioxane	ND		ug/kg	100	44.	1
Freon-113	ND		ug/kg	5.0	0.87	1
Methyl cyclohexane	6.5		ug/kg	5.0	0.75	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	102		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	97		70-130



Project Name: 441 ELMWOOD AVE**Lab Number:** L1951952**Project Number:** B0500-019-001**Report Date:** 11/06/19**SAMPLE RESULTS**

Lab ID: L1951952-01 R

Date Collected: 11/01/19 13:00

Client ID: BOTTOM #1 18.0'

Date Received: 11/01/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 11/05/19 17:32

Analyst: NLK

Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.8	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.17	1
Chloroform	0.19	J	ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.2	0.27	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.14	1
Dibromochloromethane	ND		ug/kg	1.2	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.31	1
Tetrachloroethene	ND		ug/kg	0.58	0.23	1
Chlorobenzene	ND		ug/kg	0.58	0.15	1
Trichlorofluoromethane	ND		ug/kg	4.6	0.80	1
1,2-Dichloroethane	1.4		ug/kg	1.2	0.30	1
1,1,1-Trichloroethane	ND		ug/kg	0.58	0.19	1
Bromodichloromethane	ND		ug/kg	0.58	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.32	1
cis-1,3-Dichloropropene	ND		ug/kg	0.58	0.18	1
Bromoform	ND		ug/kg	4.6	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.58	0.19	1
Benzene	40		ug/kg	0.58	0.19	1
Toluene	0.77	J	ug/kg	1.2	0.63	1
Ethylbenzene	25		ug/kg	1.2	0.16	1
Chloromethane	ND		ug/kg	4.6	1.1	1
Bromomethane	0.73	J	ug/kg	2.3	0.67	1
Vinyl chloride	ND		ug/kg	1.2	0.39	1
Chloroethane	ND		ug/kg	2.3	0.52	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.28	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1
Trichloroethene	ND		ug/kg	0.58	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.17	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951952**Project Number:** B0500-019-001**Report Date:** 11/06/19**SAMPLE RESULTS**

Lab ID: L1951952-01 R

Date Collected: 11/01/19 13:00

Client ID: BOTTOM #1 18.0'

Date Received: 11/01/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	56		ug/kg	2.3	0.65	1
o-Xylene	1.2		ug/kg	1.2	0.34	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.20	1
Styrene	ND		ug/kg	1.2	0.23	1
Dichlorodifluoromethane	ND		ug/kg	12	1.0	1
Acetone	ND		ug/kg	12	5.6	1
Carbon disulfide	ND		ug/kg	12	5.3	1
2-Butanone	ND		ug/kg	12	2.6	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.5	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.3	0.24	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.32	1
n-Butylbenzene	0.92	J	ug/kg	1.2	0.19	1
sec-Butylbenzene	0.57	J	ug/kg	1.2	0.17	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.5	1.2	1
Isopropylbenzene	2.2		ug/kg	1.2	0.13	1
p-Isopropyltoluene	0.20	J	ug/kg	1.2	0.13	1
n-Propylbenzene	7.6		ug/kg	1.2	0.20	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.37	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	57		ug/kg	2.3	0.39	1
Methyl Acetate	ND		ug/kg	4.6	1.1	1
Cyclohexane	3.0	J	ug/kg	12	0.63	1
1,4-Dioxane	ND		ug/kg	92	41.	1
Freon-113	ND		ug/kg	4.6	0.80	1
Methyl cyclohexane	2.6	J	ug/kg	4.6	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	85		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/04/19 17:22
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1304594-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/04/19 17:22
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1304594-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/04/19 17:22
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1304594-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	107		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	104		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/05/19 16:53
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305216-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.21	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	0.96	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/05/19 16:53
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305216-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/05/19 16:53
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305216-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	87		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951952

Report Date: 11/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1304594-3 WG1304594-4								
Methylene chloride	87		84		70-130	4		30
1,1-Dichloroethane	84		83		70-130	1		30
Chloroform	90		89		70-130	1		30
Carbon tetrachloride	85		84		70-130	1		30
1,2-Dichloropropane	90		87		70-130	3		30
Dibromochloromethane	92		91		70-130	1		30
1,1,2-Trichloroethane	97		96		70-130	1		30
Tetrachloroethene	74		75		70-130	1		30
Chlorobenzene	87		89		70-130	2		30
Trichlorofluoromethane	84		80		70-139	5		30
1,2-Dichloroethane	98		94		70-130	4		30
1,1,1-Trichloroethane	80		78		70-130	3		30
Bromodichloromethane	89		86		70-130	3		30
trans-1,3-Dichloropropene	101		100		70-130	1		30
cis-1,3-Dichloropropene	97		94		70-130	3		30
Bromoform	99		96		70-130	3		30
1,1,2,2-Tetrachloroethane	96		93		70-130	3		30
Benzene	88		86		70-130	2		30
Toluene	82		83		70-130	1		30
Ethylbenzene	85		87		70-130	2		30
Chloromethane	77		78		52-130	1		30
Bromomethane	83		84		57-147	1		30
Vinyl chloride	85		83		67-130	2		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1951952

Project Number: B0500-019-001

Report Date: 11/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1304594-3 WG1304594-4								
Chloroethane	85		82		50-151	4		30
1,1-Dichloroethene	96		96		65-135	0		30
trans-1,2-Dichloroethene	83		80		70-130	4		30
Trichloroethene	88		86		70-130	2		30
1,2-Dichlorobenzene	88		88		70-130	0		30
1,3-Dichlorobenzene	85		86		70-130	1		30
1,4-Dichlorobenzene	83		82		70-130	1		30
Methyl tert butyl ether	102		97		66-130	5		30
p/m-Xylene	84		85		70-130	1		30
o-Xylene	85		87		70-130	2		30
cis-1,2-Dichloroethene	85		83		70-130	2		30
Styrene	91		91		70-130	0		30
Dichlorodifluoromethane	77		75		30-146	3		30
Acetone	97		87		54-140	11		30
Carbon disulfide	94		92		59-130	2		30
2-Butanone	120		106		70-130	12		30
4-Methyl-2-pentanone	114		105		70-130	8		30
2-Hexanone	107		100		70-130	7		30
Bromochloromethane	94		91		70-130	3		30
1,2-Dibromoethane	99		97		70-130	2		30
n-Butylbenzene	85		86		70-130	1		30
sec-Butylbenzene	83		84		70-130	1		30
1,2-Dibromo-3-chloropropane	106		102		68-130	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951952

Report Date: 11/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1304594-3 WG1304594-4								
Isopropylbenzene	84		86		70-130	2		30
p-Isopropyltoluene	85		86		70-130	1		30
n-Propylbenzene	83		84		70-130	1		30
1,2,3-Trichlorobenzene	87		86		70-130	1		30
1,2,4-Trichlorobenzene	88		87		70-130	1		30
1,3,5-Trimethylbenzene	84		85		70-130	1		30
1,2,4-Trimethylbenzene	86		87		70-130	1		30
Methyl Acetate	107		99		51-146	8		30
Cyclohexane	85		84		59-142	1		30
1,4-Dioxane	104		91		65-136	13		30
Freon-113	92		91		50-139	1		30
Methyl cyclohexane	87		85		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	104		99		70-130
Toluene-d8	96		99		70-130
4-Bromofluorobenzene	98		99		70-130
Dibromofluoromethane	103		100		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951952

Report Date: 11/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305216-3 WG1305216-4								
Methylene chloride	101		101		70-130	0		30
1,1-Dichloroethane	102		100		70-130	2		30
Chloroform	95		96		70-130	1		30
Carbon tetrachloride	96		98		70-130	2		30
1,2-Dichloropropane	104		103		70-130	1		30
Dibromochloromethane	97		100		70-130	3		30
1,1,2-Trichloroethane	99		100		70-130	1		30
Tetrachloroethene	94		94		70-130	0		30
Chlorobenzene	97		97		70-130	0		30
Trichlorofluoromethane	95		96		70-139	1		30
1,2-Dichloroethane	94		94		70-130	0		30
1,1,1-Trichloroethane	97		97		70-130	0		30
Bromodichloromethane	94		95		70-130	1		30
trans-1,3-Dichloropropene	90		89		70-130	1		30
cis-1,3-Dichloropropene	89		87		70-130	2		30
Bromoform	93		97		70-130	4		30
1,1,2,2-Tetrachloroethane	92		97		70-130	5		30
Benzene	98		98		70-130	0		30
Toluene	99		99		70-130	0		30
Ethylbenzene	102		102		70-130	0		30
Chloromethane	98		98		52-130	0		30
Bromomethane	106		112		57-147	6		30
Vinyl chloride	90		88		67-130	2		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951952

Report Date: 11/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305216-3 WG1305216-4								
Chloroethane	105		104		50-151	1		30
1,1-Dichloroethene	100		100		65-135	0		30
trans-1,2-Dichloroethene	100		100		70-130	0		30
Trichloroethene	104		100		70-130	4		30
1,2-Dichlorobenzene	100		101		70-130	1		30
1,3-Dichlorobenzene	102		104		70-130	2		30
1,4-Dichlorobenzene	101		103		70-130	2		30
Methyl tert butyl ether	105		105		66-130	0		30
p/m-Xylene	102		102		70-130	0		30
o-Xylene	102		101		70-130	1		30
cis-1,2-Dichloroethene	98		98		70-130	0		30
Styrene	107		107		70-130	0		30
Dichlorodifluoromethane	92		92		30-146	0		30
Acetone	116		108		54-140	7		30
Carbon disulfide	93		93		59-130	0		30
2-Butanone	114		111		70-130	3		30
4-Methyl-2-pentanone	112		114		70-130	2		30
2-Hexanone	109		111		70-130	2		30
Bromochloromethane	99		99		70-130	0		30
1,2-Dibromoethane	99		98		70-130	1		30
n-Butylbenzene	100		102		70-130	2		30
sec-Butylbenzene	103		104		70-130	1		30
1,2-Dibromo-3-chloropropane	101		105		68-130	4		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1951952

Project Number: B0500-019-001

Report Date: 11/06/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305216-3 WG1305216-4								
Isopropylbenzene	102		103		70-130	1		30
p-Isopropyltoluene	105		106		70-130	1		30
n-Propylbenzene	102		103		70-130	1		30
1,2,3-Trichlorobenzene	100		103		70-130	3		30
1,2,4-Trichlorobenzene	104		108		70-130	4		30
1,3,5-Trimethylbenzene	102		103		70-130	1		30
1,2,4-Trimethylbenzene	103		104		70-130	1		30
Methyl Acetate	125		124		51-146	1		30
Cyclohexane	109		108		59-142	1		30
1,4-Dioxane	117		121		65-136	3		30
Freon-113	100		100		50-139	0		30
Methyl cyclohexane	103		102		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	91		91		70-130
Toluene-d8	92		92		70-130
4-Bromofluorobenzene	95		96		70-130
Dibromofluoromethane	86		88		70-130

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1951952

Report Date: 11/06/19

SAMPLE RESULTS

Lab ID: L1951952-01

Client ID: BOTTOM #1 18.0'

Sample Location: BUFFALO, NY

Date Collected: 11/01/19 13:00

Date Received: 11/01/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.3		%	0.100	NA	1	-	11/05/19 00:13	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1951952**Report Date:** 11/06/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1304475-1 QC Sample: L1950645-05 Client ID: DUP Sample						
Solids, Total	90.7	91.5	%	1		20

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Serial_No:11061917:55
Lab Number: L1951952
Report Date: 11/06/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1951952-01A	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1951952-01B	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		TS(7),HOLD-8270(14)
L1951952-01X	Vial MeOH preserved split	A	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1951952-01Y	Vial Water preserved split	A	NA		2.9	Y	Absent	04-NOV-19 18:37	NYTCL-8260-R2(14)
L1951952-01Y1	Vial Water preserved split	A	NA		2.9	Y	Absent	05-NOV-19 17:12	NYTCL-8260-R2(14)
L1951952-01Z	Vial Water preserved split	A	NA		2.9	Y	Absent	04-NOV-19 18:37	NYTCL-8260-R2(14)
L1951952-01Z1	Vial Water preserved split	A	NA		2.9	Y	Absent	05-NOV-19 17:12	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951952**Project Number:** B0500-019-001**Report Date:** 11/06/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE**Lab Number:** L1951952**Project Number:** B0500-019-001**Report Date:** 11/06/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1951952
Report Date: 11/06/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 11/2/19		ALPHA Job # 11951952											
Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Project Information Project Name: 441 Elmwood Ave Project Location: 00500-019-001 Project # Buffalo NY (Use Project name as Project #) ☒ Project Manager: Nate Marber ALPHAQuote #: Turn-Around Time Standard ☐ Due Date: Rush (only if pre approved) ☐ # of Days:				Deliverables ☐ ASP-A ☐ ASP-B ☐ EQuIS (1 File) ☐ EQuIS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #											
Client Information Client: Benchmark Eng Address: 2558 Hudson Turnpike Larchmont NY 10538 Phone: (716) 818-8358 Fax: (716) 856-0583 Email: TBelmont@Tudorhik.com		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge				Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:													
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: Hold Please specify Metals or TAL.						ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)											
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection Date Time		Sample Matrix		Sampler's Initials		TCU+CP-51 VOL 5260 TCU+CP-51 VOL 5270		Sample Specific Comments		Total Bottles					
51952 -01		Bottom #1 18.0'		11/1/19 1300		Soil		TAB		X X		Hold			2				
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type A A		Preservative A A		Relinquished By: TBelmont JAC		Date/Time 11/1/19 15:50 11/01/19 16:35		Received By: JAC JAC		Date/Time 11/01/19 15:50 11/2/19 01:00		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.)	



ANALYTICAL REPORT

Lab Number:	L1952215
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	11/07/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1952215-01	SOUTH SIDE WELL #2 (9-11)	SOIL	BUFFALO, NY	11/04/19 14:57	11/04/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

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

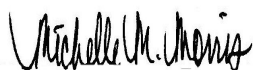
The project number was specified by the client.

Volatile Organics

L1952215-01: Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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: 11/07/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1952215**Project Number:** B0500-019-001**Report Date:** 11/07/19**SAMPLE RESULTS**

Lab ID: L1952215-01
 Client ID: SOUTH SIDE WELL #2 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 11/04/19 14:57
 Date Received: 11/04/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/06/19 13:25
 Analyst: KJD
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	320	140	1
1,1-Dichloroethane	ND		ug/kg	63	9.2	1
Chloroform	ND		ug/kg	95	8.9	1
Carbon tetrachloride	ND		ug/kg	63	15.	1
1,2-Dichloropropane	ND		ug/kg	63	7.9	1
Dibromochloromethane	ND		ug/kg	63	8.9	1
1,1,2-Trichloroethane	ND		ug/kg	63	17.	1
Tetrachloroethene	ND		ug/kg	32	12.	1
Chlorobenzene	ND		ug/kg	32	8.1	1
Trichlorofluoromethane	ND		ug/kg	250	44.	1
1,2-Dichloroethane	ND		ug/kg	63	16.	1
1,1,1-Trichloroethane	ND		ug/kg	32	11.	1
Bromodichloromethane	ND		ug/kg	32	6.9	1
trans-1,3-Dichloropropene	ND		ug/kg	63	17.	1
cis-1,3-Dichloropropene	ND		ug/kg	32	10.	1
Bromoform	ND		ug/kg	250	16.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	32	10.	1
Benzene	210		ug/kg	32	10.	1
Toluene	2000		ug/kg	63	34.	1
Ethylbenzene	1800		ug/kg	63	9.0	1
Chloromethane	ND		ug/kg	250	59.	1
Bromomethane	ND		ug/kg	130	37.	1
Vinyl chloride	ND		ug/kg	63	21.	1
Chloroethane	ND		ug/kg	130	29.	1
1,1-Dichloroethene	ND		ug/kg	63	15.	1
trans-1,2-Dichloroethene	ND		ug/kg	95	8.7	1
Trichloroethene	ND		ug/kg	32	8.7	1
1,2-Dichlorobenzene	ND		ug/kg	130	9.1	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1952215

Project Number: B0500-019-001

Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952215-01
 Client ID: SOUTH SIDE WELL #2 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 11/04/19 14:57
 Date Received: 11/04/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	130	9.4	1
1,4-Dichlorobenzene	ND		ug/kg	130	11.	1
Methyl tert butyl ether	ND		ug/kg	130	13.	1
p/m-Xylene	8900		ug/kg	130	36.	1
o-Xylene	3000		ug/kg	63	18.	1
cis-1,2-Dichloroethene	ND		ug/kg	63	11.	1
Styrene	ND		ug/kg	63	12.	1
Dichlorodifluoromethane	ND		ug/kg	630	58.	1
Acetone	5400		ug/kg	630	300	1
Carbon disulfide	ND		ug/kg	630	290	1
2-Butanone	ND		ug/kg	630	140	1
4-Methyl-2-pentanone	ND		ug/kg	630	81.	1
2-Hexanone	ND		ug/kg	630	75.	1
Bromochloromethane	ND		ug/kg	130	13.	1
1,2-Dibromoethane	ND		ug/kg	63	18.	1
n-Butylbenzene	580		ug/kg	63	11.	1
sec-Butylbenzene	160		ug/kg	63	9.3	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	190	63.	1
Isopropylbenzene	230		ug/kg	63	6.9	1
p-Isopropyltoluene	84		ug/kg	63	6.9	1
n-Propylbenzene	1300		ug/kg	63	11.	1
1,2,3-Trichlorobenzene	ND		ug/kg	130	20.	1
1,2,4-Trichlorobenzene	ND		ug/kg	130	17.	1
1,3,5-Trimethylbenzene	3100		ug/kg	130	12.	1
1,2,4-Trimethylbenzene	10000		ug/kg	130	21.	1
Methyl Acetate	35000	E	ug/kg	250	60.	1
Cyclohexane	320	J	ug/kg	630	34.	1
1,4-Dioxane	ND		ug/kg	5100	2200	1
Freon-113	ND		ug/kg	250	44.	1
Methyl cyclohexane	560		ug/kg	250	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	96		70-130

Project Name: 441 ELMWOOD AVE**Lab Number:** L1952215**Project Number:** B0500-019-001**Report Date:** 11/07/19**SAMPLE RESULTS**

Lab ID: L1952215-01 D
 Client ID: SOUTH SIDE WELL #2 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 11/04/19 14:57
 Date Received: 11/04/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 11/06/19 19:10

Analyst: JC

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Volatile Organics by GC/MS - Westborough Lab

Methyl Acetate	27000		ug/kg	1300	300	5

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/06/19 18:46
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305405-10					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/06/19 18:46
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305405-10					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	4000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/06/19 18:46
Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305405-10					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	108		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	95		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/06/19 09:48
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305405-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	36	J	ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/06/19 09:48
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305405-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	ND		ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	4000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/06/19 09:48
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305405-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1952215

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305405-3 WG1305405-4								
Methylene chloride	83		80		70-130	4		30
1,1-Dichloroethane	95		93		70-130	2		30
Chloroform	97		94		70-130	3		30
Carbon tetrachloride	99		96		70-130	3		30
1,2-Dichloropropane	94		93		70-130	1		30
Dibromochloromethane	102		103		70-130	1		30
1,1,2-Trichloroethane	94		94		70-130	0		30
Tetrachloroethene	93		91		70-130	2		30
Chlorobenzene	92		91		70-130	1		30
Trichlorofluoromethane	64	Q	61	Q	70-139	5		30
1,2-Dichloroethane	100		100		70-130	0		30
1,1,1-Trichloroethane	99		96		70-130	3		30
Bromodichloromethane	102		102		70-130	0		30
trans-1,3-Dichloropropene	100		101		70-130	1		30
cis-1,3-Dichloropropene	98		96		70-130	2		30
Bromoform	93		94		70-130	1		30
1,1,2,2-Tetrachloroethane	92		96		70-130	4		30
Benzene	91		89		70-130	2		30
Toluene	90		89		70-130	1		30
Ethylbenzene	93		93		70-130	0		30
Chloromethane	76		74		52-130	3		30
Bromomethane	53	Q	48	Q	57-147	10		30
Vinyl chloride	61	Q	57	Q	67-130	7		30

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1952215

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305405-3 WG1305405-4								
Chloroethane	45	Q	43	Q	50-151	5		30
1,1-Dichloroethene	86		82		65-135	5		30
trans-1,2-Dichloroethene	88		84		70-130	5		30
Trichloroethene	94		92		70-130	2		30
1,2-Dichlorobenzene	91		92		70-130	1		30
1,3-Dichlorobenzene	93		93		70-130	0		30
1,4-Dichlorobenzene	91		92		70-130	1		30
Methyl tert butyl ether	95		95		66-130	0		30
p/m-Xylene	94		93		70-130	1		30
o-Xylene	92		92		70-130	0		30
cis-1,2-Dichloroethene	89		87		70-130	2		30
Styrene	97		97		70-130	0		30
Dichlorodifluoromethane	46		44		30-146	4		30
Acetone	135		134		54-140	1		30
Carbon disulfide	79		76		59-130	4		30
2-Butanone	116		118		70-130	2		30
4-Methyl-2-pentanone	99		103		70-130	4		30
2-Hexanone	119		122		70-130	2		30
Bromochloromethane	92		90		70-130	2		30
1,2-Dibromoethane	96		97		70-130	1		30
n-Butylbenzene	98		98		70-130	0		30
sec-Butylbenzene	94		94		70-130	0		30
1,2-Dibromo-3-chloropropane	88		90		68-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1952215

Report Date: 11/07/19

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: WG1305405-3 WG1305405-4								
Isopropylbenzene	92		92		70-130	0		30
p-Isopropyltoluene	94		94		70-130	0		30
n-Propylbenzene	96		95		70-130	1		30
1,2,3-Trichlorobenzene	90		92		70-130	2		30
1,2,4-Trichlorobenzene	95		95		70-130	0		30
1,3,5-Trimethylbenzene	94		94		70-130	0		30
1,2,4-Trimethylbenzene	95		95		70-130	0		30
Methyl Acetate	133		135		51-146	1		30
Cyclohexane	96		93		59-142	3		30
1,4-Dioxane	97		96		65-136	1		30
Freon-113	90		87		50-139	3		30
Methyl cyclohexane	88		86		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCS %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	109		110		70-130
Toluene-d8	100		100		70-130
4-Bromofluorobenzene	102		104		70-130
Dibromofluoromethane	103		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1952215

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305405-8 WG1305405-9								
Methylene chloride	76		78		70-130	3		30
1,1-Dichloroethane	89		92		70-130	3		30
Chloroform	89		91		70-130	2		30
Carbon tetrachloride	92		93		70-130	1		30
1,2-Dichloropropane	86		89		70-130	3		30
Dibromochloromethane	99		102		70-130	3		30
1,1,2-Trichloroethane	90		94		70-130	4		30
Tetrachloroethene	98		100		70-130	2		30
Chlorobenzene	94		96		70-130	2		30
Trichlorofluoromethane	58	Q	59	Q	70-139	2		30
1,2-Dichloroethane	87		91		70-130	4		30
1,1,1-Trichloroethane	94		94		70-130	0		30
Bromodichloromethane	91		94		70-130	3		30
trans-1,3-Dichloropropene	97		102		70-130	5		30
cis-1,3-Dichloropropene	88		92		70-130	4		30
Bromoform	92		97		70-130	5		30
1,1,2,2-Tetrachloroethane	90		97		70-130	7		30
Benzene	85		87		70-130	2		30
Toluene	94		96		70-130	2		30
Ethylbenzene	97		99		70-130	2		30
Chloromethane	82		82		52-130	0		30
Bromomethane	46	Q	47	Q	57-147	2		30
Vinyl chloride	60	Q	60	Q	67-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1952215

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305405-8 WG1305405-9								
Chloroethane	43	Q	44	Q	50-151	2		30
1,1-Dichloroethene	82		83		65-135	1		30
trans-1,2-Dichloroethene	84		86		70-130	2		30
Trichloroethene	89		90		70-130	1		30
1,2-Dichlorobenzene	93		96		70-130	3		30
1,3-Dichlorobenzene	97		99		70-130	2		30
1,4-Dichlorobenzene	96		98		70-130	2		30
Methyl tert butyl ether	84		88		66-130	5		30
p/m-Xylene	97		98		70-130	1		30
o-Xylene	94		96		70-130	2		30
cis-1,2-Dichloroethene	83		85		70-130	2		30
Styrene	97		99		70-130	2		30
Dichlorodifluoromethane	52		52		30-146	0		30
Acetone	113		126		54-140	11		30
Carbon disulfide	77		77		59-130	0		30
2-Butanone	101		113		70-130	11		30
4-Methyl-2-pentanone	95		107		70-130	12		30
2-Hexanone	114		127		70-130	11		30
Bromochloromethane	81		82		70-130	1		30
1,2-Dibromoethane	92		98		70-130	6		30
n-Butylbenzene	104		104		70-130	0		30
sec-Butylbenzene	101		101		70-130	0		30
1,2-Dibromo-3-chloropropane	86		94		68-130	9		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1952215

Project Number: B0500-019-001

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305405-8 WG1305405-9								
Isopropylbenzene	101		102		70-130	1		30
p-Isopropyltoluene	102		102		70-130	0		30
n-Propylbenzene	102		104		70-130	2		30
1,2,3-Trichlorobenzene	92		96		70-130	4		30
1,2,4-Trichlorobenzene	99		101		70-130	2		30
1,3,5-Trimethylbenzene	100		103		70-130	3		30
1,2,4-Trimethylbenzene	101		102		70-130	1		30
Methyl Acetate	116		128		51-146	10		30
Cyclohexane	90		91		59-142	1		30
1,4-Dioxane	93		104		65-136	11		30
Freon-113	83		83		50-139	0		30
Methyl cyclohexane	82		83		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		109		70-130
Toluene-d8	109		110		70-130
4-Bromofluorobenzene	105		106		70-130
Dibromofluoromethane	100		101		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1952215**Project Number:** B0500-019-001**Report Date:** 11/07/19**SAMPLE RESULTS**

Lab ID: L1952215-01
 Client ID: SOUTH SIDE WELL #2 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 11/04/19 14:57
 Date Received: 11/04/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/06/19 04:32
 Analyst: JG
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 11/05/19 04:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	46	J	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	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	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	25.	1
Naphthalene	9200	E	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	66.	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	65.	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

Project Name: 441 ELMWOOD AVE

Lab Number: L1952215

Project Number: B0500-019-001

Report Date: 11/07/19

SAMPLE RESULTS

Lab ID: L1952215-01
 Client ID: SOUTH SIDE WELL #2 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 11/04/19 14:57
 Date Received: 11/04/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
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	62	J	ug/kg	190	18.	1
Phenanthrene	67	J	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	20	J	ug/kg	110	19.	1
Biphenyl	250	J	ug/kg	430	44.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	13000	E	ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	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	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	910	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	91.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	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	67.	1
Benzaldehyde	ND		ug/kg	250	51.	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1952215**Project Number:** B0500-019-001**Report Date:** 11/07/19**SAMPLE RESULTS**

Lab ID: L1952215-01
 Client ID: SOUTH SIDE WELL #2 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 11/04/19 14:57
 Date Received: 11/04/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	66		25-120
Phenol-d6	64		10-120
Nitrobenzene-d5	53		23-120
2-Fluorobiphenyl	54		30-120
2,4,6-Tribromophenol	81		10-136
4-Terphenyl-d14	56		18-120

Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1952215**Report Date:** 11/07/19**SAMPLE RESULTS**

Lab ID: L1952215-01 D
 Client ID: SOUTH SIDE WELL #2 (9-11)
 Sample Location: BUFFALO, NY

Date Collected: 11/04/19 14:57
 Date Received: 11/04/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/06/19 17:10
 Analyst: JG
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 11/05/19 04:45

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	10000		ug/kg	950	120	5
2-Methylnaphthalene	15000		ug/kg	1100	120	5

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/05/19 17:09
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 11/04/19 09:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1304175-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	19.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	170	16.
3,3'-Dichlorobenzidine	ND		ug/kg	170	44.
2,4-Dinitrotoluene	ND		ug/kg	170	33.
2,6-Dinitrotoluene	ND		ug/kg	170	28.
Fluoranthene	ND		ug/kg	100	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	170	18.
4-Bromophenyl phenyl ether	ND		ug/kg	170	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	17.
Hexachlorobutadiene	ND		ug/kg	170	24.
Hexachlorocyclopentadiene	ND		ug/kg	480	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
Naphthalene	ND		ug/kg	170	20.
Nitrobenzene	ND		ug/kg	150	25.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	170	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	58.
Butyl benzyl phthalate	ND		ug/kg	170	42.
Di-n-butylphthalate	ND		ug/kg	170	32.
Di-n-octylphthalate	ND		ug/kg	170	56.
Diethyl phthalate	ND		ug/kg	170	15.
Dimethyl phthalate	ND		ug/kg	170	35.
Benzo(a)anthracene	ND		ug/kg	100	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 11/05/19 17:09
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 11/04/19 09:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1304175-1					
Benzo(k)fluoranthene	ND		ug/kg	100	27.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	170	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	16.
Biphenyl	ND		ug/kg	380	39.
4-Chloroaniline	ND		ug/kg	170	30.
2-Nitroaniline	ND		ug/kg	170	32.
3-Nitroaniline	ND		ug/kg	170	31.
4-Nitroaniline	ND		ug/kg	170	69.
Dibenzofuran	ND		ug/kg	170	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	170	17.
Acetophenone	ND		ug/kg	170	20.
2,4,6-Trichlorophenol	ND		ug/kg	100	32.
p-Chloro-m-cresol	ND		ug/kg	170	25.
2-Chlorophenol	ND		ug/kg	170	20.
2,4-Dichlorophenol	ND		ug/kg	150	27.
2,4-Dimethylphenol	ND		ug/kg	170	55.
2-Nitrophenol	ND		ug/kg	360	62.
4-Nitrophenol	ND		ug/kg	230	68.
2,4-Dinitrophenol	ND		ug/kg	800	78.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	37.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/05/19 17:09
Analyst: JG

Extraction Method: EPA 3546
Extraction Date: 11/04/19 09:44

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1304175-1					
Phenol	ND		ug/kg	170	25.
2-Methylphenol	ND		ug/kg	170	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	170	32.
Carbazole	ND		ug/kg	170	16.
Atrazine	ND		ug/kg	130	58.
Benzaldehyde	ND		ug/kg	220	45.
Caprolactam	ND		ug/kg	170	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	170	34.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		25-120
Phenol-d6	75		10-120
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	58		30-120
2,4,6-Tribromophenol	86		10-136
4-Terphenyl-d14	61		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1952215

Project Number: B0500-019-001

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1304175-2 WG1304175-3								
Acenaphthene	81		84		31-137	4		50
Hexachlorobenzene	87		92		40-140	6		50
Bis(2-chloroethyl)ether	68		78		40-140	14		50
2-Chloronaphthalene	80		86		40-140	7		50
3,3'-Dichlorobenzidine	56		58		40-140	4		50
2,4-Dinitrotoluene	88		94		40-132	7		50
2,6-Dinitrotoluene	84		90		40-140	7		50
Fluoranthene	79		86		40-140	8		50
4-Chlorophenyl phenyl ether	81		88		40-140	8		50
4-Bromophenyl phenyl ether	83		89		40-140	7		50
Bis(2-chloroisopropyl)ether	52		58		40-140	11		50
Bis(2-chloroethoxy)methane	69		76		40-117	10		50
Hexachlorobutadiene	77		84		40-140	9		50
Hexachlorocyclopentadiene	84		92		40-140	9		50
Hexachloroethane	68		74		40-140	8		50
Isophorone	68		76		40-140	11		50
Naphthalene	78		82		40-140	5		50
Nitrobenzene	71		78		40-140	9		50
NDPA/DPA	82		86		36-157	5		50
n-Nitrosodi-n-propylamine	69		77		32-121	11		50
Bis(2-ethylhexyl)phthalate	92		100		40-140	8		50
Butyl benzyl phthalate	81		93		40-140	14		50
Di-n-butylphthalate	83		91		40-140	9		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1952215

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1304175-2 WG1304175-3								
Di-n-octylphthalate	92		101		40-140	9		50
Diethyl phthalate	82		89		40-140	8		50
Dimethyl phthalate	77		84		40-140	9		50
Benzo(a)anthracene	83		90		40-140	8		50
Benzo(a)pyrene	83		88		40-140	6		50
Benzo(b)fluoranthene	87		91		40-140	4		50
Benzo(k)fluoranthene	86		93		40-140	8		50
Chrysene	82		90		40-140	9		50
Acenaphthylene	82		87		40-140	6		50
Anthracene	79		86		40-140	8		50
Benzo(ghi)perylene	83		90		40-140	8		50
Fluorene	81		88		40-140	8		50
Phenanthrene	77		84		40-140	9		50
Dibenzo(a,h)anthracene	81		88		40-140	8		50
Indeno(1,2,3-cd)pyrene	82		88		40-140	7		50
Pyrene	78		84		35-142	7		50
Biphenyl	82		88		37-127	7		50
4-Chloroaniline	57		61		40-140	7		50
2-Nitroaniline	84		90		47-134	7		50
3-Nitroaniline	63		66		26-129	5		50
4-Nitroaniline	76		82		41-125	8		50
Dibenzofuran	83		88		40-140	6		50
2-Methylnaphthalene	80		86		40-140	7		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1952215

Project Number: B0500-019-001

Report Date: 11/07/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1304175-2 WG1304175-3								
1,2,4,5-Tetrachlorobenzene	84		90		40-117	7		50
Acetophenone	75		82		14-144	9		50
2,4,6-Trichlorophenol	87		93		30-130	7		50
p-Chloro-m-cresol	85		90		26-103	6		50
2-Chlorophenol	80		86		25-102	7		50
2,4-Dichlorophenol	82		88		30-130	7		50
2,4-Dimethylphenol	81		88		30-130	8		50
2-Nitrophenol	79		86		30-130	8		50
4-Nitrophenol	85		93		11-114	9		50
2,4-Dinitrophenol	18		20		4-130	11		50
4,6-Dinitro-o-cresol	72		78		10-130	8		50
Pentachlorophenol	66		70		17-109	6		50
Phenol	76		84		26-90	10		50
2-Methylphenol	79		87		30-130.	10		50
3-Methylphenol/4-Methylphenol	84		93		30-130	10		50
2,4,5-Trichlorophenol	87		93		30-130	7		50
Carbazole	79		86		54-128	8		50
Atrazine	82		88		40-140	7		50
Benzaldehyde	75		81		40-140	8		50
Caprolactam	73		78		15-130	7		50
2,3,4,6-Tetrachlorophenol	85		92		40-140	8		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1952215

Report Date: 11/07/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1304175-2 WG1304175-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	79		88		25-120
Phenol-d6	78		85		10-120
Nitrobenzene-d5	57		63		23-120
2-Fluorobiphenyl	64		68		30-120
2,4,6-Tribromophenol	92		97		10-136
4-Terphenyl-d14	64		68		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1952215**Report Date:** 11/07/19**SAMPLE RESULTS****Lab ID:** L1952215-01**Client ID:** SOUTH SIDE WELL #2 (9-11)**Sample Location:** BUFFALO, NY**Date Collected:** 11/04/19 14:57**Date Received:** 11/04/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	11/05/19 11:41	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1952215**Report Date:** 11/07/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1304699-1 QC Sample: L1952197-01 Client ID: DUP Sample						
Solids, Total	88.4	87.3	%	1		20

Project Name: 441 ELMWOOD AVE**Lab Number:** L1952215**Project Number:** B0500-019-001**Report Date:** 11/07/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952215-01A	Vial Large Septa unpreserved (4oz)	A	NA		4.6	Y	Absent		NYTCL-8260-R2(14)
L1952215-01B	Vial Large Septa unpreserved (4oz)	A	NA		4.6	Y	Absent		NYTCL-8270(14),TS(7)
L1952215-01X	Vial MeOH preserved split	A	NA		4.6	Y	Absent		NYTCL-8260-R2(14)
L1952215-01Y	Vial Water preserved split	A	NA		4.6	Y	Absent	05-NOV-19 05:44	NYTCL-8260-R2(14)
L1952215-01Z	Vial Water preserved split	A	NA		4.6	Y	Absent	05-NOV-19 05:44	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE**Lab Number:** L1952215**Project Number:** B0500-019-001**Report Date:** 11/07/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE**Lab Number:** L1952215**Project Number:** B0500-019-001**Report Date:** 11/07/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1952215
Report Date: 11/07/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 15

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

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ANALYTICAL REPORT

Lab Number:	L1952474
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD
Project Number:	B0500-019-001
Report Date:	11/08/19

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

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



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1952474-01	SOUTH SIDEWALL #3 (8-10)	SOIL	BUFFALO	11/05/19 08:30	11/05/19
L1952474-02	SOUTH SIDEWALL #4 (8-10)	SOIL	BUFFALO	11/05/19 12:32	11/05/19

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD**Lab Number:** L1952474**Project Number:** B0500-019-001**Report Date:** 11/08/19**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

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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

Authorized Signature:



Cristin Walker

Title: Technical Director/Representative

Date: 11/08/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-01 D
 Client ID: SOUTH SIDEWALL #3 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 08:30
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/07/19 10:48
 Analyst: MV
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	31000	14000	100
1,1-Dichloroethane	ND		ug/kg	6200	890	100
Chloroform	ND		ug/kg	9200	860	100
Carbon tetrachloride	ND		ug/kg	6200	1400	100
1,2-Dichloropropane	ND		ug/kg	6200	770	100
Dibromochloromethane	ND		ug/kg	6200	860	100
1,1,2-Trichloroethane	ND		ug/kg	6200	1600	100
Tetrachloroethene	ND		ug/kg	3100	1200	100
Chlorobenzene	ND		ug/kg	3100	780	100
Trichlorofluoromethane	ND		ug/kg	25000	4300	100
1,2-Dichloroethane	ND		ug/kg	6200	1600	100
1,1,1-Trichloroethane	ND		ug/kg	3100	1000	100
Bromodichloromethane	ND		ug/kg	3100	670	100
trans-1,3-Dichloropropene	ND		ug/kg	6200	1700	100
cis-1,3-Dichloropropene	ND		ug/kg	3100	970	100
Bromoform	ND		ug/kg	25000	1500	100
1,1,2,2-Tetrachloroethane	ND		ug/kg	3100	1000	100
Benzene	ND		ug/kg	3100	1000	100
Toluene	6400		ug/kg	6200	3300	100
Ethylbenzene	13000		ug/kg	6200	870	100
Chloromethane	ND		ug/kg	25000	5700	100
Bromomethane	ND		ug/kg	12000	3600	100
Vinyl chloride	ND		ug/kg	6200	2100	100
Chloroethane	ND		ug/kg	12000	2800	100
1,1-Dichloroethene	ND		ug/kg	6200	1500	100
trans-1,2-Dichloroethene	ND		ug/kg	9200	840	100
Trichloroethene	ND		ug/kg	3100	840	100
1,2-Dichlorobenzene	ND		ug/kg	12000	890	100

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-01 D
 Client ID: SOUTH SIDEWALL #3 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 08:30
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	12000	910	100
1,4-Dichlorobenzene	ND		ug/kg	12000	1000	100
Methyl tert butyl ether	ND		ug/kg	12000	1200	100
p/m-Xylene	990000		ug/kg	12000	3400	100
o-Xylene	340000		ug/kg	6200	1800	100
cis-1,2-Dichloroethene	ND		ug/kg	6200	1100	100
Styrene	ND		ug/kg	6200	1200	100
Dichlorodifluoromethane	ND		ug/kg	62000	5600	100
Acetone	ND		ug/kg	62000	30000	100
Carbon disulfide	ND		ug/kg	62000	28000	100
2-Butanone	ND		ug/kg	62000	14000	100
4-Methyl-2-pentanone	ND		ug/kg	62000	7900	100
2-Hexanone	ND		ug/kg	62000	7300	100
Bromochloromethane	ND		ug/kg	12000	1300	100
1,2-Dibromoethane	ND		ug/kg	6200	1700	100
n-Butylbenzene	23000		ug/kg	6200	1000	100
sec-Butylbenzene	15000		ug/kg	6200	900	100
1,2-Dibromo-3-chloropropane	ND		ug/kg	18000	6100	100
Isopropylbenzene	5800	J	ug/kg	6200	670	100
p-Isopropyltoluene	13000		ug/kg	6200	670	100
n-Propylbenzene	17000		ug/kg	6200	1000	100
1,2,3-Trichlorobenzene	ND		ug/kg	12000	2000	100
1,2,4-Trichlorobenzene	ND		ug/kg	12000	1700	100
1,3,5-Trimethylbenzene	560000		ug/kg	12000	1200	100
1,2,4-Trimethylbenzene	1600000		ug/kg	12000	2000	100
Methyl Acetate	10000	J	ug/kg	25000	5800	100
Cyclohexane	160000		ug/kg	62000	3400	100
1,4-Dioxane	ND		ug/kg	490000	220000	100
Freon-113	ND		ug/kg	25000	4300	100
Methyl cyclohexane	380000		ug/kg	25000	3700	100

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	94		70-130
Toluene-d8	87		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	94		70-130

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-02
 Client ID: SOUTH SIDEWALL #4 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 12:32
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/07/19 00:14
 Analyst: NLK
 Percent Solids: 92%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	280	130	1
1,1-Dichloroethane	ND		ug/kg	55	8.0	1
Chloroform	ND		ug/kg	82	7.7	1
Carbon tetrachloride	ND		ug/kg	55	13.	1
1,2-Dichloropropane	ND		ug/kg	55	6.9	1
Dibromochloromethane	ND		ug/kg	55	7.7	1
1,1,2-Trichloroethane	ND		ug/kg	55	15.	1
Tetrachloroethene	ND		ug/kg	28	11.	1
Chlorobenzene	ND		ug/kg	28	7.0	1
Trichlorofluoromethane	ND		ug/kg	220	38.	1
1,2-Dichloroethane	ND		ug/kg	55	14.	1
1,1,1-Trichloroethane	ND		ug/kg	28	9.2	1
Bromodichloromethane	ND		ug/kg	28	6.0	1
trans-1,3-Dichloropropene	ND		ug/kg	55	15.	1
cis-1,3-Dichloropropene	ND		ug/kg	28	8.7	1
Bromoform	ND		ug/kg	220	14.	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	28	9.1	1
Benzene	ND		ug/kg	28	9.1	1
Toluene	ND		ug/kg	55	30.	1
Ethylbenzene	ND		ug/kg	55	7.8	1
Chloromethane	ND		ug/kg	220	51.	1
Bromomethane	ND		ug/kg	110	32.	1
Vinyl chloride	ND		ug/kg	55	18.	1
Chloroethane	ND		ug/kg	110	25.	1
1,1-Dichloroethene	ND		ug/kg	55	13.	1
trans-1,2-Dichloroethene	ND		ug/kg	82	7.5	1
Trichloroethene	ND		ug/kg	28	7.5	1
1,2-Dichlorobenzene	ND		ug/kg	110	7.9	1

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-02
 Client ID: SOUTH SIDEWALL #4 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 12:32
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	110	8.1	1
1,4-Dichlorobenzene	ND		ug/kg	110	9.4	1
Methyl tert butyl ether	ND		ug/kg	110	11.	1
p/m-Xylene	180		ug/kg	110	31.	1
o-Xylene	16	J	ug/kg	55	16.	1
cis-1,2-Dichloroethene	ND		ug/kg	55	9.6	1
Styrene	ND		ug/kg	55	11.	1
Dichlorodifluoromethane	ND		ug/kg	550	50.	1
Acetone	850		ug/kg	550	260	1
Carbon disulfide	ND		ug/kg	550	250	1
2-Butanone	ND		ug/kg	550	120	1
4-Methyl-2-pentanone	ND		ug/kg	550	70.	1
2-Hexanone	ND		ug/kg	550	65.	1
Bromochloromethane	ND		ug/kg	110	11.	1
1,2-Dibromoethane	ND		ug/kg	55	15.	1
n-Butylbenzene	1400		ug/kg	55	9.2	1
sec-Butylbenzene	360		ug/kg	55	8.0	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	160	55.	1
Isopropylbenzene	160		ug/kg	55	6.0	1
p-Isopropyltoluene	180		ug/kg	55	6.0	1
n-Propylbenzene	680		ug/kg	55	9.4	1
1,2,3-Trichlorobenzene	ND		ug/kg	110	18.	1
1,2,4-Trichlorobenzene	ND		ug/kg	110	15.	1
1,3,5-Trimethylbenzene	130		ug/kg	110	11.	1
1,2,4-Trimethylbenzene	3500		ug/kg	110	18.	1
Methyl Acetate	10000		ug/kg	220	52.	1
Cyclohexane	4000		ug/kg	550	30.	1
1,4-Dioxane	ND		ug/kg	4400	1900	1
Freon-113	ND		ug/kg	220	38.	1
Methyl cyclohexane	9900		ug/kg	220	33.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	98		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/06/19 21:54
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1305763-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	7.2	J	ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/06/19 21:54
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1305763-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	14	J	ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	4000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/06/19 21:54
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 02 Batch: WG1305763-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	87		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	100		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/07/19 08:57
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305835-5					
Methylene chloride	ND		ug/kg	250	110
1,1-Dichloroethane	ND		ug/kg	50	7.2
Chloroform	ND		ug/kg	75	7.0
Carbon tetrachloride	ND		ug/kg	50	12.
1,2-Dichloropropane	ND		ug/kg	50	6.2
Dibromochloromethane	ND		ug/kg	50	7.0
1,1,2-Trichloroethane	ND		ug/kg	50	13.
Tetrachloroethene	ND		ug/kg	25	9.8
Chlorobenzene	ND		ug/kg	25	6.4
Trichlorofluoromethane	ND		ug/kg	200	35.
1,2-Dichloroethane	ND		ug/kg	50	13.
1,1,1-Trichloroethane	ND		ug/kg	25	8.4
Bromodichloromethane	ND		ug/kg	25	5.4
trans-1,3-Dichloropropene	ND		ug/kg	50	14.
cis-1,3-Dichloropropene	ND		ug/kg	25	7.9
Bromoform	ND		ug/kg	200	12.
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	8.3
Benzene	ND		ug/kg	25	8.3
Toluene	ND		ug/kg	50	27.
Ethylbenzene	ND		ug/kg	50	7.0
Chloromethane	ND		ug/kg	200	47.
Bromomethane	ND		ug/kg	100	29.
Vinyl chloride	ND		ug/kg	50	17.
Chloroethane	ND		ug/kg	100	23.
1,1-Dichloroethene	ND		ug/kg	50	12.
trans-1,2-Dichloroethene	ND		ug/kg	75	6.8
Trichloroethene	ND		ug/kg	25	6.8
1,2-Dichlorobenzene	ND		ug/kg	100	7.2
1,3-Dichlorobenzene	ND		ug/kg	100	7.4

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/07/19 08:57
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305835-5					
1,4-Dichlorobenzene	ND		ug/kg	100	8.6
Methyl tert butyl ether	13	J	ug/kg	100	10.
p/m-Xylene	ND		ug/kg	100	28.
o-Xylene	ND		ug/kg	50	14.
cis-1,2-Dichloroethene	ND		ug/kg	50	8.8
Styrene	ND		ug/kg	50	9.8
Dichlorodifluoromethane	ND		ug/kg	500	46.
Acetone	ND		ug/kg	500	240
Carbon disulfide	ND		ug/kg	500	230
2-Butanone	ND		ug/kg	500	110
4-Methyl-2-pentanone	ND		ug/kg	500	64.
2-Hexanone	ND		ug/kg	500	59.
Bromochloromethane	ND		ug/kg	100	10.
1,2-Dibromoethane	ND		ug/kg	50	14.
n-Butylbenzene	ND		ug/kg	50	8.4
sec-Butylbenzene	ND		ug/kg	50	7.3
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	50.
Isopropylbenzene	ND		ug/kg	50	5.4
p-Isopropyltoluene	ND		ug/kg	50	5.4
n-Propylbenzene	ND		ug/kg	50	8.6
1,2,3-Trichlorobenzene	ND		ug/kg	100	16.
1,2,4-Trichlorobenzene	ND		ug/kg	100	14.
1,3,5-Trimethylbenzene	ND		ug/kg	100	9.6
1,2,4-Trimethylbenzene	ND		ug/kg	100	17.
Methyl Acetate	ND		ug/kg	200	48.
Cyclohexane	ND		ug/kg	500	27.
1,4-Dioxane	ND		ug/kg	4000	1800
Freon-113	ND		ug/kg	200	35.
Methyl cyclohexane	ND		ug/kg	200	30.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/07/19 08:57
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305835-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	95		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1305763-3 WG1305763-4								
Methylene chloride	107		109		70-130	2		30
1,1-Dichloroethane	98		100		70-130	2		30
Chloroform	97		100		70-130	3		30
Carbon tetrachloride	102		104		70-130	2		30
1,2-Dichloropropane	100		101		70-130	1		30
Dibromochloromethane	83		84		70-130	1		30
1,1,2-Trichloroethane	85		85		70-130	0		30
Tetrachloroethene	86		87		70-130	1		30
Chlorobenzene	84		86		70-130	2		30
Trichlorofluoromethane	92		93		70-139	1		30
1,2-Dichloroethane	94		96		70-130	2		30
1,1,1-Trichloroethane	101		102		70-130	1		30
Bromodichloromethane	104		106		70-130	2		30
trans-1,3-Dichloropropene	87		89		70-130	2		30
cis-1,3-Dichloropropene	110		111		70-130	1		30
Bromoform	78		79		70-130	1		30
1,1,2,2-Tetrachloroethane	79		79		70-130	0		30
Benzene	106		107		70-130	1		30
Toluene	86		88		70-130	2		30
Ethylbenzene	86		87		70-130	1		30
Chloromethane	69		69		52-130	0		30
Bromomethane	118		119		57-147	1		30
Vinyl chloride	89		89		67-130	0		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1305763-3 WG1305763-4								
Chloroethane	103		105		50-151	2		30
1,1-Dichloroethene	100		101		65-135	1		30
trans-1,2-Dichloroethene	106		108		70-130	2		30
Trichloroethene	107		108		70-130	1		30
1,2-Dichlorobenzene	79		79		70-130	0		30
1,3-Dichlorobenzene	79		81		70-130	3		30
1,4-Dichlorobenzene	78		80		70-130	3		30
Methyl tert butyl ether	104		106		66-130	2		30
p/m-Xylene	89		91		70-130	2		30
o-Xylene	87		89		70-130	2		30
cis-1,2-Dichloroethene	106		108		70-130	2		30
Styrene	91		94		70-130	3		30
Dichlorodifluoromethane	49		50		30-146	2		30
Acetone	97		92		54-140	5		30
Carbon disulfide	93		93		59-130	0		30
2-Butanone	95		91		70-130	4		30
4-Methyl-2-pentanone	84		84		70-130	0		30
2-Hexanone	82		82		70-130	0		30
Bromochloromethane	103		105		70-130	2		30
1,2-Dibromoethane	85		87		70-130	2		30
n-Butylbenzene	85		86		70-130	1		30
sec-Butylbenzene	83		84		70-130	1		30
1,2-Dibromo-3-chloropropane	81		79		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 02 Batch: WG1305763-3 WG1305763-4								
Isopropylbenzene	82		83		70-130	1		30
p-Isopropyltoluene	84		85		70-130	1		30
n-Propylbenzene	84		84		70-130	0		30
1,2,3-Trichlorobenzene	80		82		70-130	2		30
1,2,4-Trichlorobenzene	84		85		70-130	1		30
1,3,5-Trimethylbenzene	82		83		70-130	1		30
1,2,4-Trimethylbenzene	82		83		70-130	1		30
Methyl Acetate	104		102		51-146	2		30
Cyclohexane	96		97		59-142	1		30
1,4-Dioxane	90		85		65-136	6		30
Freon-113	101		102		50-139	1		30
Methyl cyclohexane	110		112		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		90		70-130
Toluene-d8	87		88		70-130
4-Bromofluorobenzene	100		99		70-130
Dibromofluoromethane	100		102		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305835-3 WG1305835-4								
Methylene chloride	102		108		70-130	6		30
1,1-Dichloroethane	106		108		70-130	2		30
Chloroform	109		116		70-130	6		30
Carbon tetrachloride	110		117		70-130	6		30
1,2-Dichloropropane	104		111		70-130	7		30
Dibromochloromethane	83		88		70-130	6		30
1,1,2-Trichloroethane	81		85		70-130	5		30
Tetrachloroethene	91		96		70-130	5		30
Chlorobenzene	91		95		70-130	4		30
Trichlorofluoromethane	100		105		70-139	5		30
1,2-Dichloroethane	94		100		70-130	6		30
1,1,1-Trichloroethane	104		110		70-130	6		30
Bromodichloromethane	94		100		70-130	6		30
trans-1,3-Dichloropropene	85		91		70-130	7		30
cis-1,3-Dichloropropene	101		108		70-130	7		30
Bromoform	79		85		70-130	7		30
1,1,2,2-Tetrachloroethane	73		77		70-130	5		30
Benzene	99		105		70-130	6		30
Toluene	84		88		70-130	5		30
Ethylbenzene	86		89		70-130	3		30
Chloromethane	117		120		52-130	3		30
Bromomethane	121		130		57-147	7		30
Vinyl chloride	120		124		67-130	3		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305835-3 WG1305835-4								
Chloroethane	105		112		50-151	6		30
1,1-Dichloroethene	113		119		65-135	5		30
trans-1,2-Dichloroethene	108		114		70-130	5		30
Trichloroethene	100		106		70-130	6		30
1,2-Dichlorobenzene	78		83		70-130	6		30
1,3-Dichlorobenzene	79		85		70-130	7		30
1,4-Dichlorobenzene	78		82		70-130	5		30
Methyl tert butyl ether	104		110		66-130	6		30
p/m-Xylene	82		86		70-130	5		30
o-Xylene	81		84		70-130	4		30
cis-1,2-Dichloroethene	103		110		70-130	7		30
Styrene	80		83		70-130	4		30
Dichlorodifluoromethane	108		112		30-146	4		30
Acetone	122		126		54-140	3		30
Carbon disulfide	110		115		59-130	4		30
2-Butanone	110		105		70-130	5		30
4-Methyl-2-pentanone	94		96		70-130	2		30
2-Hexanone	93		96		70-130	3		30
Bromochloromethane	104		113		70-130	8		30
1,2-Dibromoethane	84		87		70-130	4		30
n-Butylbenzene	83		88		70-130	6		30
sec-Butylbenzene	83		88		70-130	6		30
1,2-Dibromo-3-chloropropane	81		86		68-130	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305835-3 WG1305835-4								
Isopropylbenzene	82		86		70-130	5		30
p-Isopropyltoluene	84		89		70-130	6		30
n-Propylbenzene	82		87		70-130	6		30
1,2,3-Trichlorobenzene	84		90		70-130	7		30
1,2,4-Trichlorobenzene	86		93		70-130	8		30
1,3,5-Trimethylbenzene	80		85		70-130	6		30
1,2,4-Trimethylbenzene	79		84		70-130	6		30
Methyl Acetate	98		102		51-146	4		30
Cyclohexane	115		123		59-142	7		30
1,4-Dioxane	102		108		65-136	6		30
Freon-113	117		124		50-139	6		30
Methyl cyclohexane	113		120		70-130	6		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		92		70-130
Toluene-d8	87		87		70-130
4-Bromofluorobenzene	97		97		70-130
Dibromofluoromethane	99		100		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-01
 Client ID: SOUTH SIDEWALL #3 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 08:30
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/07/19 05:57
 Analyst: JG
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 11/06/19 05:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	88	J	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	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	1
2,6-Dinitrotoluene	ND		ug/kg	190	32.	1
Fluoranthene	24	J	ug/kg	110	21.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	190	20.	1
4-Bromophenyl phenyl ether	ND		ug/kg	190	28.	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	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	530	170	1
Hexachloroethane	ND		ug/kg	150	30.	1
Isophorone	ND		ug/kg	170	24.	1
Naphthalene	12000	E	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	35.	1
Di-n-octylphthalate	ND		ug/kg	190	63.	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

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-01
 Client ID: SOUTH SIDEWALL #3 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 08:30
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	85	J	ug/kg	190	18.	1
Phenanthrene	100	J	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	34	J	ug/kg	110	18.	1
Biphenyl	260	J	ug/kg	420	43.	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	77.	1
Dibenzofuran	50	J	ug/kg	190	18.	1
2-Methylnaphthalene	20000	E	ug/kg	220	22.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	19.	1
Acetophenone	ND		ug/kg	190	23.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	35.	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	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	900	87.	1
4,6-Dinitro-o-cresol	ND		ug/kg	480	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	65.	1
Benzaldehyde	ND		ug/kg	250	50.	1

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-01

Date Collected: 11/05/19 08:30

Client ID: SOUTH SIDEWALL #3 (8-10)

Date Received: 11/05/19

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	85		25-120
Phenol-d6	82		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	59		30-120
2,4,6-Tribromophenol	59		10-136
4-Terphenyl-d14	55		18-120

Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952474**Report Date:** 11/08/19**SAMPLE RESULTS**

Lab ID: L1952474-01 D
 Client ID: SOUTH SIDEWALL #3 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 08:30
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/08/19 02:23
 Analyst: JG
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 11/06/19 05:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

Naphthalene	12000		ug/kg	930	110	5
2-Methylnaphthalene	22000		ug/kg	1100	110	5

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-02
 Client ID: SOUTH SIDEWALL #4 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 12:32
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/07/19 05:32
 Analyst: JG
 Percent Solids: 92%

Extraction Method: EPA 3546
 Extraction Date: 11/06/19 05:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	50	J	ug/kg	140	18.	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	47.	1
2,4-Dinitrotoluene	ND		ug/kg	180	35.	1
2,6-Dinitrotoluene	ND		ug/kg	180	30.	1
Fluoranthene	ND		ug/kg	110	20.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	180	19.	1
4-Bromophenyl phenyl ether	ND		ug/kg	180	27.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	210	30.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	190	18.	1
Hexachlorobutadiene	ND		ug/kg	180	26.	1
Hexachlorocyclopentadiene	ND		ug/kg	510	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	23.	1
Naphthalene	1400		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	26.	1
NDPA/DPA	ND		ug/kg	140	20.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	27.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	61.	1
Butyl benzyl phthalate	ND		ug/kg	180	45.	1
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	60.	1
Diethyl phthalate	ND		ug/kg	180	16.	1
Dimethyl phthalate	ND		ug/kg	180	37.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	43.	1

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-02
 Client ID: SOUTH SIDEWALL #4 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 12:32
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
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	27.	1
Anthracene	ND		ug/kg	110	34.	1
Benzo(ghi)perylene	ND		ug/kg	140	21.	1
Fluorene	50	J	ug/kg	180	17.	1
Phenanthrene	76	J	ug/kg	110	22.	1
Dibenzo(a,h)anthracene	ND		ug/kg	110	20.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	140	25.	1
Pyrene	27	J	ug/kg	110	18.	1
Biphenyl	190	J	ug/kg	400	41.	1
4-Chloroaniline	ND		ug/kg	180	32.	1
2-Nitroaniline	ND		ug/kg	180	34.	1
3-Nitroaniline	ND		ug/kg	180	33.	1
4-Nitroaniline	ND		ug/kg	180	73.	1
Dibenzofuran	25	J	ug/kg	180	17.	1
2-Methylnaphthalene	9100	E	ug/kg	210	21.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	180	18.	1
Acetophenone	ND		ug/kg	180	22.	1
2,4,6-Trichlorophenol	ND		ug/kg	110	34.	1
p-Chloro-m-cresol	ND		ug/kg	180	26.	1
2-Chlorophenol	ND		ug/kg	180	21.	1
2,4-Dichlorophenol	ND		ug/kg	160	28.	1
2,4-Dimethylphenol	ND		ug/kg	180	58.	1
2-Nitrophenol	ND		ug/kg	380	67.	1
4-Nitrophenol	ND		ug/kg	250	72.	1
2,4-Dinitrophenol	ND		ug/kg	850	82.	1
4,6-Dinitro-o-cresol	ND		ug/kg	460	85.	1
Pentachlorophenol	ND		ug/kg	140	39.	1
Phenol	ND		ug/kg	180	27.	1
2-Methylphenol	ND		ug/kg	180	27.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	34.	1
Carbazole	ND		ug/kg	180	17.	1
Atrazine	ND		ug/kg	140	62.	1
Benzaldehyde	ND		ug/kg	230	48.	1

Project Name: 441 ELMWOOD

Lab Number: L1952474

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1952474-02

Date Collected: 11/05/19 12:32

Client ID: SOUTH SIDEWALL #4 (8-10)

Date Received: 11/05/19

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	54.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	36.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		25-120
Phenol-d6	79		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	59		30-120
2,4,6-Tribromophenol	64		10-136
4-Terphenyl-d14	50		18-120

Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952474**Report Date:** 11/08/19**SAMPLE RESULTS**

Lab ID: L1952474-02 D
 Client ID: SOUTH SIDEWALL #4 (8-10)
 Sample Location: BUFFALO

Date Collected: 11/05/19 12:32
 Date Received: 11/05/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/08/19 01:58
 Analyst: JG
 Percent Solids: 92%

Extraction Method: EPA 3546
 Extraction Date: 11/06/19 05:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Semivolatile Organics by GC/MS - Westborough Lab

2-Methylnaphthalene	9600		ug/kg	420	43.	2

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/06/19 21:30
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/05/19 14:26

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1304825-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	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	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/06/19 21:30
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/05/19 14:26

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1304825-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 11/06/19 21:30
Analyst: RC

Extraction Method: EPA 3546
Extraction Date: 11/05/19 14:26

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1304825-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	220	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	86		25-120
Phenol-d6	89		10-120
Nitrobenzene-d5	83		23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	73		10-136
4-Terphenyl-d14	71		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1304825-2 WG1304825-3								
Acenaphthene	62		60		31-137	3		50
Hexachlorobenzene	60		59		40-140	2		50
Bis(2-chloroethyl)ether	66		65		40-140	2		50
2-Chloronaphthalene	68		58		40-140	16		50
3,3'-Dichlorobenzidine	57		54		40-140	5		50
2,4-Dinitrotoluene	76		71		40-132	7		50
2,6-Dinitrotoluene	70		65		40-140	7		50
Fluoranthene	63		59		40-140	7		50
4-Chlorophenyl phenyl ether	57		55		40-140	4		50
4-Bromophenyl phenyl ether	60		56		40-140	7		50
Bis(2-chloroisopropyl)ether	51		55		40-140	8		50
Bis(2-chloroethoxy)methane	67		65		40-117	3		50
Hexachlorobutadiene	54		53		40-140	2		50
Hexachlorocyclopentadiene	56		56		40-140	0		50
Hexachloroethane	60		63		40-140	5		50
Isophorone	73		69		40-140	6		50
Naphthalene	62		62		40-140	0		50
Nitrobenzene	67		67		40-140	0		50
NDPA/DPA	65		61		36-157	6		50
n-Nitrosodi-n-propylamine	70		69		32-121	1		50
Bis(2-ethylhexyl)phthalate	78		76		40-140	3		50
Butyl benzyl phthalate	76		72		40-140	5		50
Di-n-butylphthalate	76		74		40-140	3		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1304825-2 WG1304825-3								
Di-n-octylphthalate	88		82		40-140	7		50
Diethyl phthalate	67		65		40-140	3		50
Dimethyl phthalate	64		60		40-140	6		50
Benzo(a)anthracene	69		68		40-140	1		50
Benzo(a)pyrene	62		60		40-140	3		50
Benzo(b)fluoranthene	63		69		40-140	9		50
Benzo(k)fluoranthene	65		68		40-140	5		50
Chrysene	62		60		40-140	3		50
Acenaphthylene	61		60		40-140	2		50
Anthracene	65		61		40-140	6		50
Benzo(ghi)perylene	68		67		40-140	1		50
Fluorene	65		62		40-140	5		50
Phenanthrene	62		58		40-140	7		50
Dibenzo(a,h)anthracene	70		68		40-140	3		50
Indeno(1,2,3-cd)pyrene	72		70		40-140	3		50
Pyrene	60		60		35-142	0		50
Biphenyl	74		63		37-127	16		50
4-Chloroaniline	57		49		40-140	15		50
2-Nitroaniline	82		68		47-134	19		50
3-Nitroaniline	57		56		26-129	2		50
4-Nitroaniline	65		61		41-125	6		50
Dibenzofuran	65		62		40-140	5		50
2-Methylnaphthalene	60		61		40-140	2		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1304825-2 WG1304825-3								
1,2,4,5-Tetrachlorobenzene	59		58		40-117	2		50
Acetophenone	72		73		14-144	1		50
2,4,6-Trichlorophenol	67		63		30-130	6		50
p-Chloro-m-cresol	72		69		26-103	4		50
2-Chlorophenol	72		72		25-102	0		50
2,4-Dichlorophenol	68		65		30-130	5		50
2,4-Dimethylphenol	68		65		30-130	5		50
2-Nitrophenol	74		73		30-130	1		50
4-Nitrophenol	75		71		11-114	5		50
2,4-Dinitrophenol	56		47		4-130	17		50
4,6-Dinitro-o-cresol	77		76		10-130	1		50
Pentachlorophenol	62		58		17-109	7		50
Phenol	72		66		26-90	9		50
2-Methylphenol	74		78		30-130.	5		50
3-Methylphenol/4-Methylphenol	74		71		30-130	4		50
2,4,5-Trichlorophenol	68		63		30-130	8		50
Carbazole	67		64		54-128	5		50
Atrazine	68		66		40-140	3		50
Benzaldehyde	77		78		40-140	1		50
Caprolactam	70		73		15-130	4		50
2,3,4,6-Tetrachlorophenol	62		65		40-140	5		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952474

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1304825-2 WG1304825-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	72		71		25-120
Phenol-d6	74		75		10-120
Nitrobenzene-d5	69		70		23-120
2-Fluorobiphenyl	54		55		30-120
2,4,6-Tribromophenol	64		62		10-136
4-Terphenyl-d14	58		54		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952474**Report Date:** 11/08/19**SAMPLE RESULTS****Lab ID:** L1952474-01**Client ID:** SOUTH SIDEWALL #3 (8-10)**Sample Location:** BUFFALO**Date Collected:** 11/05/19 08:30**Date Received:** 11/05/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	11/06/19 10:52	121,2540G	RI



Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952474**Report Date:** 11/08/19**SAMPLE RESULTS****Lab ID:** L1952474-02**Client ID:** SOUTH SIDEWALL #4 (8-10)**Sample Location:** BUFFALO**Date Collected:** 11/05/19 12:32**Date Received:** 11/05/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.4		%	0.100	NA	1	-	11/06/19 10:52	121,2540G	RI



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952474**Report Date:** 11/08/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1305138-1 QC Sample: L1952521-01 Client ID: DUP Sample						
Solids, Total	94.1	94.1	%	0		20

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Serial_No:11081914:17
Lab Number: L1952474
Report Date: 11/08/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952474-01A	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		NYTCL-8260-R2(14)
L1952474-01B	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		NYTCL-8270(14),TS(7)
L1952474-01X	Vial MeOH preserved split	A	NA		3.8	Y	Absent		NYTCL-8260-R2(14)
L1952474-01Y	Vial Water preserved split	A	NA		3.8	Y	Absent	06-NOV-19 06:23	NYTCL-8260-R2(14)
L1952474-01Z	Vial Water preserved split	A	NA		3.8	Y	Absent	06-NOV-19 06:23	NYTCL-8260-R2(14)
L1952474-02A	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		NYTCL-8260-R2(14)
L1952474-02B	Vial Large Septa unpreserved (4oz)	A	NA		3.8	Y	Absent		NYTCL-8270(14),TS(7)
L1952474-02X	Vial MeOH preserved split	A	NA		3.8	Y	Absent		NYTCL-8260-R2(14)
L1952474-02Y	Vial Water preserved split	A	NA		3.8	Y	Absent	06-NOV-19 06:23	NYTCL-8260-R2(14)
L1952474-02Z	Vial Water preserved split	A	NA		3.8	Y	Absent	06-NOV-19 06:23	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952474
Report Date: 11/08/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 15

Published Date: 8/15/2019 9:53:42 AM

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

[illegible]



ANALYTICAL REPORT

Lab Number:	L1952809
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD
Project Number:	B0500-019-001
Report Date:	11/11/19

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

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



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1952809-01	EAST SIDEWALL #1 (11-13)	SOIL	BUFFALO	11/06/19 11:15	11/06/19
L1952809-02	BLIND DUP #2	SOIL	BUFFALO	11/06/19 12:00	11/06/19
L1952809-03	EAST SIDEWALL #2 (10-12)	SOIL	BUFFALO	11/06/19 15:18	11/06/19

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

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

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

Semivolatile Organics

The WG1305456-8/-9 MS/MSD recoveries, performed on L1952809-03, are below the acceptance criteria for 2,4-dinitrophenol (0%/0%) due to the concentration of this compound falling below the reported detection limit.

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

Authorized Signature:



Kelly Stenstrom

Title: Technical Director/Representative

Date: 11/11/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-01
 Client ID: EAST SIDEWALL #1 (11-13)
 Sample Location: BUFFALO

Date Collected: 11/06/19 11:15
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/07/19 21:18
 Analyst: JC
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	2.4	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.15	1
Chloroform	0.15	J	ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.24	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.13	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.28	1
Tetrachloroethene	ND		ug/kg	0.53	0.21	1
Chlorobenzene	ND		ug/kg	0.53	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.3	0.74	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.27	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	0.18	1
Bromodichloromethane	ND		ug/kg	0.53	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.29	1
cis-1,3-Dichloropropene	ND		ug/kg	0.53	0.17	1
Bromoform	ND		ug/kg	4.3	0.26	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	0.18	1
Benzene	ND		ug/kg	0.53	0.18	1
Toluene	ND		ug/kg	1.1	0.58	1
Ethylbenzene	ND		ug/kg	1.1	0.15	1
Chloromethane	ND		ug/kg	4.3	1.0	1
Bromomethane	ND		ug/kg	2.1	0.62	1
Vinyl chloride	ND		ug/kg	1.1	0.36	1
Chloroethane	ND		ug/kg	2.1	0.48	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.15	1
Trichloroethene	ND		ug/kg	0.53	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	0.15	1

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-01
 Client ID: EAST SIDEWALL #1 (11-13)
 Sample Location: BUFFALO

Date Collected: 11/06/19 11:15
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.1	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.1	0.21	1
p/m-Xylene	ND		ug/kg	2.1	0.60	1
o-Xylene	ND		ug/kg	1.1	0.31	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.21	1
Dichlorodifluoromethane	ND		ug/kg	11	0.98	1
Acetone	ND		ug/kg	11	5.1	1
Carbon disulfide	ND		ug/kg	11	4.9	1
2-Butanone	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.1	0.22	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.30	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.18	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.1	0.34	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	0.29	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	0.21	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	0.36	1
Methyl Acetate	ND		ug/kg	4.3	1.0	1
Cyclohexane	ND		ug/kg	11	0.58	1
1,4-Dioxane	ND		ug/kg	85	37.	1
Freon-113	ND		ug/kg	4.3	0.74	1
Methyl cyclohexane	ND		ug/kg	4.3	0.64	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	84		70-130
Toluene-d8	85		70-130
4-Bromofluorobenzene	84		70-130
Dibromofluoromethane	100		70-130

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-02
 Client ID: BLIND DUP #2
 Sample Location: BUFFALO

Date Collected: 11/06/19 12:00
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/07/19 21:45
 Analyst: JC
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.5	2.5	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.25	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.55	0.22	1
Chlorobenzene	ND		ug/kg	0.55	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.4	0.77	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.28	1
1,1,1-Trichloroethane	ND		ug/kg	0.55	0.18	1
Bromodichloromethane	ND		ug/kg	0.55	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.55	0.18	1
Bromoform	ND		ug/kg	4.4	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.55	0.18	1
Benzene	ND		ug/kg	0.55	0.18	1
Toluene	ND		ug/kg	1.1	0.60	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.4	1.0	1
Bromomethane	ND		ug/kg	2.2	0.64	1
Vinyl chloride	ND		ug/kg	1.1	0.37	1
Chloroethane	ND		ug/kg	2.2	0.50	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.15	1
Trichloroethene	ND		ug/kg	0.55	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-02
 Client ID: BLIND DUP #2
 Sample Location: BUFFALO

Date Collected: 11/06/19 12:00
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	ND		ug/kg	2.2	0.62	1
o-Xylene	ND		ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.3	1
Carbon disulfide	ND		ug/kg	11	5.0	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.31	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.30	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	0.21	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	0.37	1
Methyl Acetate	ND		ug/kg	4.4	1.0	1
Cyclohexane	ND		ug/kg	11	0.60	1
1,4-Dioxane	ND		ug/kg	89	39.	1
Freon-113	ND		ug/kg	4.4	0.77	1
Methyl cyclohexane	ND		ug/kg	4.4	0.67	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	117		70-130
Toluene-d8	79		70-130
4-Bromofluorobenzene	80		70-130
Dibromofluoromethane	117		70-130



Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-03
 Client ID: EAST SIDEWALL #2 (10-12)
 Sample Location: BUFFALO

Date Collected: 11/06/19 15:18
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/08/19 11:58
 Analyst: JC
 Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.6	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.56	0.22	1
Chlorobenzene	ND		ug/kg	0.56	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.4	0.77	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	0.56	0.19	1
Bromodichloromethane	ND		ug/kg	0.56	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.30	1
cis-1,3-Dichloropropene	ND		ug/kg	0.56	0.18	1
Bromoform	ND		ug/kg	4.4	0.27	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.56	0.18	1
Benzene	ND		ug/kg	0.56	0.18	1
Toluene	ND		ug/kg	1.1	0.60	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.4	1.0	1
Bromomethane	ND		ug/kg	2.2	0.65	1
Vinyl chloride	ND		ug/kg	1.1	0.37	1
Chloroethane	ND		ug/kg	2.2	0.50	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.26	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.15	1
Trichloroethene	ND		ug/kg	0.56	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-03
 Client ID: EAST SIDEWALL #2 (10-12)
 Sample Location: BUFFALO

Date Collected: 11/06/19 15:18
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.22	1
p/m-Xylene	ND		ug/kg	2.2	0.62	1
o-Xylene	ND		ug/kg	1.1	0.32	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.4	1
Carbon disulfide	ND		ug/kg	11	5.1	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.31	1
n-Butylbenzene	ND		ug/kg	1.1	0.19	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.3	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.30	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.2	0.22	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.2	0.37	1
Methyl Acetate	ND		ug/kg	4.4	1.0	1
Cyclohexane	ND		ug/kg	11	0.61	1
1,4-Dioxane	ND		ug/kg	89	39.	1
Freon-113	ND		ug/kg	4.4	0.77	1
Methyl cyclohexane	ND		ug/kg	4.4	0.67	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	127		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	113		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/08/19 08:08
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1306305-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/08/19 08:08
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1306305-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	0.20	J	ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/08/19 08:08
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 03 Batch: WG1306305-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	118		70-130
Toluene-d8	96		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	106		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/07/19 20:25
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1306347-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.14	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	1.2	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/07/19 20:25
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1306347-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	0.23	J	ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/07/19 20:25
 Analyst: AD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1306347-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	83		70-130
4-Bromofluorobenzene	81		70-130
Dibromofluoromethane	104		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1306305-3 WG1306305-4								
Methylene chloride	82		88		70-130	7		30
1,1-Dichloroethane	100		110		70-130	10		30
Chloroform	103		112		70-130	8		30
Carbon tetrachloride	111		125		70-130	12		30
1,2-Dichloropropane	100		108		70-130	8		30
Dibromochloromethane	102		106		70-130	4		30
1,1,2-Trichloroethane	92		96		70-130	4		30
Tetrachloroethene	90		97		70-130	7		30
Chlorobenzene	87		93		70-130	7		30
Trichlorofluoromethane	107		119		70-139	11		30
1,2-Dichloroethane	119		126		70-130	6		30
1,1,1-Trichloroethane	106		116		70-130	9		30
Bromodichloromethane	108		116		70-130	7		30
trans-1,3-Dichloropropene	104		110		70-130	6		30
cis-1,3-Dichloropropene	105		112		70-130	6		30
Bromoform	99		104		70-130	5		30
1,1,2,2-Tetrachloroethane	83		85		70-130	2		30
Benzene	90		99		70-130	10		30
Toluene	88		95		70-130	8		30
Ethylbenzene	90		97		70-130	7		30
Chloromethane	73		83		52-130	13		30
Bromomethane	90		101		57-147	12		30
Vinyl chloride	84		94		67-130	11		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1306305-3 WG1306305-4								
Chloroethane	103		116		50-151	12		30
1,1-Dichloroethene	89		101		65-135	13		30
trans-1,2-Dichloroethene	93		104		70-130	11		30
Trichloroethene	97		108		70-130	11		30
1,2-Dichlorobenzene	92		97		70-130	5		30
1,3-Dichlorobenzene	92		97		70-130	5		30
1,4-Dichlorobenzene	91		94		70-130	3		30
Methyl tert butyl ether	113		118		66-130	4		30
p/m-Xylene	89		95		70-130	7		30
o-Xylene	90		96		70-130	6		30
cis-1,2-Dichloroethene	97		107		70-130	10		30
Styrene	96		102		70-130	6		30
Dichlorodifluoromethane	56		64		30-146	13		30
Acetone	121		122		54-140	1		30
Carbon disulfide	81		90		59-130	11		30
2-Butanone	107		105		70-130	2		30
4-Methyl-2-pentanone	107		108		70-130	1		30
2-Hexanone	104		108		70-130	4		30
Bromochloromethane	107		113		70-130	5		30
1,2-Dibromoethane	100		102		70-130	2		30
n-Butylbenzene	89		96		70-130	8		30
sec-Butylbenzene	89		95		70-130	7		30
1,2-Dibromo-3-chloropropane	102		103		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 Batch: WG1306305-3 WG1306305-4								
Isopropylbenzene	90		97		70-130	7		30
p-Isopropyltoluene	93		100		70-130	7		30
n-Propylbenzene	88		94		70-130	7		30
1,2,3-Trichlorobenzene	97		100		70-130	3		30
1,2,4-Trichlorobenzene	97		100		70-130	3		30
1,3,5-Trimethylbenzene	91		98		70-130	7		30
1,2,4-Trimethylbenzene	93		99		70-130	6		30
Methyl Acetate	124		126		51-146	2		30
Cyclohexane	101		114		59-142	12		30
1,4-Dioxane	116		109		65-136	6		30
Freon-113	93		104		50-139	11		30
Methyl cyclohexane	96		108		70-130	12		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	122		124		70-130
Toluene-d8	95		94		70-130
4-Bromofluorobenzene	104		101		70-130
Dibromofluoromethane	114		115		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1306347-3 WG1306347-4								
Methylene chloride	107		103		70-130	4		30
1,1-Dichloroethane	105		98		70-130	7		30
Chloroform	110		104		70-130	6		30
Carbon tetrachloride	117		112		70-130	4		30
1,2-Dichloropropane	102		98		70-130	4		30
Dibromochloromethane	96		95		70-130	1		30
1,1,2-Trichloroethane	92		89		70-130	3		30
Tetrachloroethene	99		95		70-130	4		30
Chlorobenzene	90		86		70-130	5		30
Trichlorofluoromethane	166	Q	160	Q	70-139	4		30
1,2-Dichloroethane	114		109		70-130	4		30
1,1,1-Trichloroethane	113		107		70-130	5		30
Bromodichloromethane	108		103		70-130	5		30
trans-1,3-Dichloropropene	92		88		70-130	4		30
cis-1,3-Dichloropropene	107		102		70-130	5		30
Bromoform	91		87		70-130	4		30
1,1,2,2-Tetrachloroethane	77		74		70-130	4		30
Benzene	103		97		70-130	6		30
Toluene	88		83		70-130	6		30
Ethylbenzene	91		87		70-130	4		30
Chloromethane	90		84		52-130	7		30
Bromomethane	136		128		57-147	6		30
Vinyl chloride	111		103		67-130	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1306347-3 WG1306347-4								
Chloroethane	139		132		50-151	5		30
1,1-Dichloroethene	109		104		65-135	5		30
trans-1,2-Dichloroethene	109		104		70-130	5		30
Trichloroethene	108		103		70-130	5		30
1,2-Dichlorobenzene	90		85		70-130	6		30
1,3-Dichlorobenzene	90		86		70-130	5		30
1,4-Dichlorobenzene	89		84		70-130	6		30
Methyl tert butyl ether	113		110		66-130	3		30
p/m-Xylene	91		87		70-130	4		30
o-Xylene	90		87		70-130	3		30
cis-1,2-Dichloroethene	110		103		70-130	7		30
Styrene	92		89		70-130	3		30
Dichlorodifluoromethane	94		88		30-146	7		30
Acetone	112		113		54-140	1		30
Carbon disulfide	100		95		59-130	5		30
2-Butanone	113		108		70-130	5		30
4-Methyl-2-pentanone	82		78		70-130	5		30
2-Hexanone	77		75		70-130	3		30
Bromochloromethane	118		117		70-130	1		30
1,2-Dibromoethane	95		94		70-130	1		30
n-Butylbenzene	85		79		70-130	7		30
sec-Butylbenzene	81		76		70-130	6		30
1,2-Dibromo-3-chloropropane	88		84		68-130	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1306347-3 WG1306347-4								
Isopropylbenzene	80		74		70-130	8		30
p-Isopropyltoluene	85		80		70-130	6		30
n-Propylbenzene	81		75		70-130	8		30
1,2,3-Trichlorobenzene	96		91		70-130	5		30
1,2,4-Trichlorobenzene	95		90		70-130	5		30
1,3,5-Trimethylbenzene	82		77		70-130	6		30
1,2,4-Trimethylbenzene	83		78		70-130	6		30
Methyl Acetate	108		103		51-146	5		30
Cyclohexane	97		92		59-142	5		30
1,4-Dioxane	104		100		65-136	4		30
Freon-113	117		110		50-139	6		30
Methyl cyclohexane	105		98		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	100		98		70-130
Toluene-d8	83		81		70-130
4-Bromofluorobenzene	82		79		70-130
Dibromofluoromethane	107		105		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 QC Batch ID: WG1306305-6 WG1306305-7 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)												
Methylene chloride	ND	119	110	89		100	92		70-130	5		30
1,1-Dichloroethane	ND	119	130	113		130	116		70-130	5		30
Chloroform	ND	119	140	116		130	119		70-130	5		30
Carbon tetrachloride	ND	119	160	134	Q	150	140	Q	70-130	4		30
1,2-Dichloropropane	ND	119	130	106		120	111		70-130	3		30
Dibromochloromethane	ND	119	130	105		120	110		70-130	3		30
1,1,2-Trichloroethane	ND	119	110	91		100	94		70-130	4		30
Tetrachloroethene	ND	119	120	101		110	102		70-130	7		30
Chlorobenzene	ND	119	110	92		100	94		70-130	6		30
Trichlorofluoromethane	ND	119	160	132		150	135		70-139	5		30
1,2-Dichloroethane	ND	119	150	124		150	132	Q	70-130	2		30
1,1,1-Trichloroethane	ND	119	150	124		140	129		70-130	4		30
Bromodichloromethane	ND	119	140	115		130	121		70-130	3		30
trans-1,3-Dichloropropene	ND	119	130	108		120	112		70-130	4		30
cis-1,3-Dichloropropene	ND	119	130	112		130	117		70-130	3		30
Bromoform	ND	119	120	100		120	107		70-130	1		30
1,1,2,2-Tetrachloroethane	ND	119	92	77		93	85		70-130	1		30
Benzene	ND	119	120	101		120	105		70-130	3		30
Toluene	ND	119	120	97		110	98		70-130	6		30
Ethylbenzene	ND	119	120	98		110	100		70-130	6		30
Chloromethane	ND	119	94	79		89	81		52-130	5		30
Bromomethane	ND	119	120	103		120	106		57-147	5		30
Vinyl chloride	ND	119	120	98		110	100		67-130	6		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 QC Batch ID: WG1306305-6 WG1306305-7 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)												
Chloroethane	ND	119	140	119		140	124		50-151	4		30
1,1-Dichloroethene	ND	119	130	108		120	110		65-135	6		30
trans-1,2-Dichloroethene	ND	119	130	108		120	112		70-130	5		30
Trichloroethene	ND	119	140	113		130	116		70-130	5		30
1,2-Dichlorobenzene	ND	119	110	91		100	94		70-130	5		30
1,3-Dichlorobenzene	ND	119	110	92		100	94		70-130	6		30
1,4-Dichlorobenzene	ND	119	110	89		100	91		70-130	6		30
Methyl tert butyl ether	ND	119	140	116		140	124		66-130	1		30
p/m-Xylene	ND	238	230	96		210	97		70-130	6		30
o-Xylene	ND	238	230	95		210	97		70-130	6		30
cis-1,2-Dichloroethene	ND	119	130	109		120	113		70-130	5		30
Styrene	ND	238	240	101		230	103		70-130	6		30
Dichlorodifluoromethane	ND	119	72	60		67	61		30-146	6		30
Acetone	ND	119	140	121		150	134		54-140	3		30
Carbon disulfide	ND	119	110	96		110	98		59-130	5		30
2-Butanone	ND	119	130	106		130	114		70-130	0		30
4-Methyl-2-pentanone	ND	119	120	102		120	112		70-130	1		30
2-Hexanone	ND	119	120	103		120	113		70-130	1		30
Bromochloromethane	ND	119	130	113		130	119		70-130	2		30
1,2-Dibromoethane	ND	119	120	99		120	104		70-130	3		30
n-Butylbenzene	ND	119	110	90		100	91		70-130	7		30
sec-Butylbenzene	ND	119	110	92		100	94		70-130	6		30
1,2-Dibromo-3-chloropropane	ND	119	120	99		120	111		68-130	3		30

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 03 QC Batch ID: WG1306305-6 WG1306305-7 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)												
Isopropylbenzene	ND	119	120	98		110	100		70-130	5		30
p-Isopropyltoluene	ND	119	120	97		110	98		70-130	6		30
n-Propylbenzene	ND	119	110	93		110	95		70-130	6		30
1,2,3-Trichlorobenzene	ND	119	110	92		100	94		70-130	5		30
1,2,4-Trichlorobenzene	ND	119	110	92		100	94		70-130	7		30
1,3,5-Trimethylbenzene	ND	119	110	96		110	98		70-130	5		30
1,2,4-Trimethylbenzene	ND	119	120	97		110	98		70-130	6		30
Methyl Acetate	ND	119	140	118		140	131		51-146	2		30
Cyclohexane	ND	119	140	119		140	123		59-142	5		30
1,4-Dioxane	ND	5950	5700	96		6200	113		65-136	8		30
Freon-113	ND	119	130	112		130	114		50-139	5		30
Methyl cyclohexane	ND	119	130	112		130	116		70-130	4		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	123		127		70-130
4-Bromofluorobenzene	104		103		70-130
Dibromofluoromethane	115		115		70-130
Toluene-d8	95		95		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-01
 Client ID: EAST SIDEWALL #1 (11-13)
 Sample Location: BUFFALO

Date Collected: 11/06/19 11:15
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/08/19 18:10
 Analyst: EK
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 11/07/19 09:22

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	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	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	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	19.	1
Hexachlorobutadiene	ND		ug/kg	190	28.	1
Hexachlorocyclopentadiene	ND		ug/kg	550	170	1
Hexachloroethane	ND		ug/kg	150	31.	1
Isophorone	ND		ug/kg	170	25.	1
Naphthalene	ND		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	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	190	66.	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	65.	1
Diethyl phthalate	ND		ug/kg	190	18.	1
Dimethyl phthalate	ND		ug/kg	190	40.	1
Benzo(a)anthracene	ND		ug/kg	110	22.	1
Benzo(a)pyrene	ND		ug/kg	150	47.	1

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-01

Date Collected: 11/06/19 11:15

Client ID: EAST SIDEWALL #1 (11-13)

Date Received: 11/06/19

Sample Location: BUFFALO

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	31.	1
Chrysene	ND		ug/kg	110	20.	1
Acenaphthylene	ND		ug/kg	150	30.	1
Anthracene	ND		ug/kg	110	37.	1
Benzo(ghi)perylene	ND		ug/kg	150	22.	1
Fluorene	ND		ug/kg	190	19.	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	27.	1
Pyrene	ND		ug/kg	110	19.	1
Biphenyl	ND		ug/kg	440	44.	1
4-Chloroaniline	ND		ug/kg	190	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	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	23.	1
2,4-Dichlorophenol	ND		ug/kg	170	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	30.	1
2,4,5-Trichlorophenol	ND		ug/kg	190	37.	1
Carbazole	ND		ug/kg	190	19.	1
Atrazine	ND		ug/kg	150	67.	1
Benzaldehyde	ND		ug/kg	250	52.	1

Project Name: 441 ELMWOOD**Lab Number:** L1952809**Project Number:** B0500-019-001**Report Date:** 11/11/19**SAMPLE RESULTS****Lab ID:** L1952809-01**Date Collected:** 11/06/19 11:15**Client ID:** EAST SIDEWALL #1 (11-13)**Date Received:** 11/06/19**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	39.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	87		25-120
Phenol-d6	89		10-120
Nitrobenzene-d5	66		23-120
2-Fluorobiphenyl	69		30-120
2,4,6-Tribromophenol	108		10-136
4-Terphenyl-d14	68		18-120

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-02
 Client ID: BLIND DUP #2
 Sample Location: BUFFALO

Date Collected: 11/06/19 12:00
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/08/19 18:37
 Analyst: EK
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 11/07/19 09:22

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	51.	1
2,4-Dinitrotoluene	ND		ug/kg	190	38.	1
2,6-Dinitrotoluene	ND		ug/kg	190	33.	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	210	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	25.	1
Naphthalene	ND		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	66.	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	65.	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

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-02
 Client ID: BLIND DUP #2
 Sample Location: BUFFALO

Date Collected: 11/06/19 12:00
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
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	35.	1
2-Nitroaniline	ND		ug/kg	190	37.	1
3-Nitroaniline	ND		ug/kg	190	36.	1
4-Nitroaniline	ND		ug/kg	190	79.	1
Dibenzofuran	ND		ug/kg	190	18.	1
2-Methylnaphthalene	ND		ug/kg	230	23.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	190	20.	1
Acetophenone	ND		ug/kg	190	24.	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	31.	1
2,4-Dimethylphenol	ND		ug/kg	190	63.	1
2-Nitrophenol	ND		ug/kg	410	72.	1
4-Nitrophenol	ND		ug/kg	270	78.	1
2,4-Dinitrophenol	ND		ug/kg	920	89.	1
4,6-Dinitro-o-cresol	ND		ug/kg	500	92.	1
Pentachlorophenol	ND		ug/kg	150	42.	1
Phenol	ND		ug/kg	190	29.	1
2-Methylphenol	ND		ug/kg	190	30.	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	67.	1
Benzaldehyde	ND		ug/kg	250	52.	1

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-02
Client ID: BLIND DUP #2
Sample Location: BUFFALO

Date Collected: 11/06/19 12:00
Date Received: 11/06/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	58.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	84		25-120
Phenol-d6	87		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	65		30-120
2,4,6-Tribromophenol	102		10-136
4-Terphenyl-d14	67		18-120

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-03
 Client ID: EAST SIDEWALL #2 (10-12)
 Sample Location: BUFFALO

Date Collected: 11/06/19 15:18
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/08/19 19:03
 Analyst: EK
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 11/07/19 09:22

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	26.	1
2-Chloronaphthalene	ND		ug/kg	200	19.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	52.	1
2,4-Dinitrotoluene	ND		ug/kg	200	39.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	22.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	230	33.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	25.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	68.	1
Butyl benzyl phthalate	ND		ug/kg	200	49.	1
Di-n-butylphthalate	ND		ug/kg	200	37.	1
Di-n-octylphthalate	ND		ug/kg	200	66.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	41.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD

Lab Number: L1952809

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-03
 Client ID: EAST SIDEWALL #2 (10-12)
 Sample Location: BUFFALO

Date Collected: 11/06/19 15:18
 Date Received: 11/06/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	31.	1
Chrysene	ND		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	1
Dibenzo(a,h)anthracene	ND		ug/kg	120	22.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	160	27.	1
Pyrene	ND		ug/kg	120	19.	1
Biphenyl	ND		ug/kg	440	45.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	81.	1
Dibenzofuran	ND		ug/kg	200	18.	1
2-Methylnaphthalene	ND		ug/kg	230	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	20.	1
Acetophenone	ND		ug/kg	200	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	200	29.	1
2-Chlorophenol	ND		ug/kg	200	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	31.	1
2,4-Dimethylphenol	ND		ug/kg	200	64.	1
2-Nitrophenol	ND		ug/kg	420	73.	1
4-Nitrophenol	ND		ug/kg	270	80.	1
2,4-Dinitrophenol	ND		ug/kg	940	91.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	94.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	30.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	37.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	68.	1
Benzaldehyde	ND		ug/kg	260	53.	1

Project Name: 441 ELMWOOD**Lab Number:** L1952809**Project Number:** B0500-019-001**Report Date:** 11/11/19**SAMPLE RESULTS****Lab ID:** L1952809-03**Date Collected:** 11/06/19 15:18**Client ID:** EAST SIDEWALL #2 (10-12)**Date Received:** 11/06/19**Sample Location:** BUFFALO**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	59.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	39.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		25-120
Phenol-d6	80		10-120
Nitrobenzene-d5	60		23-120
2-Fluorobiphenyl	63		30-120
2,4,6-Tribromophenol	90		10-136
4-Terphenyl-d14	53		18-120

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/07/19 13:49
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/06/19 18:33

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1305456-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	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	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/07/19 13:49
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/06/19 18:33

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1305456-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/07/19 13:49
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/06/19 18:33

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-03 Batch: WG1305456-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	220	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	62		10-120
Nitrobenzene-d5	45		23-120
2-Fluorobiphenyl	57		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	74		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1305456-2 WG1305456-3								
Acenaphthene	72		77		31-137	7		50
Hexachlorobenzene	78		81		40-140	4		50
Bis(2-chloroethyl)ether	60		70		40-140	15		50
2-Chloronaphthalene	78		86		40-140	10		50
3,3'-Dichlorobenzidine	51		57		40-140	11		50
2,4-Dinitrotoluene	90		94		40-132	4		50
2,6-Dinitrotoluene	93		97		40-140	4		50
Fluoranthene	77		81		40-140	5		50
4-Chlorophenyl phenyl ether	79		83		40-140	5		50
4-Bromophenyl phenyl ether	82		85		40-140	4		50
Bis(2-chloroisopropyl)ether	56		65		40-140	15		50
Bis(2-chloroethoxy)methane	66		74		40-117	11		50
Hexachlorobutadiene	69		79		40-140	14		50
Hexachlorocyclopentadiene	46		54		40-140	16		50
Hexachloroethane	60		70		40-140	15		50
Isophorone	67		75		40-140	11		50
Naphthalene	66		75		40-140	13		50
Nitrobenzene	65		74		40-140	13		50
NDPA/DPA	78		83		36-157	6		50
n-Nitrosodi-n-propylamine	68		75		32-121	10		50
Bis(2-ethylhexyl)phthalate	86		91		40-140	6		50
Butyl benzyl phthalate	84		88		40-140	5		50
Di-n-butylphthalate	80		83		40-140	4		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1305456-2 WG1305456-3								
Di-n-octylphthalate	85		92		40-140	8		50
Diethyl phthalate	80		84		40-140	5		50
Dimethyl phthalate	87		90		40-140	3		50
Benzo(a)anthracene	77		82		40-140	6		50
Benzo(a)pyrene	75		82		40-140	9		50
Benzo(b)fluoranthene	76		82		40-140	8		50
Benzo(k)fluoranthene	79		85		40-140	7		50
Chrysene	74		79		40-140	7		50
Acenaphthylene	82		87		40-140	6		50
Anthracene	77		80		40-140	4		50
Benzo(ghi)perylene	79		85		40-140	7		50
Fluorene	77		82		40-140	6		50
Phenanthrene	73		76		40-140	4		50
Dibenzo(a,h)anthracene	76		83		40-140	9		50
Indeno(1,2,3-cd)pyrene	78		84		40-140	7		50
Pyrene	76		80		35-142	5		50
Biphenyl	78		84		37-127	7		50
4-Chloroaniline	45		51		40-140	13		50
2-Nitroaniline	93		99		47-134	6		50
3-Nitroaniline	58		64		26-129	10		50
4-Nitroaniline	72		78		41-125	8		50
Dibenzofuran	75		81		40-140	8		50
2-Methylnaphthalene	74		82		40-140	10		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1305456-2 WG1305456-3								
1,2,4,5-Tetrachlorobenzene	79		87		40-117	10		50
Acetophenone	66		76		14-144	14		50
2,4,6-Trichlorophenol	86		92		30-130	7		50
p-Chloro-m-cresol	84		88		26-103	5		50
2-Chlorophenol	69		80		25-102	15		50
2,4-Dichlorophenol	84		90		30-130	7		50
2,4-Dimethylphenol	76		82		30-130	8		50
2-Nitrophenol	84		94		30-130	11		50
4-Nitrophenol	84		89		11-114	6		50
2,4-Dinitrophenol	77		70		4-130	10		50
4,6-Dinitro-o-cresol	85		88		10-130	3		50
Pentachlorophenol	70		75		17-109	7		50
Phenol	61		68		26-90	11		50
2-Methylphenol	69		80		30-130	15		50
3-Methylphenol/4-Methylphenol	71		78		30-130	9		50
2,4,5-Trichlorophenol	92		94		30-130	2		50
Carbazole	75		80		54-128	6		50
Atrazine	90		92		40-140	2		50
Benzaldehyde	51		68		40-140	29		50
Caprolactam	83		86		15-130	4		50
2,3,4,6-Tetrachlorophenol	83		85		40-140	2		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 Batch: WG1305456-2 WG1305456-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	64		77		25-120
Phenol-d6	70		78		10-120
Nitrobenzene-d5	52		59		23-120
2-Fluorobiphenyl	63		67		30-120
2,4,6-Tribromophenol	84		91		10-136
4-Terphenyl-d14	63		65		18-120

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1305456-8 WG1305456-9 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)												
Acenaphthene	ND	1560	1100	71		1200	76		31-137	9		50
Hexachlorobenzene	ND	1560	1200	77		1400	89		40-140	15		50
Bis(2-chloroethyl)ether	ND	1560	1000	64		1100	70		40-140	10		50
2-Chloronaphthalene	ND	1560	1100	71		1300	82		40-140	17		50
3,3'-Dichlorobenzidine	ND	1560	1000	64		1100	70		40-140	10		50
2,4-Dinitrotoluene	ND	1560	1000	64		1200	76		40-132	18		50
2,6-Dinitrotoluene	ND	1560	1100	71		1200	76		40-140	9		50
Fluoranthene	ND	1560	1000	64		1200	76		40-140	18		50
4-Chlorophenyl phenyl ether	ND	1560	1100	71		1300	82		40-140	17		50
4-Bromophenyl phenyl ether	ND	1560	1200	77		1300	82		40-140	8		50
Bis(2-chloroisopropyl)ether	ND	1560	800	51		870	55		40-140	8		50
Bis(2-chloroethoxy)methane	ND	1560	1000	64		1100	70		40-117	10		50
Hexachlorobutadiene	ND	1560	1000	64		1200	76		40-140	18		50
Hexachlorocyclopentadiene	ND	1560	260J	17	Q	290J	18	Q	40-140	11		50
Hexachloroethane	ND	1560	780	50		860	54		40-140	10		50
Isophorone	ND	1560	1100	71		1100	70		40-140	0		50
Naphthalene	ND	1560	1100	71		1200	76		40-140	9		50
Nitrobenzene	ND	1560	1100	71		1200	76		40-140	9		50
NDPA/DPA	ND	1560	1100	71		1300	82		36-157	17		50
n-Nitrosodi-n-propylamine	ND	1560	1100	71		1100	70		32-121	0		50
Bis(2-ethylhexyl)phthalate	ND	1560	1300	83		1400	89		40-140	7		50
Butyl benzyl phthalate	ND	1560	1100	71		1200	76		40-140	9		50
Di-n-butylphthalate	ND	1560	1100	71		1200	76		40-140	9		50

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1305456-8 WG1305456-9 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)												
Di-n-octylphthalate	ND	1560	1300	83		1400	89		40-140	7		50
Diethyl phthalate	ND	1560	1100	71		1200	76		40-140	9		50
Dimethyl phthalate	ND	1560	1100	71		1200	76		40-140	9		50
Benzo(a)anthracene	ND	1560	1200	77		1300	82		40-140	8		50
Benzo(a)pyrene	ND	1560	1000	64		1200	76		40-140	18		50
Benzo(b)fluoranthene	ND	1560	1100	71		1300	82		40-140	17		50
Benzo(k)fluoranthene	ND	1560	1100	71		1200	76		40-140	9		50
Chrysene	ND	1560	1100	71		1200	76		40-140	9		50
Acenaphthylene	ND	1560	1200	77		1300	82		40-140	8		50
Anthracene	ND	1560	1100	71		1200	76		40-140	9		50
Benzo(ghi)perylene	ND	1560	900	58		990	63		40-140	10		50
Fluorene	ND	1560	1100	71		1300	82		40-140	17		50
Phenanthrene	ND	1560	1000	64		1100	70		40-140	10		50
Dibenzo(a,h)anthracene	ND	1560	960	62		1100	70		40-140	14		50
Indeno(1,2,3-cd)pyrene	ND	1560	940	60		1000	63		40-140	6		50
Pyrene	ND	1560	1000	64		1100	70		35-142	10		50
Biphenyl	ND	1560	1200	77		1300	82		37-127	8		50
4-Chloroaniline	ND	1560	1000	64		1100	70		40-140	10		50
2-Nitroaniline	ND	1560	1300	83		1500	95		47-134	14		50
3-Nitroaniline	ND	1560	1200	77		1300	82		26-129	8		50
4-Nitroaniline	ND	1560	1300	83		1400	89		41-125	7		50
Dibenzofuran	ND	1560	1100	71		1200	76		40-140	9		50
2-Methylnaphthalene	ND	1560	1200	77		1300	82		40-140	8		50

Matrix Spike Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1305456-8 WG1305456-9 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)												
1,2,4,5-Tetrachlorobenzene	ND	1560	1200	77		1300	82		40-117	8		50
Acetophenone	ND	1560	1100	71		1200	76		14-144	9		50
2,4,6-Trichlorophenol	ND	1560	1300	83		1400	89		30-130	7		50
p-Chloro-m-cresol	ND	1560	1200	77		1400	89		26-103	15		50
2-Chlorophenol	ND	1560	1200	77		1300	82		25-102	8		50
2,4-Dichlorophenol	ND	1560	1200	77		1400	89		30-130	15		50
2,4-Dimethylphenol	ND	1560	1200	77		1300	82		30-130	8		50
2-Nitrophenol	ND	1560	890	57		980	62		30-130	10		50
4-Nitrophenol	ND	1560	970	62		1000	63		11-114	3		50
2,4-Dinitrophenol	ND	1560	ND	0	Q	ND	0	Q	4-130	NC		50
4,6-Dinitro-o-cresol	ND	1560	100J	6	Q	100J	6	Q	10-130	0		50
Pentachlorophenol	ND	1560	880	56		1000	63		17-109	13		50
Phenol	ND	1560	1100	71		1200	76		26-90	9		50
2-Methylphenol	ND	1560	1200	77		1300	82		30-130.	8		50
3-Methylphenol/4-Methylphenol	ND	1560	1300	83		1400	89		30-130	7		50
2,4,5-Trichlorophenol	ND	1560	1300	83		1400	89		30-130	7		50
Carbazole	ND	1560	1100	71		1200	76		54-128	9		50
Atrazine	ND	1560	1100	71		1300	82		40-140	17		50
Benzaldehyde	ND	1560	1100	71		1200	76		40-140	9		50
Caprolactam	ND	1560	960	62		1100	70		15-130	14		50
2,3,4,6-Tetrachlorophenol	ND	1560	1200	77		1300	82		40-140	8		50

Matrix Spike Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD**Lab Number:** L1952809**Project Number:** B0500-019-001**Report Date:** 11/11/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1305456-8 WG1305456-9 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)

Surrogate	MS % Recovery	Qualifier	MSD % Recovery	Qualifier	Acceptance Criteria
2,4,6-Tribromophenol	86		96		10-136
2-Fluorobiphenyl	58		64		30-120
2-Fluorophenol	76		77		25-120
4-Terphenyl-d14	53		58		18-120
Nitrobenzene-d5	57		61		23-120
Phenol-d6	75		79		10-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1952809

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1952809-01

Client ID: EAST SIDEWALL #1 (11-13)

Sample Location: BUFFALO

Date Collected: 11/06/19 11:15

Date Received: 11/06/19

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.0		%	0.100	NA	1	-	11/07/19 04:13	121,2540G	YA



Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952809**Report Date:** 11/11/19**SAMPLE RESULTS****Lab ID:** L1952809-02**Client ID:** BLIND DUP #2**Sample Location:** BUFFALO**Date Collected:** 11/06/19 12:00**Date Received:** 11/06/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.1		%	0.100	NA	1	-	11/07/19 04:13	121,2540G	YA



Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952809**Report Date:** 11/11/19**SAMPLE RESULTS****Lab ID:** L1952809-03**Client ID:** EAST SIDEWALL #2 (10-12)**Sample Location:** BUFFALO**Date Collected:** 11/06/19 15:18**Date Received:** 11/06/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.7		%	0.100	NA	1	-	11/07/19 04:13	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1952809**Report Date:** 11/11/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1305588-1 QC Sample: L1952809-03 Client ID: EAST SIDEWALL #2 (10-12)						
Solids, Total	83.7	85.2	%	2		20

Project Name: 441 ELMWOOD**Lab Number:** L1952809**Project Number:** B0500-019-001**Report Date:** 11/11/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952809-01A	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-01B	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1952809-01X	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-01Y	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-01Z	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-02A	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-02B	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1952809-02X	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-02Y	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-02Z	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-03A	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-03A1	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-03A2	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-03B	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1952809-03B1	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1952809-03B2	Vial Large Septa unpreserved (4oz)	A	NA		3.4	Y	Absent		NYTCL-8270(14),TS(7)
L1952809-03X	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-03X1	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-03X2	Vial MeOH preserved split	A	NA		3.4	Y	Absent		NYTCL-8260-R2(14)
L1952809-03Y	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-03Y1	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-03Y2	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-03Z	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Serial_No:11111914:26
Lab Number: L1952809
Report Date: 11/11/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1952809-03Z1	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)
L1952809-03Z2	Vial Water preserved split	A	NA		3.4	Y	Absent	07-NOV-19 05:48	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1952809
Report Date: 11/11/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

[illegible]



ANALYTICAL REPORT

Lab Number:	L1953161
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	11/08/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1953161-01	BOTTOM #13 16.0'	SOIL	BUFFALO, NY	11/07/19 11:50	11/07/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

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

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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 Sturgis Melissa Sturgis

Title: Technical Director/Representative

Date: 11/08/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1953161-01
Client ID: BOTTOM #13 16.0'
Sample Location: BUFFALO, NY

Date Collected: 11/07/19 11:50
Date Received: 11/07/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 11/08/19 10:51
Analyst: MV
Percent Solids: 82%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.6	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.16	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.56	0.22	1
Chlorobenzene	ND		ug/kg	0.56	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.5	0.78	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	0.56	0.19	1
Bromodichloromethane	ND		ug/kg	0.56	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.31	1
cis-1,3-Dichloropropene	ND		ug/kg	0.56	0.18	1
Bromoform	ND		ug/kg	4.5	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.56	0.19	1
Benzene	1.7		ug/kg	0.56	0.19	1
Toluene	2.3		ug/kg	1.1	0.61	1
Ethylbenzene	29		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.5	1.0	1
Bromomethane	ND		ug/kg	2.2	0.66	1
Vinyl chloride	ND		ug/kg	1.1	0.38	1
Chloroethane	ND		ug/kg	2.2	0.51	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.27	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.15	1
Trichloroethene	ND		ug/kg	0.56	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.2	0.16	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1953161**Project Number:** B0500-019-001**Report Date:** 11/08/19**SAMPLE RESULTS**

Lab ID: L1953161-01
 Client ID: BOTTOM #13 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/07/19 11:50
 Date Received: 11/07/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.2	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.2	0.19	1
Methyl tert butyl ether	ND		ug/kg	2.2	0.23	1
p/m-Xylene	8.1		ug/kg	2.2	0.63	1
o-Xylene	2.5		ug/kg	1.1	0.33	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.4	1
Carbon disulfide	ND		ug/kg	11	5.1	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.3	1
Bromochloromethane	ND		ug/kg	2.2	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.31	1
n-Butylbenzene	2.6		ug/kg	1.1	0.19	1
sec-Butylbenzene	1.3		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	1.1	1
Isopropylbenzene	7.0		ug/kg	1.1	0.12	1
p-Isopropyltoluene	0.50	J	ug/kg	1.1	0.12	1
n-Propylbenzene	23		ug/kg	1.1	0.19	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.2	0.36	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.2	0.31	1
1,3,5-Trimethylbenzene	1.3	J	ug/kg	2.2	0.22	1
1,2,4-Trimethylbenzene	8.1		ug/kg	2.2	0.38	1
Methyl Acetate	ND		ug/kg	4.5	1.1	1
Cyclohexane	15		ug/kg	11	0.61	1
1,4-Dioxane	ND		ug/kg	90	40.	1
Freon-113	ND		ug/kg	4.5	0.78	1
Methyl cyclohexane	4.2	J	ug/kg	4.5	0.68	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	110		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	97		70-130



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/08/19 08:02
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1306380-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	0.74	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/08/19 08:02
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1306380-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/08/19 08:02
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1306380-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	109		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	96		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1953161

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1306380-3 WG1306380-4								
Methylene chloride	77		78		70-130	1		30
1,1-Dichloroethane	92		95		70-130	3		30
Chloroform	90		92		70-130	2		30
Carbon tetrachloride	97		97		70-130	0		30
1,2-Dichloropropane	89		92		70-130	3		30
Dibromochloromethane	102		105		70-130	3		30
1,1,2-Trichloroethane	92		95		70-130	3		30
Tetrachloroethene	105		104		70-130	1		30
Chlorobenzene	98		100		70-130	2		30
Trichlorofluoromethane	63	Q	60	Q	70-139	5		30
1,2-Dichloroethane	88		91		70-130	3		30
1,1,1-Trichloroethane	96		97		70-130	1		30
Bromodichloromethane	92		95		70-130	3		30
trans-1,3-Dichloropropene	102		106		70-130	4		30
cis-1,3-Dichloropropene	91		95		70-130	4		30
Bromoform	99		102		70-130	3		30
1,1,2,2-Tetrachloroethane	94		99		70-130	5		30
Benzene	88		90		70-130	2		30
Toluene	98		100		70-130	2		30
Ethylbenzene	101		103		70-130	2		30
Chloromethane	85		81		52-130	5		30
Bromomethane	49	Q	48	Q	57-147	2		30
Vinyl chloride	60	Q	58	Q	67-130	3		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1953161

Project Number: B0500-019-001

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1306380-3 WG1306380-4								
Chloroethane	42	Q	42	Q	50-151	0		30
1,1-Dichloroethene	86		86		65-135	0		30
trans-1,2-Dichloroethene	87		89		70-130	2		30
Trichloroethene	91		92		70-130	1		30
1,2-Dichlorobenzene	99		101		70-130	2		30
1,3-Dichlorobenzene	103		104		70-130	1		30
1,4-Dichlorobenzene	101		103		70-130	2		30
Methyl tert butyl ether	87		90		66-130	3		30
p/m-Xylene	101		102		70-130	1		30
o-Xylene	98		100		70-130	2		30
cis-1,2-Dichloroethene	85		88		70-130	3		30
Styrene	100		103		70-130	3		30
Dichlorodifluoromethane	55		45		30-146	20		30
Acetone	115		120		54-140	4		30
Carbon disulfide	81		80		59-130	1		30
2-Butanone	105		112		70-130	6		30
4-Methyl-2-pentanone	103		109		70-130	6		30
2-Hexanone	121		127		70-130	5		30
Bromochloromethane	82		83		70-130	1		30
1,2-Dibromoethane	95		99		70-130	4		30
n-Butylbenzene	111		110		70-130	1		30
sec-Butylbenzene	109		107		70-130	2		30
1,2-Dibromo-3-chloropropane	94		97		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1953161

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1306380-3 WG1306380-4								
Isopropylbenzene	108		107		70-130	1		30
p-Isopropyltoluene	110		108		70-130	2		30
n-Propylbenzene	108		110		70-130	2		30
1,2,3-Trichlorobenzene	100		102		70-130	2		30
1,2,4-Trichlorobenzene	106		108		70-130	2		30
1,3,5-Trimethylbenzene	107		108		70-130	1		30
1,2,4-Trimethylbenzene	107		108		70-130	1		30
Methyl Acetate	121		126		51-146	4		30
Cyclohexane	99		96		59-142	3		30
1,4-Dioxane	94		100		65-136	6		30
Freon-113	91		87		50-139	4		30
Methyl cyclohexane	90		87		70-130	3		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	105		106		70-130
Toluene-d8	111		111		70-130
4-Bromofluorobenzene	106		107		70-130
Dibromofluoromethane	98		100		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1953161-01
Client ID: BOTTOM #13 16.0'
Sample Location: BUFFALO, NY

Date Collected: 11/07/19 11:50
Date Received: 11/07/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 11/08/19 15:00
Analyst: JG
Percent Solids: 82%

Extraction Method: EPA 3546
Extraction Date: 11/08/19 05:24

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	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	53.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	220	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	570	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	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	69.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	38.	1
Di-n-octylphthalate	ND		ug/kg	200	68.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	42.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	49.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1953161

Project Number: B0500-019-001

Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1953161-01
 Client ID: BOTTOM #13 16.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/07/19 11:50
 Date Received: 11/07/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	34.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	21.	1
Acenaphthylene	ND		ug/kg	160	31.	1
Anthracene	ND		ug/kg	120	39.	1
Benzo(ghi)perylene	ND		ug/kg	160	24.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	38.	1
4-Nitroaniline	ND		ug/kg	200	83.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	24	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	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	66.	1
2-Nitrophenol	ND		ug/kg	430	75.	1
4-Nitrophenol	ND		ug/kg	280	82.	1
2,4-Dinitrophenol	ND		ug/kg	960	93.	1
4,6-Dinitro-o-cresol	ND		ug/kg	520	96.	1
Pentachlorophenol	ND		ug/kg	160	44.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	290	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	70.	1
Benzaldehyde	ND		ug/kg	260	54.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

SAMPLE RESULTS

Lab ID: L1953161-01
Client ID: BOTTOM #13 16.0'
Sample Location: BUFFALO, NY

Date Collected: 11/07/19 11:50
Date Received: 11/07/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	61.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	69		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	58		23-120
2-Fluorobiphenyl	68		30-120
2,4,6-Tribromophenol	116		10-136
4-Terphenyl-d14	71		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/08/19 01:17
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/07/19 17:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305995-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	98	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	98	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	18.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	150	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	150	24.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	57.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	56.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	98	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	98	28.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/08/19 01:17
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/07/19 17:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305995-1					
Benzo(k)fluoranthene	ND		ug/kg	98	26.
Chrysene	ND		ug/kg	98	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	98	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	98	20.
Dibenzo(a,h)anthracene	ND		ug/kg	98	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	98	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	32.
3-Nitroaniline	ND		ug/kg	160	31.
4-Nitroaniline	ND		ug/kg	160	68.
Dibenzofuran	ND		ug/kg	160	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	98	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	150	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	62.
4-Nitrophenol	ND		ug/kg	230	67.
2,4-Dinitrophenol	ND		ug/kg	790	76.
4,6-Dinitro-o-cresol	ND		ug/kg	430	79.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/08/19 01:17
Analyst: IM

Extraction Method: EPA 3546
Extraction Date: 11/07/19 17:00

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1305995-1					
Phenol	ND		ug/kg	160	25.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	220	44.
Caprolactam	ND		ug/kg	160	50.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	77		25-120
Phenol-d6	75		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	61		30-120
2,4,6-Tribromophenol	90		10-136
4-Terphenyl-d14	62		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1953161

Project Number: B0500-019-001

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305995-2 WG1305995-3								
Acenaphthene	76		92		31-137	19		50
Hexachlorobenzene	85		107		40-140	23		50
Bis(2-chloroethyl)ether	68		80		40-140	16		50
2-Chloronaphthalene	80		94		40-140	16		50
3,3'-Dichlorobenzidine	54		63		40-140	15		50
2,4-Dinitrotoluene	86		110		40-132	24		50
2,6-Dinitrotoluene	88		104		40-140	17		50
Fluoranthene	75		94		40-140	22		50
4-Chlorophenyl phenyl ether	77		95		40-140	21		50
4-Bromophenyl phenyl ether	83		102		40-140	21		50
Bis(2-chloroisopropyl)ether	52		62		40-140	18		50
Bis(2-chloroethoxy)methane	72		84		40-117	15		50
Hexachlorobutadiene	73		84		40-140	14		50
Hexachlorocyclopentadiene	74		90		40-140	20		50
Hexachloroethane	65		77		40-140	17		50
Isophorone	72		87		40-140	19		50
Naphthalene	76		88		40-140	15		50
Nitrobenzene	73		88		40-140	19		50
NDPA/DPA	79		99		36-157	22		50
n-Nitrosodi-n-propylamine	71		85		32-121	18		50
Bis(2-ethylhexyl)phthalate	84		107		40-140	24		50
Butyl benzyl phthalate	78		99		40-140	24		50
Di-n-butylphthalate	74		97		40-140	27		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1953161

Project Number: B0500-019-001

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305995-2 WG1305995-3								
Di-n-octylphthalate	87		111		40-140	24		50
Diethyl phthalate	81		101		40-140	22		50
Dimethyl phthalate	79		98		40-140	21		50
Benzo(a)anthracene	80		99		40-140	21		50
Benzo(a)pyrene	84		106		40-140	23		50
Benzo(b)fluoranthene	87		107		40-140	21		50
Benzo(k)fluoranthene	84		103		40-140	20		50
Chrysene	80		98		40-140	20		50
Acenaphthylene	81		99		40-140	20		50
Anthracene	79		94		40-140	17		50
Benzo(ghi)perylene	83		95		40-140	13		50
Fluorene	80		98		40-140	20		50
Phenanthrene	74		91		40-140	21		50
Dibenzo(a,h)anthracene	81		94		40-140	15		50
Indeno(1,2,3-cd)pyrene	81		95		40-140	16		50
Pyrene	73		93		35-142	24		50
Biphenyl	82		99		37-127	19		50
4-Chloroaniline	69		82		40-140	17		50
2-Nitroaniline	88		110		47-134	22		50
3-Nitroaniline	64		76		26-129	17		50
4-Nitroaniline	77		97		41-125	23		50
Dibenzofuran	78		97		40-140	22		50
2-Methylnaphthalene	77		94		40-140	20		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1953161

Project Number: B0500-019-001

Report Date: 11/08/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305995-2 WG1305995-3								
1,2,4,5-Tetrachlorobenzene	82		97		40-117	17		50
Acetophenone	78		92		14-144	16		50
2,4,6-Trichlorophenol	87		109		30-130	22		50
p-Chloro-m-cresol	86		107	Q	26-103	22		50
2-Chlorophenol	79		95		25-102	18		50
2,4-Dichlorophenol	84		104		30-130	21		50
2,4-Dimethylphenol	87		106		30-130	20		50
2-Nitrophenol	80		96		30-130	18		50
4-Nitrophenol	82		94		11-114	14		50
2,4-Dinitrophenol	59		71		4-130	18		50
4,6-Dinitro-o-cresol	76		96		10-130	23		50
Pentachlorophenol	66		81		17-109	20		50
Phenol	76		92	Q	26-90	19		50
2-Methylphenol	81		96		30-130	17		50
3-Methylphenol/4-Methylphenol	89		107		30-130	18		50
2,4,5-Trichlorophenol	89		109		30-130	20		50
Carbazole	76		95		54-128	22		50
Atrazine	86		101		40-140	16		50
Benzaldehyde	73		85		40-140	15		50
Caprolactam	76		94		15-130	21		50
2,3,4,6-Tetrachlorophenol	80		101		40-140	23		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE**Lab Number:** L1953161**Project Number:** B0500-019-001**Report Date:** 11/08/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1305995-2 WG1305995-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	78		94		25-120
Phenol-d6	78		95		10-120
Nitrobenzene-d5	58		69		23-120
2-Fluorobiphenyl	61		73		30-120
2,4,6-Tribromophenol	90		113		10-136
4-Terphenyl-d14	59		76		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1953161**Report Date:** 11/08/19**SAMPLE RESULTS****Lab ID:** L1953161-01**Client ID:** BOTTOM #13 16.0'**Sample Location:** BUFFALO, NY**Date Collected:** 11/07/19 11:50**Date Received:** 11/07/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.1		%	0.100	NA	1	-	11/08/19 04:50	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1953161**Report Date:** 11/08/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1306160-1 QC Sample: L1953094-03 Client ID: DUP Sample						
Solids, Total	86.4	87.9	%	2		20

Project Name: 441 ELMWOOD AVE**Lab Number:** L1953161**Project Number:** B0500-019-001**Report Date:** 11/08/19**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1953161-01A	Vial Large Septa unpreserved (4oz)	A	NA		5.0	Y	Absent		NYTCL-8260-R2(14)
L1953161-01B	Vial Large Septa unpreserved (4oz)	A	NA		5.0	Y	Absent		NYTCL-8270(14),TS(7)
L1953161-01X	Vial MeOH preserved split	A	NA		5.0	Y	Absent		NYTCL-8260-R2(14)
L1953161-01Y	Vial Water preserved split	A	NA		5.0	Y	Absent	08-NOV-19 05:00	NYTCL-8260-R2(14)
L1953161-01Z	Vial Water preserved split	A	NA		5.0	Y	Absent	08-NOV-19 05:00	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE**Lab Number:** L1953161**Project Number:** B0500-019-001**Report Date:** 11/08/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953161
Report Date: 11/08/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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



ANALYTICAL REPORT

Lab Number:	L1953494
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	11/11/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1953494-01	BOTTOM #14 17.0'	SOIL	BUFFALO, NY	11/08/19 13:10	11/08/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

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

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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: *Tiffani Morrissey* - Tiffani Morrissey

Title: Technical Director/Representative

Date: 11/11/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1953494-01
Client ID: BOTTOM #14 17.0'
Sample Location: BUFFALO, NY

Date Collected: 11/08/19 13:10
Date Received: 11/08/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260C
Analytical Date: 11/11/19 09:46
Analyst: MV
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.3	2.4	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.15	1
Chloroform	ND		ug/kg	1.6	0.15	1
Carbon tetrachloride	ND		ug/kg	1.1	0.24	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.13	1
Dibromochloromethane	ND		ug/kg	1.1	0.15	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.28	1
Tetrachloroethene	ND		ug/kg	0.53	0.21	1
Chlorobenzene	ND		ug/kg	0.53	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.3	0.74	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.27	1
1,1,1-Trichloroethane	ND		ug/kg	0.53	0.18	1
Bromodichloromethane	ND		ug/kg	0.53	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.29	1
cis-1,3-Dichloropropene	ND		ug/kg	0.53	0.17	1
Bromoform	ND		ug/kg	4.3	0.26	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.53	0.18	1
Benzene	ND		ug/kg	0.53	0.18	1
Toluene	ND		ug/kg	1.1	0.58	1
Ethylbenzene	ND		ug/kg	1.1	0.15	1
Chloromethane	ND		ug/kg	4.3	1.0	1
Bromomethane	ND		ug/kg	2.1	0.62	1
Vinyl chloride	ND		ug/kg	1.1	0.36	1
Chloroethane	ND		ug/kg	2.1	0.48	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.15	1
Trichloroethene	ND		ug/kg	0.53	0.15	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	0.15	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1953494**Project Number:** B0500-019-001**Report Date:** 11/11/19**SAMPLE RESULTS**

Lab ID: L1953494-01
 Client ID: BOTTOM #14 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/08/19 13:10
 Date Received: 11/08/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.1	0.16	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.1	0.21	1
p/m-Xylene	ND		ug/kg	2.1	0.60	1
o-Xylene	ND		ug/kg	1.1	0.31	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.19	1
Styrene	ND		ug/kg	1.1	0.21	1
Dichlorodifluoromethane	ND		ug/kg	11	0.98	1
Acetone	ND		ug/kg	11	5.1	1
Carbon disulfide	ND		ug/kg	11	4.8	1
2-Butanone	ND		ug/kg	11	2.4	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.4	1
2-Hexanone	ND		ug/kg	11	1.2	1
Bromochloromethane	ND		ug/kg	2.1	0.22	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.30	1
n-Butylbenzene	ND		ug/kg	1.1	0.18	1
sec-Butylbenzene	ND		ug/kg	1.1	0.16	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.2	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	ND		ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.18	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.1	0.34	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	0.29	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	0.21	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	0.36	1
Methyl Acetate	ND		ug/kg	4.3	1.0	1
Cyclohexane	ND		ug/kg	11	0.58	1
1,4-Dioxane	ND		ug/kg	85	37.	1
Freon-113	ND		ug/kg	4.3	0.74	1
Methyl cyclohexane	ND		ug/kg	4.3	0.64	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	99		70-130



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/11/19 07:33
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1307066-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	ND		ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/11/19 07:33
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1307066-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/11/19 07:33
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1307066-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	98		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1953494

Project Number: B0500-019-001

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1307066-3 WG1307066-4								
Methylene chloride	96		93		70-130	3		30
1,1-Dichloroethane	100		94		70-130	6		30
Chloroform	90		86		70-130	5		30
Carbon tetrachloride	88		82		70-130	7		30
1,2-Dichloropropane	105		102		70-130	3		30
Dibromochloromethane	92		90		70-130	2		30
1,1,2-Trichloroethane	98		94		70-130	4		30
Tetrachloroethene	91		85		70-130	7		30
Chlorobenzene	93		89		70-130	4		30
Trichlorofluoromethane	83		77		70-139	8		30
1,2-Dichloroethane	87		85		70-130	2		30
1,1,1-Trichloroethane	91		85		70-130	7		30
Bromodichloromethane	94		90		70-130	4		30
trans-1,3-Dichloropropene	97		94		70-130	3		30
cis-1,3-Dichloropropene	102		100		70-130	2		30
Bromoform	92		93		70-130	1		30
1,1,2,2-Tetrachloroethane	100		101		70-130	1		30
Benzene	99		94		70-130	5		30
Toluene	97		91		70-130	6		30
Ethylbenzene	94		88		70-130	7		30
Chloromethane	71		64		52-130	10		30
Bromomethane	68		66		57-147	3		30
Vinyl chloride	84		77		67-130	9		30

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1953494

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1307066-3 WG1307066-4								
Chloroethane	77		73		50-151	5		30
1,1-Dichloroethene	89		88		65-135	1		30
trans-1,2-Dichloroethene	99		92		70-130	7		30
Trichloroethene	97		90		70-130	7		30
1,2-Dichlorobenzene	94		92		70-130	2		30
1,3-Dichlorobenzene	95		91		70-130	4		30
1,4-Dichlorobenzene	93		91		70-130	2		30
Methyl tert butyl ether	99		97		66-130	2		30
p/m-Xylene	96		89		70-130	8		30
o-Xylene	94		89		70-130	5		30
cis-1,2-Dichloroethene	100		95		70-130	5		30
Styrene	95		91		70-130	4		30
Dichlorodifluoromethane	43		39		30-146	10		30
Acetone	102		88		54-140	15		30
Carbon disulfide	87		85		59-130	2		30
2-Butanone	94		84		70-130	11		30
4-Methyl-2-pentanone	107		106		70-130	1		30
2-Hexanone	91		90		70-130	1		30
Bromochloromethane	96		93		70-130	3		30
1,2-Dibromoethane	97		95		70-130	2		30
n-Butylbenzene	98		92		70-130	6		30
sec-Butylbenzene	96		92		70-130	4		30
1,2-Dibromo-3-chloropropane	93		94		68-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1953494

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1307066-3 WG1307066-4								
Isopropylbenzene	97		93		70-130	4		30
p-Isopropyltoluene	97		93		70-130	4		30
n-Propylbenzene	98		94		70-130	4		30
1,2,3-Trichlorobenzene	94		92		70-130	2		30
1,2,4-Trichlorobenzene	96		94		70-130	2		30
1,3,5-Trimethylbenzene	94		91		70-130	3		30
1,2,4-Trimethylbenzene	95		91		70-130	4		30
Methyl Acetate	112		110		51-146	2		30
Cyclohexane	110		101		59-142	9		30
1,4-Dioxane	126		128		65-136	2		30
Freon-113	93		93		50-139	0		30
Methyl cyclohexane	109		102		70-130	7		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		89		70-130
Toluene-d8	100		101		70-130
4-Bromofluorobenzene	105		109		70-130
Dibromofluoromethane	98		100		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1953494-01
Client ID: BOTTOM #14 17.0'
Sample Location: BUFFALO, NY

Date Collected: 11/08/19 13:10
Date Received: 11/08/19
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270D
Analytical Date: 11/10/19 22:25
Analyst: EK
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 11/09/19 04:05

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	18.	1
3,3'-Dichlorobenzidine	ND		ug/kg	190	50.	1
2,4-Dinitrotoluene	ND		ug/kg	190	37.	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	28.	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	27.	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

Project Name: 441 ELMWOOD AVE

Lab Number: L1953494

Project Number: B0500-019-001

Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1953494-01
 Client ID: BOTTOM #14 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/08/19 13:10
 Date Received: 11/08/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	32.	1
Benzo(k)fluoranthene	ND		ug/kg	110	30.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	150	29.	1
Anthracene	ND		ug/kg	110	36.	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	43.	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	ND		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	70.	1
4-Nitrophenol	ND		ug/kg	260	76.	1
2,4-Dinitrophenol	ND		ug/kg	900	87.	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	50.	1

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

SAMPLE RESULTS

Lab ID: L1953494-01
Client ID: BOTTOM #14 17.0'
Sample Location: BUFFALO, NY

Date Collected: 11/08/19 13:10
Date Received: 11/08/19
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	190	57.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	190	38.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	86		25-120
Phenol-d6	86		10-120
Nitrobenzene-d5	64		23-120
2-Fluorobiphenyl	69		30-120
2,4,6-Tribromophenol	100		10-136
4-Terphenyl-d14	60		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/11/19 12:57
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/09/19 02:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1306621-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	97	18.
Bis(2-chloroethyl)ether	ND		ug/kg	140	22.
2-Chloronaphthalene	ND		ug/kg	160	16.
3,3'-Dichlorobenzidine	ND		ug/kg	160	43.
2,4-Dinitrotoluene	ND		ug/kg	160	32.
2,6-Dinitrotoluene	ND		ug/kg	160	28.
Fluoranthene	ND		ug/kg	97	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	160	17.
4-Bromophenyl phenyl ether	ND		ug/kg	160	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	190	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	16.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	460	150
Hexachloroethane	ND		ug/kg	130	26.
Isophorone	ND		ug/kg	140	21.
Naphthalene	ND		ug/kg	160	20.
Nitrobenzene	ND		ug/kg	140	24.
NDPA/DPA	ND		ug/kg	130	18.
n-Nitrosodi-n-propylamine	ND		ug/kg	160	25.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	56.
Butyl benzyl phthalate	ND		ug/kg	160	41.
Di-n-butylphthalate	ND		ug/kg	160	31.
Di-n-octylphthalate	ND		ug/kg	160	55.
Diethyl phthalate	ND		ug/kg	160	15.
Dimethyl phthalate	ND		ug/kg	160	34.
Benzo(a)anthracene	ND		ug/kg	97	18.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	97	27.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/11/19 12:57
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/09/19 02:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1306621-1					
Benzo(k)fluoranthene	ND		ug/kg	97	26.
Chrysene	ND		ug/kg	97	17.
Acenaphthylene	ND		ug/kg	130	25.
Anthracene	ND		ug/kg	97	32.
Benzo(ghi)perylene	ND		ug/kg	130	19.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	97	20.
Dibenzo(a,h)anthracene	ND		ug/kg	97	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	97	16.
Biphenyl	ND		ug/kg	370	38.
4-Chloroaniline	ND		ug/kg	160	30.
2-Nitroaniline	ND		ug/kg	160	31.
3-Nitroaniline	ND		ug/kg	160	30.
4-Nitroaniline	ND		ug/kg	160	67.
Dibenzofuran	ND		ug/kg	160	15.
2-Methylnaphthalene	ND		ug/kg	190	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	160	17.
Acetophenone	ND		ug/kg	160	20.
2,4,6-Trichlorophenol	ND		ug/kg	97	31.
p-Chloro-m-cresol	ND		ug/kg	160	24.
2-Chlorophenol	ND		ug/kg	160	19.
2,4-Dichlorophenol	ND		ug/kg	140	26.
2,4-Dimethylphenol	ND		ug/kg	160	54.
2-Nitrophenol	ND		ug/kg	350	61.
4-Nitrophenol	ND		ug/kg	230	66.
2,4-Dinitrophenol	ND		ug/kg	780	76.
4,6-Dinitro-o-cresol	ND		ug/kg	420	78.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 11/11/19 12:57
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/09/19 02:56

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1306621-1					
Phenol	ND		ug/kg	160	24.
2-Methylphenol	ND		ug/kg	160	25.
3-Methylphenol/4-Methylphenol	ND		ug/kg	230	25.
2,4,5-Trichlorophenol	ND		ug/kg	160	31.
Carbazole	ND		ug/kg	160	16.
Atrazine	ND		ug/kg	130	57.
Benzaldehyde	ND		ug/kg	210	44.
Caprolactam	ND		ug/kg	160	49.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	160	33.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	78		25-120
Phenol-d6	78		10-120
Nitrobenzene-d5	57		23-120
2-Fluorobiphenyl	62		30-120
2,4,6-Tribromophenol	96		10-136
4-Terphenyl-d14	69		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1953494

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1306621-2 WG1306621-3								
Acenaphthene	96		85		31-137	12		50
Hexachlorobenzene	104		98		40-140	6		50
Bis(2-chloroethyl)ether	81		77		40-140	5		50
2-Chloronaphthalene	94		88		40-140	7		50
3,3'-Dichlorobenzidine	68		67		40-140	1		50
2,4-Dinitrotoluene	107		100		40-132	7		50
2,6-Dinitrotoluene	100		99		40-140	1		50
Fluoranthene	91		91		40-140	0		50
4-Chlorophenyl phenyl ether	96		91		40-140	5		50
4-Bromophenyl phenyl ether	102		92		40-140	10		50
Bis(2-chloroisopropyl)ether	63		60		40-140	5		50
Bis(2-chloroethoxy)methane	82		77		40-117	6		50
Hexachlorobutadiene	86		81		40-140	6		50
Hexachlorocyclopentadiene	83		77		40-140	8		50
Hexachloroethane	78		73		40-140	7		50
Isophorone	81		79		40-140	3		50
Naphthalene	90		84		40-140	7		50
Nitrobenzene	85		80		40-140	6		50
NDPA/DPA	99		91		36-157	8		50
n-Nitrosodi-n-propylamine	83		79		32-121	5		50
Bis(2-ethylhexyl)phthalate	104		101		40-140	3		50
Butyl benzyl phthalate	96		95		40-140	1		50
Di-n-butylphthalate	94		93		40-140	1		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1953494

Project Number: B0500-019-001

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1306621-2 WG1306621-3								
Di-n-octylphthalate	107		104		40-140	3		50
Diethyl phthalate	98		94		40-140	4		50
Dimethyl phthalate	93		90		40-140	3		50
Benzo(a)anthracene	98		96		40-140	2		50
Benzo(a)pyrene	97		94		40-140	3		50
Benzo(b)fluoranthene	104		101		40-140	3		50
Benzo(k)fluoranthene	98		95		40-140	3		50
Chrysene	95		92		40-140	3		50
Acenaphthylene	96		92		40-140	4		50
Anthracene	92		90		40-140	2		50
Benzo(ghi)perylene	97		96		40-140	1		50
Fluorene	97		90		40-140	7		50
Phenanthrene	88		85		40-140	3		50
Dibenzo(a,h)anthracene	95		95		40-140	0		50
Indeno(1,2,3-cd)pyrene	97		97		40-140	0		50
Pyrene	88		87		35-142	1		50
Biphenyl	97		92		37-127	5		50
4-Chloroaniline	75		70		40-140	7		50
2-Nitroaniline	103		101		47-134	2		50
3-Nitroaniline	64		59		26-129	8		50
4-Nitroaniline	96		89		41-125	8		50
Dibenzofuran	97		90		40-140	7		50
2-Methylnaphthalene	93		87		40-140	7		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1953494

Project Number: B0500-019-001

Report Date: 11/11/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1306621-2 WG1306621-3								
1,2,4,5-Tetrachlorobenzene	96		95		40-117	1		50
Acetophenone	88		84		14-144	5		50
2,4,6-Trichlorophenol	104		101		30-130	3		50
p-Chloro-m-cresol	100		100		26-103	0		50
2-Chlorophenol	94		88		25-102	7		50
2,4-Dichlorophenol	97		94		30-130	3		50
2,4-Dimethylphenol	97		90		30-130	7		50
2-Nitrophenol	92		88		30-130	4		50
4-Nitrophenol	95		90		11-114	5		50
2,4-Dinitrophenol	92		90		4-130	2		50
4,6-Dinitro-o-cresol	102		92		10-130	10		50
Pentachlorophenol	90		83		17-109	8		50
Phenol	89		86		26-90	3		50
2-Methylphenol	94		90		30-130.	4		50
3-Methylphenol/4-Methylphenol	101		98		30-130	3		50
2,4,5-Trichlorophenol	103		104		30-130	1		50
Carbazole	92		92		54-128	0		50
Atrazine	97		100		40-140	3		50
Benzaldehyde	85		79		40-140	7		50
Caprolactam	92		90		15-130	2		50
2,3,4,6-Tetrachlorophenol	102		96		40-140	6		50

Lab Control Sample Analysis**Batch Quality Control****Project Name:** 441 ELMWOOD AVE**Lab Number:** L1953494**Project Number:** B0500-019-001**Report Date:** 11/11/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1306621-2 WG1306621-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	92		85		25-120
Phenol-d6	88		84		10-120
Nitrobenzene-d5	62		61		23-120
2-Fluorobiphenyl	68		66		30-120
2,4,6-Tribromophenol	105		100		10-136
4-Terphenyl-d14	68		68		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1953494**Report Date:** 11/11/19**SAMPLE RESULTS****Lab ID:** L1953494-01**Client ID:** BOTTOM #14 17.0'**Sample Location:** BUFFALO, NY**Date Collected:** 11/08/19 13:10**Date Received:** 11/08/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	11/09/19 04:35	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1953494**Report Date:** 11/11/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1306631-1 QC Sample: L1953389-01 Client ID: DUP Sample						
Solids, Total	87.3	87.0	%	0		20

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Serial_No:11111915:53
Lab Number: L1953494
Report Date: 11/11/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1953494-01A	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1953494-01B	Vial Large Septa unpreserved (4oz)	A	NA		4.9	Y	Absent		NYTCL-8270(14),TS(7)
L1953494-01X	Vial MeOH preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1953494-01Y	Vial Water preserved split	A	NA		4.9	Y	Absent		NYTCL-8260-R2(14)
L1953494-01Z	Vial Water preserved split	A	NA		4.9	Y	Absent	09-NOV-19 04:18	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE**Lab Number:** L1953494**Project Number:** B0500-019-001**Report Date:** 11/11/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1953494
Report Date: 11/11/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 15

Published Date: 8/15/2019 9:53:42 AM

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Certification Information

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

Westborough Facility**EPA 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B, SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

[illegible]



ANALYTICAL REPORT

Lab Number:	L1953742
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD
Project Number:	B0500-019-001
Report Date:	11/12/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1953742-01	BOTTOM #15 17.0'	SOIL	BUFFALO, NY	11/11/19 14:50	11/11/19

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

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

Any reported concentrations that are below 200 ug/kg may be biased low due to the sample not being collected according to 5035-L/5035A-L low-level specifications.

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

Authorized Signature:



Cristin Walker

Title: Technical Director/Representative

Date: 11/12/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD**Lab Number:** L1953742**Project Number:** B0500-019-001**Report Date:** 11/12/19**SAMPLE RESULTS**

Lab ID: L1953742-01
 Client ID: BOTTOM #15 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/11/19 14:50
 Date Received: 11/11/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/12/19 10:47
 Analyst: MV
 Percent Solids: 89%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.2	2.4	1
1,1-Dichloroethane	ND		ug/kg	1.0	0.15	1
Chloroform	ND		ug/kg	1.6	0.14	1
Carbon tetrachloride	ND		ug/kg	1.0	0.24	1
1,2-Dichloropropane	ND		ug/kg	1.0	0.13	1
Dibromochloromethane	ND		ug/kg	1.0	0.14	1
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.28	1
Tetrachloroethene	ND		ug/kg	0.52	0.20	1
Chlorobenzene	ND		ug/kg	0.52	0.13	1
Trichlorofluoromethane	ND		ug/kg	4.2	0.72	1
1,2-Dichloroethane	ND		ug/kg	1.0	0.27	1
1,1,1-Trichloroethane	ND		ug/kg	0.52	0.17	1
Bromodichloromethane	ND		ug/kg	0.52	0.11	1
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.28	1
cis-1,3-Dichloropropene	ND		ug/kg	0.52	0.16	1
Bromoform	ND		ug/kg	4.2	0.26	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.52	0.17	1
Benzene	ND		ug/kg	0.52	0.17	1
Toluene	ND		ug/kg	1.0	0.56	1
Ethylbenzene	ND		ug/kg	1.0	0.15	1
Chloromethane	ND		ug/kg	4.2	0.97	1
Bromomethane	ND		ug/kg	2.1	0.60	1
Vinyl chloride	ND		ug/kg	1.0	0.35	1
Chloroethane	ND		ug/kg	2.1	0.47	1
1,1-Dichloroethene	ND		ug/kg	1.0	0.25	1
trans-1,2-Dichloroethene	ND		ug/kg	1.6	0.14	1
Trichloroethene	ND		ug/kg	0.52	0.14	1
1,2-Dichlorobenzene	ND		ug/kg	2.1	0.15	1

Project Name: 441 ELMWOOD

Lab Number: L1953742

Project Number: B0500-019-001

Report Date: 11/12/19

SAMPLE RESULTS

Lab ID: L1953742-01
 Client ID: BOTTOM #15 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/11/19 14:50
 Date Received: 11/11/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.1	0.15	1
1,4-Dichlorobenzene	ND		ug/kg	2.1	0.18	1
Methyl tert butyl ether	ND		ug/kg	2.1	0.21	1
p/m-Xylene	ND		ug/kg	2.1	0.58	1
o-Xylene	ND		ug/kg	1.0	0.30	1
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18	1
Styrene	ND		ug/kg	1.0	0.20	1
Dichlorodifluoromethane	ND		ug/kg	10	0.95	1
Acetone	ND		ug/kg	10	5.0	1
Carbon disulfide	ND		ug/kg	10	4.7	1
2-Butanone	ND		ug/kg	10	2.3	1
4-Methyl-2-pentanone	ND		ug/kg	10	1.3	1
2-Hexanone	ND		ug/kg	10	1.2	1
Bromochloromethane	ND		ug/kg	2.1	0.21	1
1,2-Dibromoethane	ND		ug/kg	1.0	0.29	1
n-Butylbenzene	ND		ug/kg	1.0	0.17	1
sec-Butylbenzene	ND		ug/kg	1.0	0.15	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.1	1.0	1
Isopropylbenzene	ND		ug/kg	1.0	0.11	1
p-Isopropyltoluene	ND		ug/kg	1.0	0.11	1
n-Propylbenzene	ND		ug/kg	1.0	0.18	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.1	0.33	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.1	0.28	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.1	0.20	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.1	0.35	1
Methyl Acetate	ND		ug/kg	4.2	0.99	1
Cyclohexane	ND		ug/kg	10	0.56	1
1,4-Dioxane	ND		ug/kg	83	36.	1
Freon-113	ND		ug/kg	4.2	0.72	1
Methyl cyclohexane	ND		ug/kg	4.2	0.63	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	93		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	94		70-130

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/12/19 07:30
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1307490-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	0.14	J	ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	0.80	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/12/19 07:30
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1307490-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 11/12/19 07:30
Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01 Batch: WG1307490-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Toluene-d8	89		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	93		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1953742

Report Date: 11/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1307490-3 WG1307490-4								
Methylene chloride	96		86		70-130	11		30
1,1-Dichloroethane	98		85		70-130	14		30
Chloroform	84		83		70-130	1		30
Carbon tetrachloride	89		88		70-130	1		30
1,2-Dichloropropane	89		90		70-130	1		30
Dibromochloromethane	93		93		70-130	0		30
1,1,2-Trichloroethane	87		86		70-130	1		30
Tetrachloroethene	83		82		70-130	1		30
Chlorobenzene	84		83		70-130	1		30
Trichlorofluoromethane	90		84		70-139	7		30
1,2-Dichloroethane	84		84		70-130	0		30
1,1,1-Trichloroethane	86		85		70-130	1		30
Bromodichloromethane	86		86		70-130	0		30
trans-1,3-Dichloropropene	75		76		70-130	1		30
cis-1,3-Dichloropropene	78		79		70-130	1		30
Bromoform	91		91		70-130	0		30
1,1,2,2-Tetrachloroethane	86		85		70-130	1		30
Benzene	84		82		70-130	2		30
Toluene	82		80		70-130	2		30
Ethylbenzene	84		82		70-130	2		30
Chloromethane	70		74		52-130	6		30
Bromomethane	84		89		57-147	6		30
Vinyl chloride	79		76		67-130	4		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1953742

Report Date: 11/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1307490-3 WG1307490-4								
Chloroethane	86		85		50-151	1		30
1,1-Dichloroethene	92		86		65-135	7		30
trans-1,2-Dichloroethene	92		86		70-130	7		30
Trichloroethene	88		86		70-130	2		30
1,2-Dichlorobenzene	90		91		70-130	1		30
1,3-Dichlorobenzene	91		90		70-130	1		30
1,4-Dichlorobenzene	90		90		70-130	0		30
Methyl tert butyl ether	110		99		66-130	11		30
p/m-Xylene	85		85		70-130	0		30
o-Xylene	86		86		70-130	0		30
cis-1,2-Dichloroethene	89		86		70-130	3		30
Styrene	91		91		70-130	0		30
Dichlorodifluoromethane	59		59		30-146	0		30
Acetone	133		99		54-140	29		30
Carbon disulfide	86		76		59-130	12		30
2-Butanone	132	Q	103		70-130	25		30
4-Methyl-2-pentanone	104		100		70-130	4		30
2-Hexanone	101		96		70-130	5		30
Bromochloromethane	97		97		70-130	0		30
1,2-Dibromoethane	89		89		70-130	0		30
n-Butylbenzene	82		81		70-130	1		30
sec-Butylbenzene	86		85		70-130	1		30
1,2-Dibromo-3-chloropropane	100		100		68-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01 Batch: WG1307490-3 WG1307490-4								
Isopropylbenzene	85		84		70-130	1		30
p-Isopropyltoluene	89		89		70-130	0		30
n-Propylbenzene	83		82		70-130	1		30
1,2,3-Trichlorobenzene	94		94		70-130	0		30
1,2,4-Trichlorobenzene	96		97		70-130	1		30
1,3,5-Trimethylbenzene	86		85		70-130	1		30
1,2,4-Trimethylbenzene	87		86		70-130	1		30
Methyl Acetate	140		114		51-146	20		30
Cyclohexane	95		92		59-142	3		30
1,4-Dioxane	104		100		65-136	4		30
Freon-113	96		90		50-139	6		30
Methyl cyclohexane	91		89		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		88		70-130
Toluene-d8	88		88		70-130
4-Bromofluorobenzene	91		91		70-130
Dibromofluoromethane	94		95		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD

Lab Number: L1953742

Project Number: B0500-019-001

Report Date: 11/12/19

SAMPLE RESULTS

Lab ID: L1953742-01
 Client ID: BOTTOM #15 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/11/19 14:50
 Date Received: 11/11/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/12/19 14:30
 Analyst: EK
 Percent Solids: 89%

Extraction Method: EPA 3546
 Extraction Date: 11/12/19 04:33

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	25.	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	27.	1
Hexachlorocyclopentadiene	ND		ug/kg	520	160	1
Hexachloroethane	ND		ug/kg	140	29.	1
Isophorone	ND		ug/kg	160	24.	1
Naphthalene	ND		ug/kg	180	22.	1
Nitrobenzene	ND		ug/kg	160	27.	1
NDPA/DPA	ND		ug/kg	140	21.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	180	28.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	180	63.	1
Butyl benzyl phthalate	ND		ug/kg	180	46.	1
Di-n-butylphthalate	ND		ug/kg	180	34.	1
Di-n-octylphthalate	ND		ug/kg	180	62.	1
Diethyl phthalate	ND		ug/kg	180	17.	1
Dimethyl phthalate	ND		ug/kg	180	38.	1
Benzo(a)anthracene	ND		ug/kg	110	20.	1
Benzo(a)pyrene	ND		ug/kg	140	44.	1

Project Name: 441 ELMWOOD

Lab Number: L1953742

Project Number: B0500-019-001

Report Date: 11/12/19

SAMPLE RESULTS

Lab ID: L1953742-01
 Client ID: BOTTOM #15 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/11/19 14:50
 Date Received: 11/11/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	110	31.	1
Benzo(k)fluoranthene	ND		ug/kg	110	29.	1
Chrysene	ND		ug/kg	110	19.	1
Acenaphthylene	ND		ug/kg	140	28.	1
Anthracene	ND		ug/kg	110	36.	1
Benzo(ghi)perylene	ND		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	ND		ug/kg	140	25.	1
Pyrene	ND		ug/kg	110	18.	1
Biphenyl	ND		ug/kg	420	42.	1
4-Chloroaniline	ND		ug/kg	180	33.	1
2-Nitroaniline	ND		ug/kg	180	35.	1
3-Nitroaniline	ND		ug/kg	180	34.	1
4-Nitroaniline	ND		ug/kg	180	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	22.	1
2,4-Dichlorophenol	ND		ug/kg	160	29.	1
2,4-Dimethylphenol	ND		ug/kg	180	60.	1
2-Nitrophenol	ND		ug/kg	390	68.	1
4-Nitrophenol	ND		ug/kg	250	74.	1
2,4-Dinitrophenol	ND		ug/kg	870	85.	1
4,6-Dinitro-o-cresol	ND		ug/kg	470	87.	1
Pentachlorophenol	ND		ug/kg	140	40.	1
Phenol	ND		ug/kg	180	28.	1
2-Methylphenol	ND		ug/kg	180	28.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	260	28.	1
2,4,5-Trichlorophenol	ND		ug/kg	180	35.	1
Carbazole	ND		ug/kg	180	18.	1
Atrazine	ND		ug/kg	140	64.	1
Benzaldehyde	ND		ug/kg	240	49.	1

Project Name: 441 ELMWOOD**Lab Number:** L1953742**Project Number:** B0500-019-001**Report Date:** 11/12/19**SAMPLE RESULTS**

Lab ID: L1953742-01
 Client ID: BOTTOM #15 17.0'
 Sample Location: BUFFALO, NY

Date Collected: 11/11/19 14:50
 Date Received: 11/11/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	180	55.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	180	37.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	67		25-120
Phenol-d6	72		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	52		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	55		18-120

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/12/19 13:21
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/11/19 18:36

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1307284-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	19.
Bis(2-chloroethyl)ether	ND		ug/kg	150	22.
2-Chloronaphthalene	ND		ug/kg	170	16.
3,3'-Dichlorobenzidine	ND		ug/kg	170	44.
2,4-Dinitrotoluene	ND		ug/kg	170	33.
2,6-Dinitrotoluene	ND		ug/kg	170	28.
Fluoranthene	ND		ug/kg	100	19.
4-Chlorophenyl phenyl ether	ND		ug/kg	170	18.
4-Bromophenyl phenyl ether	ND		ug/kg	170	25.
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	28.
Bis(2-chloroethoxy)methane	ND		ug/kg	180	17.
Hexachlorobutadiene	ND		ug/kg	170	24.
Hexachlorocyclopentadiene	ND		ug/kg	480	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
Naphthalene	ND		ug/kg	170	20.
Nitrobenzene	ND		ug/kg	150	25.
NDPA/DPA	ND		ug/kg	130	19.
n-Nitrosodi-n-propylamine	ND		ug/kg	170	26.
Bis(2-ethylhexyl)phthalate	ND		ug/kg	170	58.
Butyl benzyl phthalate	ND		ug/kg	170	42.
Di-n-butylphthalate	ND		ug/kg	170	32.
Di-n-octylphthalate	ND		ug/kg	170	57.
Diethyl phthalate	ND		ug/kg	170	15.
Dimethyl phthalate	ND		ug/kg	170	35.
Benzo(a)anthracene	ND		ug/kg	100	19.
Benzo(a)pyrene	ND		ug/kg	130	41.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/12/19 13:21
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/11/19 18:36

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1307284-1					
Benzo(k)fluoranthene	ND		ug/kg	100	27.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	170	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	16.
Biphenyl	ND		ug/kg	380	39.
4-Chloroaniline	ND		ug/kg	170	30.
2-Nitroaniline	ND		ug/kg	170	32.
3-Nitroaniline	ND		ug/kg	170	31.
4-Nitroaniline	ND		ug/kg	170	69.
Dibenzofuran	ND		ug/kg	170	16.
2-Methylnaphthalene	ND		ug/kg	200	20.
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	170	17.
Acetophenone	ND		ug/kg	170	21.
2,4,6-Trichlorophenol	ND		ug/kg	100	32.
p-Chloro-m-cresol	ND		ug/kg	170	25.
2-Chlorophenol	ND		ug/kg	170	20.
2,4-Dichlorophenol	ND		ug/kg	150	27.
2,4-Dimethylphenol	ND		ug/kg	170	55.
2-Nitrophenol	ND		ug/kg	360	63.
4-Nitrophenol	ND		ug/kg	230	68.
2,4-Dinitrophenol	ND		ug/kg	800	78.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	37.

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

**Method Blank Analysis
Batch Quality Control**

Analytical Method: 1,8270D
Analytical Date: 11/12/19 13:21
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/11/19 18:36

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1307284-1					
Phenol	ND		ug/kg	170	25.
2-Methylphenol	ND		ug/kg	170	26.
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	26.
2,4,5-Trichlorophenol	ND		ug/kg	170	32.
Carbazole	ND		ug/kg	170	16.
Atrazine	ND		ug/kg	130	58.
Benzaldehyde	ND		ug/kg	220	45.
Caprolactam	ND		ug/kg	170	51.
2,3,4,6-Tetrachlorophenol	ND		ug/kg	170	34.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	80		25-120
Phenol-d6	85		10-120
Nitrobenzene-d5	68		23-120
2-Fluorobiphenyl	61		30-120
2,4,6-Tribromophenol	100		10-136
4-Terphenyl-d14	72		18-120

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1953742

Report Date: 11/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1307284-2 WG1307284-3								
Acenaphthene	83		83		31-137	0		50
Hexachlorobenzene	89		88		40-140	1		50
Bis(2-chloroethyl)ether	78		80		40-140	3		50
2-Chloronaphthalene	82		84		40-140	2		50
3,3'-Dichlorobenzidine	59		60		40-140	2		50
2,4-Dinitrotoluene	92		90		40-132	2		50
2,6-Dinitrotoluene	90		90		40-140	0		50
Fluoranthene	83		85		40-140	2		50
4-Chlorophenyl phenyl ether	86		83		40-140	4		50
4-Bromophenyl phenyl ether	89		87		40-140	2		50
Bis(2-chloroisopropyl)ether	80		82		40-140	2		50
Bis(2-chloroethoxy)methane	84		84		40-117	0		50
Hexachlorobutadiene	74		74		40-140	0		50
Hexachlorocyclopentadiene	52		54		40-140	4		50
Hexachloroethane	78		76		40-140	3		50
Isophorone	89		90		40-140	1		50
Naphthalene	78		80		40-140	3		50
Nitrobenzene	82		84		40-140	2		50
NDPA/DPA	89		88		36-157	1		50
n-Nitrosodi-n-propylamine	90		90		32-121	0		50
Bis(2-ethylhexyl)phthalate	93		94		40-140	1		50
Butyl benzyl phthalate	92		94		40-140	2		50
Di-n-butylphthalate	87		89		40-140	2		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1953742

Report Date: 11/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1307284-2 WG1307284-3								
Di-n-octylphthalate	92		95		40-140	3		50
Diethyl phthalate	92		89		40-140	3		50
Dimethyl phthalate	90		90		40-140	0		50
Benzo(a)anthracene	86		87		40-140	1		50
Benzo(a)pyrene	83		84		40-140	1		50
Benzo(b)fluoranthene	87		90		40-140	3		50
Benzo(k)fluoranthene	87		86		40-140	1		50
Chrysene	84		84		40-140	0		50
Acenaphthylene	87		88		40-140	1		50
Anthracene	82		83		40-140	1		50
Benzo(ghi)perylene	86		85		40-140	1		50
Fluorene	86		85		40-140	1		50
Phenanthrene	79		80		40-140	1		50
Dibenzo(a,h)anthracene	86		88		40-140	2		50
Indeno(1,2,3-cd)pyrene	87		89		40-140	2		50
Pyrene	82		83		35-142	1		50
Biphenyl	85		86		37-127	1		50
4-Chloroaniline	81		80		40-140	1		50
2-Nitroaniline	94		93		47-134	1		50
3-Nitroaniline	74		75		26-129	1		50
4-Nitroaniline	84		83		41-125	1		50
Dibenzofuran	83		82		40-140	1		50
2-Methylnaphthalene	80		82		40-140	2		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1953742

Report Date: 11/12/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1307284-2 WG1307284-3								
1,2,4,5-Tetrachlorobenzene	82		86		40-117	5		50
Acetophenone	84		86		14-144	2		50
2,4,6-Trichlorophenol	87		87		30-130	0		50
p-Chloro-m-cresol	91		90		26-103	1		50
2-Chlorophenol	84		84		25-102	0		50
2,4-Dichlorophenol	92		92		30-130	0		50
2,4-Dimethylphenol	88		86		30-130	2		50
2-Nitrophenol	102		103		30-130	1		50
4-Nitrophenol	94		93		11-114	1		50
2,4-Dinitrophenol	21		18		4-130	15		50
4,6-Dinitro-o-cresol	83		81		10-130	2		50
Pentachlorophenol	67		67		17-109	0		50
Phenol	78		78		26-90	0		50
2-Methylphenol	88		90		30-130.	2		50
3-Methylphenol/4-Methylphenol	96		95		30-130	1		50
2,4,5-Trichlorophenol	90		88		30-130	2		50
Carbazole	84		86		54-128	2		50
Atrazine	109		107		40-140	2		50
Benzaldehyde	76		75		40-140	1		50
Caprolactam	110		109		15-130	1		50
2,3,4,6-Tetrachlorophenol	85		89		40-140	5		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD

Project Number: B0500-019-001

Lab Number: L1953742

Report Date: 11/12/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1307284-2 WG1307284-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	82		82		25-120
Phenol-d6	86		87		10-120
Nitrobenzene-d5	68		70		23-120
2-Fluorobiphenyl	65		65		30-120
2,4,6-Tribromophenol	100		102		10-136
4-Terphenyl-d14	66		68		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1953742**Report Date:** 11/12/19**SAMPLE RESULTS****Lab ID:** L1953742-01**Client ID:** BOTTOM #15 17.0'**Sample Location:** BUFFALO, NY**Date Collected:** 11/11/19 14:50**Date Received:** 11/11/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.9		%	0.100	NA	1	-	11/12/19 04:11	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD**Project Number:** B0500-019-001**Lab Number:** L1953742**Report Date:** 11/12/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1307370-1 QC Sample: L1951605-25 Client ID: DUP Sample						
Solids, Total	89.0	89.2	%	0		20

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Serial_No:11121915:57
Lab Number: L1953742
Report Date: 11/12/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1953742-01A	Vial Large Septa unpreserved (4oz)	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1953742-01B	Vial Large Septa unpreserved (4oz)	A	NA		3.0	Y	Absent		NYTCL-8270(14),TS(7)
L1953742-01X	Vial MeOH preserved split	A	NA		3.0	Y	Absent		NYTCL-8260-R2(14)
L1953742-01Y	Vial Water preserved split	A	NA		3.0	Y	Absent	12-NOV-19 04:01	NYTCL-8260-R2(14)
L1953742-01Z	Vial Water preserved split	A	NA		3.0	Y	Absent	12-NOV-19 08:26	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD
Project Number: B0500-019-001

Lab Number: L1953742
Report Date: 11/12/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.**EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1** Hg.**SM2340B**

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

 NEW YORK CHAIN OF CUSTODY	Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105	Page 1 of 1	Date Rec'd in Lab 11/12/19	ALPHA Job # 11953742	
Westborough, MA 01581 8 Walkup Dr. TEL: 508-898-9220 FAX: 508-898-9193	Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288	Project Information Project Name: Benchmark Energy 441 Elmwood Project Location: Buffalo NY Project # B0500-019-001 (Use Project name as Project #) [X] Project Manager: Nate Marley ALPHAQuote #: Turn-Around Time Standard [] Due Date: Rush (only if pre approved) [X] # of Days: 24 hr		Deliverables [] ASP-A [] ASP-B [] EQUIS (1 File) [] EQUIS (4 File) [] Other Regulatory Requirement [] NY TOGS [] NY Part 375 [] AWQ Standards [] NY CP-51 [] NY Restricted Use [] Other [] NY Unrestricted Use [] NYC Sewer Discharge	Billing Information [] Same as Client Info PO # Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: [] NJ [] NY [] Other:
Client Information Client: Benchmark Energy Address: 2558 Harkness Tupper Lake, New York Phone: (716) 818-8358 Fax: (716) 856-0583 Email:					
These samples have been previously analyzed by Alpha []		ANALYSIS			
Other project specific requirements/comments: CATB		Sample Filtration [] Done [] Lab to do Preservation [] Lab to do (Please Specify below)			
Please specify Metals or TAL.		Sample Specific Comments			
ALPHA Lab ID (Lab Use Only)	Sample ID	Collection DateTime	Sample Matrix	Sampler's Initials	TOTAL Bottles
53742 71	Bottom #15 170"	11/11/19 1750	Soil	TAD	2
Preservative Code: A = None B = HCl C = HNO3 D = H2SO4 E = NaOH F = MeOH G = NaHSO4 H = Na2S2O3 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 AA Preservative AA	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: [Signature]		Date/Time 11/11/19 1550 11/11/19 1620	Received By: [Signature] 11/12/19 0130		
Form No: 01-25 HC (rev. 30-Sept-2013)					



ANALYTICAL REPORT

Lab Number:	L1954234
Client:	Benchmark & Turnkey Companies 2558 Hamburg Turnpike Suite 300 Buffalo, NY 14218
ATTN:	Nate Munley
Phone:	(716) 225-3314
Project Name:	441 ELMWOOD AVE
Project Number:	B0500-019-001
Report Date:	11/14/19

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), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1954234-01	EAST SIDEWALL #3 (11-13)	SOIL	BUFFALO, NY	11/13/19 09:38	11/13/19
L1954234-02	EAST SIDEWALL #4 (10-12)	SOIL	BUFFALO, NY	11/13/19 12:30	11/13/19

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Case Narrative

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

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

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

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

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

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

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

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

L1954234-01: The sample collection time was obtained from the container labels.

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

Authorized Signature:

 Kelly Stenstrom

Title: Technical Director/Representative

Date: 11/14/19

ORGANICS

VOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19**SAMPLE RESULTS**

Lab ID: L1954234-01
 Client ID: EAST SIDEWALL #3 (11-13)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 09:38
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/14/19 13:29
 Analyst: KJD
 Percent Solids: 77%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	6.2	2.8	1
1,1-Dichloroethane	ND		ug/kg	1.2	0.18	1
Chloroform	ND		ug/kg	1.8	0.17	1
Carbon tetrachloride	ND		ug/kg	1.2	0.28	1
1,2-Dichloropropane	ND		ug/kg	1.2	0.15	1
Dibromochloromethane	ND		ug/kg	1.2	0.17	1
1,1,2-Trichloroethane	ND		ug/kg	1.2	0.33	1
Tetrachloroethene	ND		ug/kg	0.62	0.24	1
Chlorobenzene	ND		ug/kg	0.62	0.16	1
Trichlorofluoromethane	ND		ug/kg	4.9	0.86	1
1,2-Dichloroethane	ND		ug/kg	1.2	0.32	1
1,1,1-Trichloroethane	ND		ug/kg	0.62	0.20	1
Bromodichloromethane	ND		ug/kg	0.62	0.13	1
trans-1,3-Dichloropropene	ND		ug/kg	1.2	0.34	1
cis-1,3-Dichloropropene	ND		ug/kg	0.62	0.19	1
Bromoform	ND		ug/kg	4.9	0.30	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.62	0.20	1
Benzene	ND		ug/kg	0.62	0.20	1
Toluene	ND		ug/kg	1.2	0.67	1
Ethylbenzene	ND		ug/kg	1.2	0.17	1
Chloromethane	ND		ug/kg	4.9	1.1	1
Bromomethane	ND		ug/kg	2.5	0.72	1
Vinyl chloride	ND		ug/kg	1.2	0.41	1
Chloroethane	ND		ug/kg	2.5	0.56	1
1,1-Dichloroethene	ND		ug/kg	1.2	0.29	1
trans-1,2-Dichloroethene	ND		ug/kg	1.8	0.17	1
Trichloroethene	ND		ug/kg	0.62	0.17	1
1,2-Dichlorobenzene	ND		ug/kg	2.5	0.18	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19**SAMPLE RESULTS**

Lab ID: L1954234-01
 Client ID: EAST SIDEWALL #3 (11-13)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 09:38
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.5	0.18	1
1,4-Dichlorobenzene	ND		ug/kg	2.5	0.21	1
Methyl tert butyl ether	ND		ug/kg	2.5	0.25	1
p/m-Xylene	ND		ug/kg	2.5	0.69	1
o-Xylene	ND		ug/kg	1.2	0.36	1
cis-1,2-Dichloroethene	ND		ug/kg	1.2	0.22	1
Styrene	ND		ug/kg	1.2	0.24	1
Dichlorodifluoromethane	ND		ug/kg	12	1.1	1
Acetone	ND		ug/kg	12	5.9	1
Carbon disulfide	ND		ug/kg	12	5.6	1
2-Butanone	ND		ug/kg	12	2.7	1
4-Methyl-2-pentanone	ND		ug/kg	12	1.6	1
2-Hexanone	ND		ug/kg	12	1.4	1
Bromochloromethane	ND		ug/kg	2.5	0.25	1
1,2-Dibromoethane	ND		ug/kg	1.2	0.34	1
n-Butylbenzene	ND		ug/kg	1.2	0.20	1
sec-Butylbenzene	ND		ug/kg	1.2	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.7	1.2	1
Isopropylbenzene	ND		ug/kg	1.2	0.13	1
p-Isopropyltoluene	ND		ug/kg	1.2	0.13	1
n-Propylbenzene	ND		ug/kg	1.2	0.21	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.5	0.40	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.5	0.33	1
1,3,5-Trimethylbenzene	ND		ug/kg	2.5	0.24	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.5	0.41	1
Methyl Acetate	ND		ug/kg	4.9	1.2	1
Cyclohexane	ND		ug/kg	12	0.67	1
1,4-Dioxane	ND		ug/kg	98	43.	1
Freon-113	ND		ug/kg	4.9	0.85	1
Methyl cyclohexane	ND		ug/kg	4.9	0.74	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	87		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	92		70-130



Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19**SAMPLE RESULTS**

Lab ID: L1954234-02
 Client ID: EAST SIDEWALL #4 (10-12)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 12:30
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260C
 Analytical Date: 11/14/19 12:10
 Analyst: JC
 Percent Solids: 83%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/kg	5.7	2.6	1
1,1-Dichloroethane	ND		ug/kg	1.1	0.17	1
Chloroform	ND		ug/kg	1.7	0.16	1
Carbon tetrachloride	ND		ug/kg	1.1	0.26	1
1,2-Dichloropropane	ND		ug/kg	1.1	0.14	1
Dibromochloromethane	ND		ug/kg	1.1	0.16	1
1,1,2-Trichloroethane	ND		ug/kg	1.1	0.30	1
Tetrachloroethene	ND		ug/kg	0.57	0.22	1
Chlorobenzene	ND		ug/kg	0.57	0.14	1
Trichlorofluoromethane	ND		ug/kg	4.6	0.80	1
1,2-Dichloroethane	ND		ug/kg	1.1	0.29	1
1,1,1-Trichloroethane	ND		ug/kg	0.57	0.19	1
Bromodichloromethane	ND		ug/kg	0.57	0.12	1
trans-1,3-Dichloropropene	ND		ug/kg	1.1	0.31	1
cis-1,3-Dichloropropene	ND		ug/kg	0.57	0.18	1
Bromoform	ND		ug/kg	4.6	0.28	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.57	0.19	1
Benzene	ND		ug/kg	0.57	0.19	1
Toluene	ND		ug/kg	1.1	0.62	1
Ethylbenzene	ND		ug/kg	1.1	0.16	1
Chloromethane	ND		ug/kg	4.6	1.1	1
Bromomethane	ND		ug/kg	2.3	0.66	1
Vinyl chloride	ND		ug/kg	1.1	0.38	1
Chloroethane	ND		ug/kg	2.3	0.52	1
1,1-Dichloroethene	ND		ug/kg	1.1	0.27	1
trans-1,2-Dichloroethene	ND		ug/kg	1.7	0.16	1
Trichloroethene	ND		ug/kg	0.57	0.16	1
1,2-Dichlorobenzene	ND		ug/kg	2.3	0.16	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19**SAMPLE RESULTS**

Lab ID: L1954234-02
 Client ID: EAST SIDEWALL #4 (10-12)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 12:30
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/kg	2.3	0.17	1
1,4-Dichlorobenzene	ND		ug/kg	2.3	0.20	1
Methyl tert butyl ether	ND		ug/kg	2.3	0.23	1
p/m-Xylene	ND		ug/kg	2.3	0.64	1
o-Xylene	13		ug/kg	1.1	0.33	1
cis-1,2-Dichloroethene	ND		ug/kg	1.1	0.20	1
Styrene	ND		ug/kg	1.1	0.22	1
Dichlorodifluoromethane	ND		ug/kg	11	1.0	1
Acetone	ND		ug/kg	11	5.5	1
Carbon disulfide	ND		ug/kg	11	5.2	1
2-Butanone	ND		ug/kg	11	2.5	1
4-Methyl-2-pentanone	ND		ug/kg	11	1.5	1
2-Hexanone	ND		ug/kg	11	1.4	1
Bromochloromethane	ND		ug/kg	2.3	0.23	1
1,2-Dibromoethane	ND		ug/kg	1.1	0.32	1
n-Butylbenzene	ND		ug/kg	1.1	0.19	1
sec-Butylbenzene	ND		ug/kg	1.1	0.17	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.4	1.1	1
Isopropylbenzene	ND		ug/kg	1.1	0.12	1
p-Isopropyltoluene	0.13	J	ug/kg	1.1	0.12	1
n-Propylbenzene	ND		ug/kg	1.1	0.20	1
1,2,3-Trichlorobenzene	ND		ug/kg	2.3	0.37	1
1,2,4-Trichlorobenzene	ND		ug/kg	2.3	0.31	1
1,3,5-Trimethylbenzene	5.4		ug/kg	2.3	0.22	1
1,2,4-Trimethylbenzene	ND		ug/kg	2.3	0.38	1
Methyl Acetate	ND		ug/kg	4.6	1.1	1
Cyclohexane	ND		ug/kg	11	0.62	1
1,4-Dioxane	ND		ug/kg	92	40.	1
Freon-113	ND		ug/kg	4.6	0.79	1
Methyl cyclohexane	ND		ug/kg	4.6	0.69	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	88		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	90		70-130

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/14/19 10:12
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1308817-5					
Methylene chloride	ND		ug/kg	5.0	2.3
1,1-Dichloroethane	ND		ug/kg	1.0	0.14
Chloroform	ND		ug/kg	1.5	0.14
Carbon tetrachloride	ND		ug/kg	1.0	0.23
1,2-Dichloropropane	ND		ug/kg	1.0	0.12
Dibromochloromethane	ND		ug/kg	1.0	0.14
1,1,2-Trichloroethane	ND		ug/kg	1.0	0.27
Tetrachloroethene	ND		ug/kg	0.50	0.20
Chlorobenzene	ND		ug/kg	0.50	0.13
Trichlorofluoromethane	ND		ug/kg	4.0	0.70
1,2-Dichloroethane	ND		ug/kg	1.0	0.26
1,1,1-Trichloroethane	ND		ug/kg	0.50	0.17
Bromodichloromethane	ND		ug/kg	0.50	0.11
trans-1,3-Dichloropropene	ND		ug/kg	1.0	0.27
cis-1,3-Dichloropropene	ND		ug/kg	0.50	0.16
Bromoform	ND		ug/kg	4.0	0.25
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	0.17
Benzene	ND		ug/kg	0.50	0.17
Toluene	ND		ug/kg	1.0	0.54
Ethylbenzene	ND		ug/kg	1.0	0.14
Chloromethane	ND		ug/kg	4.0	0.93
Bromomethane	1.2	J	ug/kg	2.0	0.58
Vinyl chloride	ND		ug/kg	1.0	0.34
Chloroethane	ND		ug/kg	2.0	0.45
1,1-Dichloroethene	ND		ug/kg	1.0	0.24
trans-1,2-Dichloroethene	ND		ug/kg	1.5	0.14
Trichloroethene	ND		ug/kg	0.50	0.14
1,2-Dichlorobenzene	ND		ug/kg	2.0	0.14
1,3-Dichlorobenzene	ND		ug/kg	2.0	0.15

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/14/19 10:12
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1308817-5					
1,4-Dichlorobenzene	ND		ug/kg	2.0	0.17
Methyl tert butyl ether	ND		ug/kg	2.0	0.20
p/m-Xylene	ND		ug/kg	2.0	0.56
o-Xylene	ND		ug/kg	1.0	0.29
cis-1,2-Dichloroethene	ND		ug/kg	1.0	0.18
Styrene	ND		ug/kg	1.0	0.20
Dichlorodifluoromethane	ND		ug/kg	10	0.92
Acetone	ND		ug/kg	10	4.8
Carbon disulfide	ND		ug/kg	10	4.6
2-Butanone	ND		ug/kg	10	2.2
4-Methyl-2-pentanone	ND		ug/kg	10	1.3
2-Hexanone	ND		ug/kg	10	1.2
Bromochloromethane	ND		ug/kg	2.0	0.20
1,2-Dibromoethane	ND		ug/kg	1.0	0.28
n-Butylbenzene	ND		ug/kg	1.0	0.17
sec-Butylbenzene	ND		ug/kg	1.0	0.15
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	1.0
Isopropylbenzene	ND		ug/kg	1.0	0.11
p-Isopropyltoluene	ND		ug/kg	1.0	0.11
n-Propylbenzene	ND		ug/kg	1.0	0.17
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	0.32
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	0.27
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	0.19
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	0.33
Methyl Acetate	ND		ug/kg	4.0	0.95
Cyclohexane	ND		ug/kg	10	0.54
1,4-Dioxane	ND		ug/kg	80	35.
Freon-113	ND		ug/kg	4.0	0.69
Methyl cyclohexane	ND		ug/kg	4.0	0.60

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 11/14/19 10:12
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1308817-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	88		70-130
4-Bromofluorobenzene	94		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1308817-3 WG1308817-4								
Methylene chloride	96		94		70-130	2		30
1,1-Dichloroethane	94		93		70-130	1		30
Chloroform	91		91		70-130	0		30
Carbon tetrachloride	99		99		70-130	0		30
1,2-Dichloropropane	97		97		70-130	0		30
Dibromochloromethane	99		100		70-130	1		30
1,1,2-Trichloroethane	91		90		70-130	1		30
Tetrachloroethene	89		88		70-130	1		30
Chlorobenzene	90		89		70-130	1		30
Trichlorofluoromethane	106		99		70-139	7		30
1,2-Dichloroethane	92		92		70-130	0		30
1,1,1-Trichloroethane	95		95		70-130	0		30
Bromodichloromethane	93		93		70-130	0		30
trans-1,3-Dichloropropene	81		82		70-130	1		30
cis-1,3-Dichloropropene	86		86		70-130	0		30
Bromoform	95		95		70-130	0		30
1,1,2,2-Tetrachloroethane	88		98		70-130	11		30
Benzene	90		90		70-130	0		30
Toluene	88		87		70-130	1		30
Ethylbenzene	90		90		70-130	0		30
Chloromethane	91		91		52-130	0		30
Bromomethane	109		107		57-147	2		30
Vinyl chloride	84		88		67-130	5		30

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1308817-3 WG1308817-4								
Chloroethane	110		110		50-151	0		30
1,1-Dichloroethene	96		95		65-135	1		30
trans-1,2-Dichloroethene	94		94		70-130	0		30
Trichloroethene	96		95		70-130	1		30
1,2-Dichlorobenzene	96		95		70-130	1		30
1,3-Dichlorobenzene	97		96		70-130	1		30
1,4-Dichlorobenzene	96		95		70-130	1		30
Methyl tert butyl ether	106		105		66-130	1		30
p/m-Xylene	94		91		70-130	3		30
o-Xylene	96		94		70-130	2		30
cis-1,2-Dichloroethene	95		94		70-130	1		30
Styrene	101		102		70-130	1		30
Dichlorodifluoromethane	62		67		30-146	8		30
Acetone	102		104		54-140	2		30
Carbon disulfide	83		82		59-130	1		30
2-Butanone	108		109		70-130	1		30
4-Methyl-2-pentanone	104		106		70-130	2		30
2-Hexanone	100		102		70-130	2		30
Bromochloromethane	104		103		70-130	1		30
1,2-Dibromoethane	94		94		70-130	0		30
n-Butylbenzene	89		88		70-130	1		30
sec-Butylbenzene	94		93		70-130	1		30
1,2-Dibromo-3-chloropropane	100		103		68-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1308817-3 WG1308817-4								
Isopropylbenzene	93		96		70-130	3		30
p-Isopropyltoluene	97		96		70-130	1		30
n-Propylbenzene	91		91		70-130	0		30
1,2,3-Trichlorobenzene	98		98		70-130	0		30
1,2,4-Trichlorobenzene	100		98		70-130	2		30
1,3,5-Trimethylbenzene	93		93		70-130	0		30
1,2,4-Trimethylbenzene	95		93		70-130	2		30
Methyl Acetate	120		121		51-146	1		30
Cyclohexane	104		103		59-142	1		30
1,4-Dioxane	109		110		65-136	1		30
Freon-113	101		100		50-139	1		30
Methyl cyclohexane	101		99		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	88		89		70-130
Toluene-d8	88		88		70-130
4-Bromofluorobenzene	92		98		70-130
Dibromofluoromethane	92		93		70-130

SEMIVOLATILES

Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19**SAMPLE RESULTS**

Lab ID: L1954234-01
 Client ID: EAST SIDEWALL #3 (11-13)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 09:38
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/14/19 10:07
 Analyst: IM
 Percent Solids: 77%

Extraction Method: EPA 3546
 Extraction Date: 11/14/19 04:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	170	22.	1
Hexachlorobenzene	ND		ug/kg	130	24.	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	29.	1
2-Chloronaphthalene	ND		ug/kg	210	21.	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	57.	1
2,4-Dinitrotoluene	ND		ug/kg	210	43.	1
2,6-Dinitrotoluene	ND		ug/kg	210	37.	1
Fluoranthene	ND		ug/kg	130	25.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	23.	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	33.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	260	37.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	22.	1
Hexachlorobutadiene	ND		ug/kg	210	31.	1
Hexachlorocyclopentadiene	ND		ug/kg	610	190	1
Hexachloroethane	ND		ug/kg	170	35.	1
Isophorone	ND		ug/kg	190	28.	1
Naphthalene	ND		ug/kg	210	26.	1
Nitrobenzene	ND		ug/kg	190	32.	1
NDPA/DPA	ND		ug/kg	170	24.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	33.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	74.	1
Butyl benzyl phthalate	ND		ug/kg	210	54.	1
Di-n-butylphthalate	ND		ug/kg	210	41.	1
Di-n-octylphthalate	ND		ug/kg	210	73.	1
Diethyl phthalate	ND		ug/kg	210	20.	1
Dimethyl phthalate	ND		ug/kg	210	45.	1
Benzo(a)anthracene	ND		ug/kg	130	24.	1
Benzo(a)pyrene	ND		ug/kg	170	52.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

SAMPLE RESULTS

Lab ID: L1954234-01
 Client ID: EAST SIDEWALL #3 (11-13)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 09:38
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	130	36.	1
Benzo(k)fluoranthene	ND		ug/kg	130	34.	1
Chrysene	ND		ug/kg	130	22.	1
Acenaphthylene	ND		ug/kg	170	33.	1
Anthracene	ND		ug/kg	130	42.	1
Benzo(ghi)perylene	ND		ug/kg	170	25.	1
Fluorene	ND		ug/kg	210	21.	1
Phenanthrene	ND		ug/kg	130	26.	1
Dibenzo(a,h)anthracene	ND		ug/kg	130	25.	1
Indeno(1,2,3-cd)pyrene	ND		ug/kg	170	30.	1
Pyrene	ND		ug/kg	130	21.	1
Biphenyl	ND		ug/kg	490	50.	1
4-Chloroaniline	ND		ug/kg	210	39.	1
2-Nitroaniline	ND		ug/kg	210	41.	1
3-Nitroaniline	ND		ug/kg	210	40.	1
4-Nitroaniline	ND		ug/kg	210	89.	1
Dibenzofuran	ND		ug/kg	210	20.	1
2-Methylnaphthalene	ND		ug/kg	260	26.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	210	22.	1
Acetophenone	ND		ug/kg	210	26.	1
2,4,6-Trichlorophenol	ND		ug/kg	130	41.	1
p-Chloro-m-cresol	ND		ug/kg	210	32.	1
2-Chlorophenol	ND		ug/kg	210	25.	1
2,4-Dichlorophenol	ND		ug/kg	190	34.	1
2,4-Dimethylphenol	ND		ug/kg	210	71.	1
2-Nitrophenol	ND		ug/kg	460	81.	1
4-Nitrophenol	ND		ug/kg	300	88.	1
2,4-Dinitrophenol	ND		ug/kg	1000	100	1
4,6-Dinitro-o-cresol	ND		ug/kg	560	100	1
Pentachlorophenol	ND		ug/kg	170	47.	1
Phenol	ND		ug/kg	210	32.	1
2-Methylphenol	ND		ug/kg	210	33.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	310	34.	1
2,4,5-Trichlorophenol	ND		ug/kg	210	41.	1
Carbazole	ND		ug/kg	210	21.	1
Atrazine	ND		ug/kg	170	75.	1
Benzaldehyde	ND		ug/kg	280	58.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

SAMPLE RESULTS

Lab ID: L1954234-01

Date Collected: 11/13/19 09:38

Client ID: EAST SIDEWALL #3 (11-13)

Date Received: 11/13/19

Sample Location: BUFFALO, NY

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	210	65.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	210	43.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	73		25-120
Phenol-d6	76		10-120
Nitrobenzene-d5	56		23-120
2-Fluorobiphenyl	63		30-120
2,4,6-Tribromophenol	75		10-136
4-Terphenyl-d14	54		18-120

Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19**SAMPLE RESULTS**

Lab ID: L1954234-02
 Client ID: EAST SIDEWALL #4 (10-12)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 12:30
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270D
 Analytical Date: 11/14/19 10:35
 Analyst: IM
 Percent Solids: 83%

Extraction Method: EPA 3546
 Extraction Date: 11/14/19 04:59

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	ND		ug/kg	160	20.	1
Hexachlorobenzene	ND		ug/kg	120	22.	1
Bis(2-chloroethyl)ether	ND		ug/kg	180	27.	1
2-Chloronaphthalene	ND		ug/kg	200	20.	1
3,3'-Dichlorobenzidine	ND		ug/kg	200	52.	1
2,4-Dinitrotoluene	ND		ug/kg	200	40.	1
2,6-Dinitrotoluene	ND		ug/kg	200	34.	1
Fluoranthene	ND		ug/kg	120	23.	1
4-Chlorophenyl phenyl ether	ND		ug/kg	200	21.	1
4-Bromophenyl phenyl ether	ND		ug/kg	200	30.	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	240	34.	1
Bis(2-chloroethoxy)methane	ND		ug/kg	210	20.	1
Hexachlorobutadiene	ND		ug/kg	200	29.	1
Hexachlorocyclopentadiene	ND		ug/kg	560	180	1
Hexachloroethane	ND		ug/kg	160	32.	1
Isophorone	ND		ug/kg	180	26.	1
Naphthalene	ND		ug/kg	200	24.	1
Nitrobenzene	ND		ug/kg	180	29.	1
NDPA/DPA	ND		ug/kg	160	22.	1
n-Nitrosodi-n-propylamine	ND		ug/kg	200	30.	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	200	68.	1
Butyl benzyl phthalate	ND		ug/kg	200	50.	1
Di-n-butylphthalate	ND		ug/kg	200	37.	1
Di-n-octylphthalate	ND		ug/kg	200	67.	1
Diethyl phthalate	ND		ug/kg	200	18.	1
Dimethyl phthalate	ND		ug/kg	200	41.	1
Benzo(a)anthracene	ND		ug/kg	120	22.	1
Benzo(a)pyrene	ND		ug/kg	160	48.	1

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

SAMPLE RESULTS

Lab ID: L1954234-02
 Client ID: EAST SIDEWALL #4 (10-12)
 Sample Location: BUFFALO, NY

Date Collected: 11/13/19 12:30
 Date Received: 11/13/19
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(b)fluoranthene	ND		ug/kg	120	33.	1
Benzo(k)fluoranthene	ND		ug/kg	120	32.	1
Chrysene	ND		ug/kg	120	20.	1
Acenaphthylene	ND		ug/kg	160	30.	1
Anthracene	ND		ug/kg	120	38.	1
Benzo(ghi)perylene	ND		ug/kg	160	23.	1
Fluorene	ND		ug/kg	200	19.	1
Phenanthrene	ND		ug/kg	120	24.	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	450	46.	1
4-Chloroaniline	ND		ug/kg	200	36.	1
2-Nitroaniline	ND		ug/kg	200	38.	1
3-Nitroaniline	ND		ug/kg	200	37.	1
4-Nitroaniline	ND		ug/kg	200	82.	1
Dibenzofuran	ND		ug/kg	200	19.	1
2-Methylnaphthalene	ND		ug/kg	240	24.	1
1,2,4,5-Tetrachlorobenzene	ND		ug/kg	200	21.	1
Acetophenone	ND		ug/kg	200	24.	1
2,4,6-Trichlorophenol	ND		ug/kg	120	37.	1
p-Chloro-m-cresol	ND		ug/kg	200	29.	1
2-Chlorophenol	ND		ug/kg	200	23.	1
2,4-Dichlorophenol	ND		ug/kg	180	32.	1
2,4-Dimethylphenol	ND		ug/kg	200	65.	1
2-Nitrophenol	ND		ug/kg	430	74.	1
4-Nitrophenol	ND		ug/kg	280	81.	1
2,4-Dinitrophenol	ND		ug/kg	950	92.	1
4,6-Dinitro-o-cresol	ND		ug/kg	510	95.	1
Pentachlorophenol	ND		ug/kg	160	43.	1
Phenol	ND		ug/kg	200	30.	1
2-Methylphenol	ND		ug/kg	200	31.	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	280	31.	1
2,4,5-Trichlorophenol	ND		ug/kg	200	38.	1
Carbazole	ND		ug/kg	200	19.	1
Atrazine	ND		ug/kg	160	69.	1
Benzaldehyde	ND		ug/kg	260	53.	1

Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19**SAMPLE RESULTS****Lab ID:** L1954234-02**Date Collected:** 11/13/19 12:30**Client ID:** EAST SIDEWALL #4 (10-12)**Date Received:** 11/13/19**Sample Location:** BUFFALO, NY**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Caprolactam	ND		ug/kg	200	60.	1
2,3,4,6-Tetrachlorophenol	ND		ug/kg	200	40.	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	84		25-120
Phenol-d6	82		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	66		30-120
2,4,6-Tribromophenol	97		10-136
4-Terphenyl-d14	66		18-120

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/13/19 22:07
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/13/19 08:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1308038-1					
Acenaphthene	ND		ug/kg	130	17.
Hexachlorobenzene	ND		ug/kg	100	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	100	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	17.
Hexachlorobutadiene	ND		ug/kg	160	24.
Hexachlorocyclopentadiene	ND		ug/kg	470	150
Hexachloroethane	ND		ug/kg	130	27.
Isophorone	ND		ug/kg	150	22.
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	100	19.
Benzo(a)pyrene	ND		ug/kg	130	40.
Benzo(b)fluoranthene	ND		ug/kg	100	28.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/13/19 22:07
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/13/19 08:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1308038-1					
Benzo(k)fluoranthene	ND		ug/kg	100	26.
Chrysene	ND		ug/kg	100	17.
Acenaphthylene	ND		ug/kg	130	26.
Anthracene	ND		ug/kg	100	32.
Benzo(ghi)perylene	ND		ug/kg	130	20.
Fluorene	ND		ug/kg	160	16.
Phenanthrene	ND		ug/kg	100	20.
Dibenzo(a,h)anthracene	ND		ug/kg	100	19.
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	23.
Pyrene	ND		ug/kg	100	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	69.
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	100	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	800	77.
4,6-Dinitro-o-cresol	ND		ug/kg	430	80.
Pentachlorophenol	ND		ug/kg	130	36.

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D
Analytical Date: 11/13/19 22:07
Analyst: EK

Extraction Method: EPA 3546
Extraction Date: 11/13/19 08:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-02 Batch: WG1308038-1					
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	34.

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	68		25-120
Phenol-d6	71		10-120
Nitrobenzene-d5	53		23-120
2-Fluorobiphenyl	55		30-120
2,4,6-Tribromophenol	84		10-136
4-Terphenyl-d14	62		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1308038-2 WG1308038-3								
Acenaphthene	64		71		31-137	10		50
Hexachlorobenzene	75		78		40-140	4		50
Bis(2-chloroethyl)ether	61		69		40-140	12		50
2-Chloronaphthalene	69		77		40-140	11		50
3,3'-Dichlorobenzidine	51		53		40-140	4		50
2,4-Dinitrotoluene	79		83		40-132	5		50
2,6-Dinitrotoluene	85		91		40-140	7		50
Fluoranthene	74		78		40-140	5		50
4-Chlorophenyl phenyl ether	69		74		40-140	7		50
4-Bromophenyl phenyl ether	73		78		40-140	7		50
Bis(2-chloroisopropyl)ether	62		70		40-140	12		50
Bis(2-chloroethoxy)methane	66		75		40-117	13		50
Hexachlorobutadiene	64		72		40-140	12		50
Hexachlorocyclopentadiene	78		88		40-140	12		50
Hexachloroethane	60		67		40-140	11		50
Isophorone	72		82		40-140	13		50
Naphthalene	64		72		40-140	12		50
Nitrobenzene	64		74		40-140	14		50
NDPA/DPA	72		77		36-157	7		50
n-Nitrosodi-n-propylamine	71		82		32-121	14		50
Bis(2-ethylhexyl)phthalate	76		78		40-140	3		50
Butyl benzyl phthalate	76		79		40-140	4		50
Di-n-butylphthalate	77		81		40-140	5		50

Lab Control Sample Analysis **Batch Quality Control**

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1308038-2 WG1308038-3								
Di-n-octylphthalate	83		84		40-140	1		50
Diethyl phthalate	75		79		40-140	5		50
Dimethyl phthalate	84		89		40-140	6		50
Benzo(a)anthracene	72		76		40-140	5		50
Benzo(a)pyrene	78		82		40-140	5		50
Benzo(b)fluoranthene	77		80		40-140	4		50
Benzo(k)fluoranthene	82		83		40-140	1		50
Chrysene	72		73		40-140	1		50
Acenaphthylene	75		82		40-140	9		50
Anthracene	71		75		40-140	5		50
Benzo(ghi)perylene	70		72		40-140	3		50
Fluorene	69		75		40-140	8		50
Phenanthrene	64		68		40-140	6		50
Dibenzo(a,h)anthracene	76		80		40-140	5		50
Indeno(1,2,3-cd)pyrene	64		67		40-140	5		50
Pyrene	71		75		35-142	5		50
Biphenyl	69		76		37-127	10		50
4-Chloroaniline	38	Q	42		40-140	10		50
2-Nitroaniline	82		89		47-134	8		50
3-Nitroaniline	54		56		26-129	4		50
4-Nitroaniline	65		67		41-125	3		50
Dibenzofuran	66		72		40-140	9		50
2-Methylnaphthalene	68		78		40-140	14		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: 441 ELMWOOD AVE

Project Number: B0500-019-001

Lab Number: L1954234

Report Date: 11/14/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1308038-2 WG1308038-3								
1,2,4,5-Tetrachlorobenzene	64		72		40-117	12		50
Acetophenone	69		76		14-144	10		50
2,4,6-Trichlorophenol	78		87		30-130	11		50
p-Chloro-m-cresol	80		86		26-103	7		50
2-Chlorophenol	69		79		25-102	14		50
2,4-Dichlorophenol	73		82		30-130	12		50
2,4-Dimethylphenol	73		85		30-130	15		50
2-Nitrophenol	76		87		30-130	13		50
4-Nitrophenol	62		66		11-114	6		50
2,4-Dinitrophenol	20		25		4-130	22		50
4,6-Dinitro-o-cresol	68		77		10-130	12		50
Pentachlorophenol	63		69		17-109	9		50
Phenol	65		75		26-90	14		50
2-Methylphenol	72		82		30-130.	13		50
3-Methylphenol/4-Methylphenol	71		81		30-130	13		50
2,4,5-Trichlorophenol	81		87		30-130	7		50
Carbazole	70		74		54-128	6		50
Atrazine	79		81		40-140	3		50
Benzaldehyde	57		66		40-140	15		50
Caprolactam	77		84		15-130	9		50
2,3,4,6-Tetrachlorophenol	74		81		40-140	9		50

Lab Control Sample Analysis Batch Quality Control

Project Name: 441 ELMWOOD AVE

Lab Number: L1954234

Project Number: B0500-019-001

Report Date: 11/14/19

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

Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-02 Batch: WG1308038-2 WG1308038-3

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	66		76		25-120
Phenol-d6	69		78		10-120
Nitrobenzene-d5	55		61		23-120
2-Fluorobiphenyl	54		60		30-120
2,4,6-Tribromophenol	86		92		10-136
4-Terphenyl-d14	58		61		18-120

INORGANICS & MISCELLANEOUS

Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1954234**Report Date:** 11/14/19**SAMPLE RESULTS****Lab ID:** L1954234-01**Client ID:** EAST SIDEWALL #3 (11-13)**Sample Location:** BUFFALO, NY**Date Collected:** 11/13/19 09:38**Date Received:** 11/13/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	76.9		%	0.100	NA	1	-	11/14/19 04:39	121,2540G	YA



Project Name: 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1954234**Report Date:** 11/14/19**SAMPLE RESULTS****Lab ID:** L1954234-02**Client ID:** EAST SIDEWALL #4 (10-12)**Sample Location:** BUFFALO, NY**Date Collected:** 11/13/19 12:30**Date Received:** 11/13/19**Field Prep:** Not Specified**Sample Depth:****Matrix:** Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	82.5		%	0.100	NA	1	-	11/14/19 04:39	121,2540G	YA



Lab Duplicate Analysis
*Batch Quality Control***Project Name:** 441 ELMWOOD AVE**Project Number:** B0500-019-001**Lab Number:** L1954234**Report Date:** 11/14/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1308510-1 QC Sample: L1954283-01 Client ID: DUP Sample						
Solids, Total	92.2	92.8	%	1		20

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Serial_No:11141916:07
Lab Number: L1954234
Report Date: 11/14/19

Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1954234-01A	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1954234-01B	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		NYTCL-8270(14),TS(7)
L1954234-01X	Vial MeOH preserved split	A	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1954234-01Y	Vial Water preserved split	A	NA		2.9	Y	Absent	14-NOV-19 03:51	NYTCL-8260-R2(14)
L1954234-01Z	Vial Water preserved split	A	NA		2.9	Y	Absent	14-NOV-19 03:51	NYTCL-8260-R2(14)
L1954234-02A	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1954234-02B	Vial Large Septa unpreserved (4oz)	A	NA		2.9	Y	Absent		NYTCL-8270(14),TS(7)
L1954234-02X	Vial MeOH preserved split	A	NA		2.9	Y	Absent		NYTCL-8260-R2(14)
L1954234-02Y	Vial Water preserved split	A	NA		2.9	Y	Absent	14-NOV-19 03:51	NYTCL-8260-R2(14)
L1954234-02Z	Vial Water preserved split	A	NA		2.9	Y	Absent	14-NOV-19 03:51	NYTCL-8260-R2(14)

Project Name: 441 ELMWOOD AVE**Lab Number:** L1954234**Project Number:** B0500-019-001**Report Date:** 11/14/19

GLOSSARY

Acronyms

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

Footnotes

Report Format: DU Report with 'J' Qualifiers

Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

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

Terms

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

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

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

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

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

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- ND** - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers



Project Name: 441 ELMWOOD AVE
Project Number: B0500-019-001

Lab Number: L1954234
Report Date: 11/14/19

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc.

ID No.:17873

Facility: **Company-wide**

Revision 15

Department: **Quality Assurance**

Published Date: 8/15/2019 9:53:42 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 624/624.1:** m/p-xylene, o-xylene**EPA 8260C:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270D:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility****SM 2540D:** TSS**EPA 8082A:** NPW: PCB: 1, 5, 31, 87, 101, 110, 141, 151, 153, 180, 183, 187.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

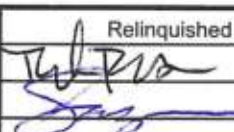
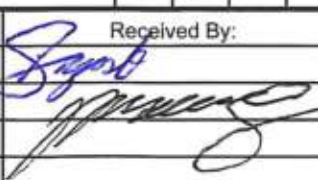
The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 332:** Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045:** PCB-Oil.**Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.****Mansfield Facility:****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

 NEW YORK CHAIN OF CUSTODY Westborough, MA 01581 8 Walkup Dr. TEL: 508-896-9220 FAX: 508-896-9193 Mansfield, MA 02048 320 Forbes Blvd TEL: 508-822-9300 FAX: 508-822-3288		Service Centers Mahwah, NJ 07430: 35 Whitney Rd, Suite 5 Albany, NY 12205: 14 Walker Way Tonawanda, NY 14150: 275 Cooper Ave, Suite 105		Page 1 of 1		Date Rec'd in Lab 11/14/19		ALPHA Job # L1954234							
		Project Information Project Name: 44 E/Edward Ave Project Location: Buffalo NY Project # B0500-019-001 (Use Project name as Project #) ☒ Project Manager: Nate Murly ALPHAQuote #: Turn-Around Time Standard ☐ Due Date: 24 hr Rush (only if pre approved) ☒ # of Days:		Deliverables ☐ ASP-A ☐ ASP-B ☐ EQUIS (1 File) ☐ EQUIS (4 File) ☐ Other		Billing Information ☐ Same as Client Info PO #									
Client Information Client: Benhmk En Address: 2558 Hamburg Turnpike Larkspur NY 10928 Phone: (716) 878-8358 Fax: Email: TBellet-C.Turley@benhmk.com		Regulatory Requirement ☐ NY TOGS ☐ NY Part 375 ☐ AWQ Standards ☐ NY CP-51 ☐ NY Restricted Use ☐ Other ☐ NY Unrestricted Use ☐ NYC Sewer Discharge		Disposal Site Information Please identify below location of applicable disposal facilities. Disposal Facility: ☐ NJ ☐ NY ☐ Other:											
These samples have been previously analyzed by Alpha ☐ Other project specific requirements/comments: CAT B Please specify Metals or TAL.						ANALYSIS		Sample Filtration ☐ Done ☐ Lab to do Preservation ☐ Lab to do (Please Specify below)							
ALPHA Lab ID (Lab Use Only)		Sample ID		Collection Date Time		Sample Matrix		Sampler's Initials		TCU+CP+T VOL TCU+CP+T SUBVOL		Sample Specific Comments		Total Bottles	
54234-01		East S. Se. wall #3 (11-13)		11/13/19		Soil		TAB		✓					2
-02		East S. Se. wall #4 (10-12)		1230		↓		↓		X					2
Preservative Code: A = None B = HCl C = HNO ₃ D = H ₂ SO ₄ E = NaOH F = MeOH G = NaHSO ₄ H = Na ₂ S ₂ O ₃ K/E = Zn Ac/NaOH O = Other		Container Code P = Plastic A = Amber Glass V = Vial G = Glass B = Bacteria Cup C = Cube O = Other E = Encore D = BOD Bottle		Westboro: Certification No: MA935 Mansfield: Certification No: MA015		Container Type Preservative		A A A A				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:		Date/Time		Received By:		Date/Time							
				11/13/19 1555 11/13/19 1630				11/13/19 16:00 11/14/19 01:45							

APPENDIX D

DATA USABILITY SUMMARY REPORT (DUSR)

Data Validation Services

120 Cobble Creek Road P.O. Box 208
North Creek, NY 12853

Phone 518-251-4429
harry@frontiernet.net

February 28, 2019

Caroline Bukowski
Benchmark Environmental Engineering & Science, PLLC
2558 Hamburg Turnpike Suite 300
Buffalo, NY 14218

RE: Validation of the 441 Elmwood Avenue Site Analytical Laboratory Data
Alpha Analytical SDG Nos. L1849531, L1849740, L1850055, L1850769, L1851191, L1851446,
L1851758, and L1851759
Data Usability Summary Report (DUSR)

Dear Ms. Bukowski:

Review has been completed for the data packages generated by Alpha Analytical that pertain to samples collected between 12/04/18 and 12/15/18 at the 441 Elmwood Avenue site. Four aqueous samples, two soil samples, and field duplicates of both matrices were processed for Target Analyte List (TCL) and 6 NYCRR Part 375 CP-51 volatiles, TCL semivolatiles, TCL Aroclor PCBs, TCL pesticides, TCL herbicides, and TAL metals. Thirteen soil samples were processed for various combinations of those fractions, and four soil samples were processed for TCL and CP-51 volatiles. Two aqueous samples and a field blank were processed for perfluoroalkyl substances (PFAS) and 1,4-dioxane. Analytical methodologies utilized are USEPA SW846 and a USEPA modified method 537.

The data packages submitted by the laboratory contain full deliverables for validation, and this usability report is generated from review of the QC summary form information, with full review of sample raw data and limited review of associated QC raw data. The reported QC summary forms and sample raw data have been reviewed for application of validation qualifiers, with guidance from the USEPA national and regional validation documents, and in consideration for the specific requirements of the analytical methodology. The following items were reviewed:

- * Data Completeness
- * Case Narrative
- * Custody Documentation
- * Holding Times
- * Surrogate, Isotopic, and Internal Standard Recoveries
- * Method/ Preparation/Trip Blanks
- * Matrix Spike Recoveries/Duplicate Correlations
- * Blind Field Duplicate Correlations
- * Laboratory Control Sample (LCS)
- * Instrumental Tunes
- * Initial and Continuing Calibration Standards
- * ICP Serial Dilution Evaluation

- * Method Compliance
- * Sample Result Verification

Those items listed above which show deficiencies are discussed within the text of this narrative. All of the other items were determined to be acceptable for the DUSR level review, as discussed in NYS DER-10 Appendix B Section 2.0 (c). Documentation of the outlying parameters cited in this report can be found in the laboratory data package.

In summary, results for the samples are usable either as reported or with minor qualification or edit, with the exception of the following, results for which are rejected:

1,4-dioxane results derived from the volatile fraction are not usable due to methodology limitations
Results for 3,3'-dichlorobenzidine and 3-nitroaniline in one aqueous sample and benzaldehyde in one soil sample are not usable due to matrix effects

Data completeness, representativeness, reproducibility, sensitivity, comparability, accuracy, and precision are acceptable.

Validation qualifier definitions and the client sample identification summaries are attached to this text. Also submitted are Alpha EQUIS EDDs with recommended qualifiers/edits applied in red.

Chain-of-Custody/Sample Receipt

No collection date was entered onto the custody form for MW-1(16-18) and MW-2(16-20). The closed parenthesis was not present for the former, but the laboratory included it in the sample ID.

The final relinquish signature was not present on the custody form for samples reported in SDG L1849740, and the final receipt entry was omitted on the custody form for samples reported in SDG L1850055.

Blind Field Duplicate

The blind field duplicate evaluations of MW-1 and TP-2(2.5-8.0) show correlations within validation guidelines, with the exception of those for naphthalene, 2-methylnaphthalene, calcium, and lead in the latter. The results for those four analytes in TP-2(2.5-8.0) and its field duplicate have been qualified as estimated in value.

TCL and CP-51 Volatiles by EPA8270C

The matrix spike evaluations were performed on MW-2 and TP-6(9-11). The following results are qualified as estimated in the indicated parent sample due to recoveries and/or correlations that fall outside validation guidelines:

<u>Parent Sample</u>	<u>Analyte</u>	<u>Outlying % Recoveries</u>	<u>Outlying %RPD</u>
MW-2	Bromomethane	16,26	48
	1,2,3-trichlorobenzene	54,65	
	1,2,4-trichlorobenzene	56,68	
TP-6 (9-11)	1,2,4-trimethylbenzene	64,34	

The results for bromomethane, 1,1,2-1,2,2-trichlorotrifluoroethane, and methylcyclohexane in the samples reported in SDGs L1850769 are qualified as estimated due to low recoveries (32% to 67%) in the associated LCS.

Results for 1,4-dioxane are rejected and not usable due to low responses inherent in the methodology. Other calibration standards show responses within validation action levels, with the exception of those for vinyl chloride, bromomethane, 1,1,2-1,2,2-trichlorotrifluoroethane, and 1,2,3-trichlorobenzene (23%D to 67%D) in the calibration standard associated with the samples reported in SDG L1850769. The results for those analytes are qualified as estimated in those samples.

Holding times were met, and blanks show no contamination. Surrogate and internal standard responses are acceptable.

TCL Semivolatiles and 1,4-Dioxane Analyses by EPA8270D

The detections of 2-methylnaphthalene in all of the aqueous samples except MW-3 are considered external contamination and edited to reflect non-detection, due to presence in the associated field blank.

3,3'-Dichlorobenzidine and 3-nitroaniline failed to recover in the matrix spikes of MW-2 and benzaldehyde failed to recover in the matrix spikes of TP-6(9-11). Results for those analytes are rejected and not usable in those specified parent samples. The results for 4-chloroaniline and 4-nitrophenol are qualified as estimated in MW-2 due to low recoveries (14% to 24%) in those matrix spikes. No matrix spikes were processed for 1,4-dioxane, and matrix effect on that analyte has therefore not been ascertained.

The results for 4-chloroaniline in MW-2(16-2) is qualified as estimated due to low recoveries (36% and 37%) in the associated LCS.

Calibration standards show responses within validation action levels, with the exception of that for pentachlorophenol (22%D) in the calibration standard associated with MW-2(16-20). The result for that analyte is qualified as estimated in that sample.

Holding times were met, and blanks show no contamination. Surrogate and internal standard responses are acceptable.

The results for Tentatively Identified Compounds (TICs) that are identified as aldol condensates in the samples are extraction artifacts and are removed from consideration as sample components. Volatile target analytes such as the ethylbenzene, toluene, and dimethyl benzenes (i.e. xylenes) are reported as semivolatile TICs. This should be incorporated into the consideration of total TIC values in those samples.

TCL Pesticide, Herbicides, and Aroclor PCB Analyses by EPA 8081B, 8082A, and 8151

The results for heptachlor epoxide in MW-1, MW-2, and Blind Dup, and of g-chlordane in MW-1 and Blind Dup are edited to non-detection due to very poor dual column quantitative correlations, indicating poor identification/matrix interferences.

The pesticide, herbicide, and Aroclor 1016/1260 matrix spikes of MW-2 and TP-6(9-11) show recoveries within the acceptance ranges used by the laboratory; however, it is noted that the laboratory uses generous, set acceptance ranges rather than generating the laboratory specific ranges required of the protocol.

Due to presence in associated blanks, the detected results for 4,4'-DDT in the project samples are considered external contamination and edited to reflect non-detection.

Holding times were met, surrogate standards are within validation guidelines. Calibration standards are compliant.

TAL Metals Analyses by EPA 6010C, and 7471B

Matrix spikes/duplicates were performed on MW-2, TP-5(1-2.5), and TP-6(9-11) and show recoveries and correlations within validation guidelines, with the following exceptions, results for which are qualified as estimated in the indicated parent sample:

<u>Parent Sample</u>	<u>Element</u>	<u>Outlying % Recoveries</u>
TP-5 (1-2.5)	lead	32
	zinc	61

The ICP serial dilution evaluations of MW-2, TP-5(1-2.5), and TP-6(9-11) show acceptable correlations, with the following exceptions. The detected results for those elements in the indicated parent samples have been qualified as estimated, with a possible low bias, due to matrix interferences:

<u>Parent Sample</u>	<u>Element</u>	<u>%Difference</u>
MW-2	sodium	38
TP-5 (1-2.5)	iron	16
	magnesium	18
	manganese	16

Blanks show no contamination and instrument performance is compliant.

PFAS by Modified EPA Method 537

PFAS compounds are identified by their common acronyms in this report. The EDDs and data package report forms reference both the technical names and the acronyms.

The detections of NMeFOSAA and NeFOSAA in the project samples are considered external contamination and edited to reflect non-detection due to presence in the associate blanks.

Isotopic internal/surrogate standards of field samples show recoveries within laboratory acceptance ranges and above 10%. However, it is noted that the isotopic dilution standard associated with FOSA failed to recover above 8% in three QC samples (method blank and LCSs), indicating a processing, rather than matrix, effect.

Matrix spikes were performed on MW-2. Recoveries and correlations are within laboratory acceptance ranges and above 10%.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,


Judy Harry

Attachments: Validation Qualifier Definitions
 Sample Identifications
 Qualified Laboratory EQUIS EDDs

APPENDIX E

WASTE DISPOSAL LOAD SUMMARY



WASTE MANAGEMENT CHAFFEE LANDFILL SOIL TONNAGE SUMMARY

441 ELMWOOD AVENUE SITE BUFFALO, NEW YORK

Ticket Date	Ticket ID	Customer	Generator	Manifest	Profile	Truck	Tons
10/10/2019	612442	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594531	121228NY	82	26.35
10/10/2019	612448	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594533	121228NY	89	29.2
10/10/2019	612453	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594532	121228NY	87	24.77
10/10/2019	612462	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594534	121228NY	106	25.83
10/10/2019	612513	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594535	121228NY	82	22.03
10/10/2019	612534	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594536	121228NY	106	24.87
10/10/2019	612589	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594537	121228NY	82	22.35
10/10/2019	612610	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594538	121228NY	106	19.63
10/10/2019	612664	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594539	121228NY	82	22.77
10/11/2019	612724	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594540	121228NY	106	21.9
10/11/2019	612733	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594541	121228NY	83	22.36
10/11/2019	612765	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594542	121228NY	101	21.56
10/11/2019	612766	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594543	121228NY	82	20.82
10/11/2019	612772	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594544	121228NY	87	21.73
10/11/2019	612784	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594545	121228NY	106	17.39
10/11/2019	612803	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594546	121228NY	83	21.16
10/11/2019	612831	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594547	121228NY	82	24.4
10/11/2019	612833	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594548	121228NY	101	22.73
10/11/2019	612836	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594549	121228NY	87	23.35
10/11/2019	612850	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594550	121228NY	106	23.88
10/11/2019	612875	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594551	121228NY	83	30.52
10/11/2019	612899	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594552	121228NY	101	20.92
10/11/2019	612901	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594553	121228NY	87	21.66
10/11/2019	612908	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594554	121228NY	82	26.98
10/11/2019	612922	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594556	121228NY	106	18.73
10/11/2019	612957	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594555	121228NY	83	31.89
10/14/2019	613044	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594561	121228NY	89	23.27
10/14/2019	613053	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594559	121228NY	88	20.88
10/14/2019	613087	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594563	121228NY	82	19.14
10/14/2019	613091	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594560	121228NY	107	21.32
10/14/2019	613102	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594564	121228NY	87	22.1
10/14/2019	613112	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594565	121228NY	106	20.96
10/14/2019	613126	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594566	121228NY	89	23.36
10/14/2019	613145	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594567	121228NY	88	24.7
10/14/2019	613180	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594568	121228NY	82	24.64
10/14/2019	613185	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594569	121228NY	107	19.54
10/14/2019	613194	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594572	121228NY	106	23.72
10/14/2019	613214	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594573	121228NY	87	24.71
10/14/2019	613259	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594570	121228NY	88	22.93
10/14/2019	613298	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594575	121228NY	106	26.17
10/14/2019	613306	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594576	121228NY	89	19.6
10/15/2019	613395	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594583	121228NY	262	22.16
10/15/2019	613400	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594584	121228NY	104	20
10/15/2019	613559	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594597	121228NY	289	21.51
10/15/2019	613565	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594599	121228NY	107	19.06
10/15/2019	613570	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594600	121228NY	262	21.59
10/15/2019	613595	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594602	121228NY	106	26.13



WASTE MANAGEMENT CHAFFEE LANDFILL SOIL TONNAGE SUMMARY

441 ELMWOOD AVENUE SITE BUFFALO, NEW YORK

Ticket Date	Ticket ID	Customer	Generator	Manifest	Profile	Truck	Tons
10/15/2019	613598	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594601	121228NY	83	29.6
10/15/2019	613605	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594604	121228NY	82	25.17
10/15/2019	613608	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594605	121228NY	289	23.46
10/15/2019	613618	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594603	121228NY	104	19.02
10/18/2019	614171	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594610	121228NY	83	29.3
10/21/2019	614435	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594608	121228NY	82	18.87
10/21/2019	614440	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594609	121228NY	83	21.62
10/21/2019	614448	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594611	121228NY	87	21.03
10/21/2019	614496	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594612/79	121228NY	112	23.54
10/21/2019	614501	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594613/80	121228NY	82	19.76
10/21/2019	614502	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594614/81	121228NY	83	20.95
10/21/2019	614540	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594615	121228NY	87	19.12
10/21/2019	614607	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594616	121228NY	88	20.87
10/21/2019	614609	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594617	121228NY	83	25.61
10/23/2019	615066	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594618	121228NY	83	31.16
10/23/2019	615074	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594619	121228NY	82	23.16
10/23/2019	615082	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594620	121228NY	104	19.09
10/23/2019	615126	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594623	121228NY	89	25.74
10/23/2019	615192	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594621	121228NY	83	26.02
10/24/2019	615298	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594624	121228NY	112	21.99
10/24/2019	615308	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594625	121228NY	82	17.06
10/24/2019	615312	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594622	121228NY	83	24.87
10/24/2019	615346	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594631	121228NY	112	21.02
10/24/2019	615349	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594626	121228NY	101	20.62
10/24/2019	615356	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594627	121228NY	87	18.48
10/24/2019	615363	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594628	121228NY	102	20.95
10/24/2019	615364	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594632	121228NY	82	19.98
10/24/2019	615370	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594633	121228NY	83	18.71
10/24/2019	615371	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594634	121228NY	1	15.15
10/24/2019	615398	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594635	121228NY	112	20.6
10/24/2019	615402	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594636	121228NY	101	23.22
10/25/2019	615581	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594641	121228NY	112	19.49
10/25/2019	615586	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594642	121228NY	102	18.16
10/25/2019	615597	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594643	121228NY	83	24.02
10/25/2019	615644	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594644	121228NY	82	21.2
10/28/2019	615786	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594629	121228NY	112	28.47
10/28/2019	615788	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594645	121228NY	82	21.95
10/30/2019	616208	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594630	121228NY	460	22.8
10/30/2019	616209	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594639	121228NY	331	29.89
10/30/2019	616210	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594637	121228NY	461	22.19
10/30/2019	616231	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594727	121228NY	331	31.37
10/30/2019	616239	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594728	121228NY	460	27.37
10/30/2019	616245	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594729	121228NY	461	25.43
10/30/2019	616273	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594730	121228NY	331	23.97
10/30/2019	616279	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594719	121228NY	460	22.87
10/30/2019	616284	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594717	121228NY	461	24.04
10/30/2019	616316	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594720	121228NY	331	28.72



WASTE MANAGEMENT CHAFFEE LANDFILL SOIL TONNAGE SUMMARY

441 ELMWOOD AVENUE SITE BUFFALO, NEW YORK

Ticket Date	Ticket ID	Customer	Generator	Manifest	Profile	Truck	Tons
10/30/2019	616324	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594721	121228NY	460	24.29
10/31/2019	616361	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594725	121228NY	112	26.28
10/31/2019	616376	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594724	121228NY	82	21.38
10/31/2019	616377	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594723	121228NY	87	18.56
10/31/2019	616378	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594678	121228NY	102	19.08
10/31/2019	616405	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594704	121228NY	112	19.71
10/31/2019	616417	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594705	121228NY	102	22.43
10/31/2019	616435	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594706	121228NY	82	21.59
10/31/2019	616455	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594687	121228NY	112	23.35
11/1/2019	616552	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594708	121228NY	82	26.48
11/1/2019	616599	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594707	121228NY	82	22.96
11/1/2019	616605	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594709	121228NY	83	25.01
11/4/2019	616720	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594711	121228NY	89	16.91
11/4/2019	616753	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594710	121228NY	82	16.1
11/4/2019	616754	TURNKEY ENVIRONMENTAL RESTORATION LLC	190-EC445LLC	8594712	121228NY	101	16.31
Total Trucks	109	Total Tonnage					2475.39

**TTC SOIL TONNAGE SUMMARY****441 Elmwood
Buffalo, New York**

Date	Load	Hauler	Truck	Ticket	TN
10/15/2019	1	Turnkey	400	20190906001	21.94
10/15/2019	2	Turnkey	400	20190906002	20.84
10/15/2019	3	Turnkey	400	20190906003	20.92
10/15/2019	4	Turnkey	400	20190906004	18.87
10/15/2019	5	Turnkey	400	20190906005	21.65
10/16/2019	6	Dig -IT	88	20190906006	16.90
10/16/2019	7	Dig -IT	107	20190906007	17.81
10/16/2019	8	Dig -IT	104	20190906008	18.51
10/16/2019	9	Serafini	87	20190906009	20.83
10/16/2019	10	Dig -IT	107	20190906013	20.29
10/16/2019	11	Dig -IT	106	20190906014	21.86
10/16/2019	12	Dig -IT	587	20190906015	24.35
10/16/2019	13	Dig -IT	107	20190906018	19.20
10/16/2019	14	Dig -IT	104	20190906019	19.36
10/16/2019	15	Serafini	83	20190906021	27.68
10/16/2019	16	Serafini	83	20190906022	26.12
10/16/2019	17	Serafini	82	20190906023	20.77
10/16/2019	18	Dig -IT	104	20190906024	22.51
10/17/2019	19	Dig -IT	112	20190906020	22.90
10/17/2019	20	Serafini	82	20190906029	25.33
10/17/2019	21	Dig -IT	104	20190906030	18.15
10/17/2019	22	Serafini	87	20190906031	23.17
10/17/2019	23	Serafini	83	20190906032	24.57
10/17/2019	24	Dig -IT	107	20190906033	19.27
10/17/2019	25	Dig -IT	112	20190906034	25.73
10/17/2019	26	Dig -IT	104	20190906035	20.63
10/17/2019	27	Serafini	82	20190906036	21.86
10/17/2019	28	Serafini	83	20190906037	30.67
10/17/2019	29	Serafini	87	20190906038	21.00
10/17/2019	30	Serafini	82	20190906040	26.38
10/17/2019	31	Serafini	87	20190906041	26.52
10/17/2019	32	Dig -IT	112	20190906048	20.45
10/17/2019	33	Serafini	82	20190906049	26.66
10/17/2019	34	Serafini	83	20190906050	29.26
10/17/2019	35	Dig -IT	102	20190906051	22.05
10/17/2019	36	Serafini	112	20190906054	24.35
10/17/2019	37	Dig -IT	107	20190906056	20.49
10/17/2019	38	Serafini	87	20190906057	24.09
10/17/2019	39	Serafini	87	20190906063	25.21
10/18/2019	40	Serafini	87	20190906064	25.86
10/18/2019	41	Dig -IT	104	20190906071	19.26
10/18/2019	42	Serafini	83	20190906072	27.30
10/18/2019	43	Serafini	87	20190906073	26.56
10/18/2019	44	Dig -IT	104	20190906074	20.78
10/18/2019	45	Serafini	87	20190906075	25.43
10/18/2019	46	Serafini	93	20190906076	31.93
10/18/2019	47	Dig -IT	104	20190906077	22.29
10/18/2019	48	Serafini	87	20190906078	24.77
10/18/2019	49	Serafini	83	20190906079	28.43
10/18/2019	50	Serafini	87	20190906080	22.46
10/18/2019	51	Dig -IT	104	20190906081	23.27
10/18/2019	52	Serafini	83	20190906082	30.00
10/18/2019	53	Serafini	82	20190906083	25.71
10/18/2019	54	Dig -IT	104	20190906084	20.35
10/18/2019	55	Serafini	83	20190906085	28.93
10/21/2019	56	Dig -IT	88	20190906086	26.10
10/21/2019	57	Dig -IT	107	20190906087	18.17
10/21/2019	58	Dig -IT	112	20190906088	17.68
10/21/2019	59	Dig -IT	102	20190906089	19.05
10/21/2019	60	Dig -IT	88	20190906090	21.74
10/21/2019	61	Dig -IT	102	20190906092	21.78
10/21/2019	62	Serafini	87	20190906093	21.22
10/21/2019	63	Dig -IT	88	20190906094	22.29
10/21/2019	64	Dig -IT	102	20190906095	27.67



TTC SOIL TONNAGE SUMMARY
441 Elmwood
Buffalo, New York

Date	Load	Hauler	Truck	Ticket	TN
10/21/2019	65	Dig -IT	88	20190906097	21.31
10/21/2019	66	Dig -IT	112	20190906098	21.60
10/21/2019	67	Serafini	102	20190906099	20.41
10/21/2019	68	Serafini	83	20190906100	25.82
10/22/2019	69	Dig -IT	102	20190906101	23.44
10/22/2019	70	Dig -IT	104	20190906102	17.47
10/22/2019	71	Serafini	83	20190906103	24.18
10/22/2019	72	Serafini	82	20190906104	22.42
10/22/2019	73	Dig -IT	102	20190906105	21.87
10/22/2019	74	Dig -IT	104	20190906196	19.18
10/22/2019	75	Serafini	87	20190906197	23.02
10/22/2019	76	Serafini	83	20190906198	26.42
10/22/2019	77	Dig -IT	102	20190906199	21.11
10/22/2019	78	Serafini	87	20190906200	27.87
10/22/2019	79	Dig -IT	104	20190906201	18.69
10/22/2019	80	Serafini	83	20190906202	29.05
10/22/2019	81	Dig -IT	102	20190906203	23.11
10/22/2019	82	Dig -IT	104	20190906204	20.32
10/22/2019	83	Serafini	87	20190906205	25.21
10/22/2019	84	Serafini	83	20190906206	24.74
10/22/2019	85	Dig -IT	102	20190906207	24.36
10/22/2019	86	Dig -IT	88	20190906208	21.36
10/22/2019	87	Dig -IT	104	20190906209	21.59
10/22/2019	88	Serafini	87	20190906210	24.73
10/22/2019	89	Serafini	83	20190906211	28.91
10/22/2019	90	Dig -IT	102	20190906212	19.71
10/22/2019	91	Dig -IT	104	20190906213	19.35
10/22/2019	92	Dig -IT	102	20190906214	28.41
10/22/2019	93	Serafini	83	20190906215	24.88
10/22/2019	94	Dig -IT	102	20190906216	24.39
10/22/2019	95	Serafini	87	20190906217	22.92
10/22/2019	96	Serafini	87	20190906218	25.22
10/22/2019	97	Dig -IT	104	20190906219	19.68
10/22/2019	98	Dig -IT	88	20190906220	23.60
10/22/2019	99	Serafini	87	20190906221	22.77
10/22/2019	100	Dig -IT	104	20190906222	21.30
10/23/2019	101	Serafini	87	20190906225	23.37
10/23/2019	102	Dig -IT	102	20190906226	24.86
10/23/2019	103	Serafini	82	20190906227	23.22
10/23/2019	104	Dig -IT	104	20190906228	20.57
10/23/2019	105	Dig -IT	106	20190906229	27.60
10/23/2019	106	Dig -IT	102	20190906230	25.09
10/23/2019	107	Serafini	87	20190906231	25.03
10/23/2019	108	Serafini	82	20190906232	26.03
10/23/2019	109	Turnkey	400	20190906233	24.33
10/23/2019	110	Dig -IT	106	20190906234	20.54
10/23/2019	111	Dig -IT	102	20190906235	26.26
10/23/2019	112	Turnkey	400	20190906236	21.51
10/23/2019	113	Dig -IT	106	20190906237	22.74
10/23/2019	114	Serafini	87	20190906238	25.78
10/23/2019	115	Serafini	83	20190906239	27.11
10/23/2019	116	Dig -IT	102	20190906240	23.16
10/23/2019	117	Dig -IT	106	20190906241	21.41
10/23/2019	118	Dig -IT	104	20190906242	22.70
10/23/2019	119	Turnkey	400	20190906243	22.39
10/23/2019	120	Serafini	82	20190906244	28.35
10/23/2019	121	Serafini	53	20190906245	26.28
10/23/2019	122	Dig -IT	102	20190906246	23.12
10/23/2019	123	Serafini	82	20190906247	22.57
10/23/2019	124	Dig -IT	102	20190906248	20.23
10/23/2019	125	Dig -IT	104	20190906249	17.82
10/23/2019	126	Serafini	82	20190906250	22.79
10/23/2019	127	Dig -IT	106	20190906251	21.71
10/23/2019	128	Serafini	89	20190906252	25.45



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Date	Load	Hauler	Truck	Ticket	TN
10/23/2019	129	Dig -IT	102	20190906253	26.21
10/23/2019	130	Serafini	87	20190906254	25.10
10/23/2019	131	Dig -IT	104	20190906255	22.95
10/23/2019	132	Dig -IT	106	20190906256	21.73
10/23/2019	133	Serafini	82	20190906257	23.98
10/23/2019	134	Serafini	87	20190906258	18.93
10/23/2019	135	Serafini	87	20190906259	22.19
10/23/2019	136	Dig -IT	102	20190906260	23.66
10/23/2019	137	Dig -IT	104	20190906261	23.99
10/23/2019	138	Serafini	89	20190906262	23.30
10/23/2019	139	Dig -IT	106	20190906263	19.44
10/23/2019	140	Serafini	82	20190906264	22.79
10/23/2019	141	Serafini	83	20190906268	25.10
10/24/2019	142	Serafini	87	20190906265	20.50
10/24/2019	143	Dig -IT	102	20190906266	24.67
10/24/2019	144	Turnkey	400	20190906267	22.79
10/24/2019	145	Dig -IT	101	20190906269	24.03
10/24/2019	146	Dig -IT	102	20190906270	21.78
10/24/2019	147	Serafini	87	20190906271	23.67
10/24/2019	148	Dig -IT	101	20190906272	23.40
10/24/2019	149	Dig -IT	101	20190906273	22.09
10/24/2019	150	Dig -IT	102	20190906274	26.25
10/24/2019	151	Serafini	82	20190906275	22.26
10/24/2019	152	Serafini	83	20190906276	24.15
10/24/2019	153	Turnkey	400	20190906277	21.38
10/24/2019	154	Serafini	87	20190906278	23.19
10/24/2019	155	Serafini	32	20190906279	26.67
10/24/2019	156	Turnkey	400	20190906280	19.64
10/24/2019	157	Dig -IT	102	20190906281	23.23
10/24/2019	158	Dig -IT	112	20190906282	23.03
10/24/2019	159	Serafini	83	20190906283	30.61
10/24/2019	160	Turnkey	400	20190906284	25.13
10/24/2019	161	Serafini	82	20190906285	22.64
10/24/2019	162	Dig -IT	102	20190906286	21.78
10/24/2019	163	Dig -IT	112	20190906287	23.13
10/24/2019	164	Dig -IT	101	20190906288	25.91
10/24/2019	165	Serafini	87	20190906289	28.02
10/24/2019	166	Serafini	83	20190906290	28.59
10/25/2019	167	Turnkey	400	20190906106	18.18
10/25/2019	168	Dig -IT	104	20190906107	16.04
10/25/2019	169	Serafini	87	20190906108	21.34
10/25/2019	170	Dig -IT	102	20190906109	21.78
10/25/2019	171	Dig -IT	106	20190906110	18.73
10/25/2019	172	Dig -IT	112	20190906111	18.05
10/25/2019	173	Serafini	82	20190906112	18.71
10/25/2019	174	Dig -IT	101	20190906113	22.24
10/25/2019	175	Serafini	87	20190906114	20.10
10/25/2019	176	Dig -IT	106	20190906115	18.52
10/25/2019	177	Turnkey	400	20190906116	21.21
10/25/2019	178	Dig -IT	104	20190906117	19.58
10/25/2019	179	Dig -IT	101	20190906118	24.90
10/25/2019	180	Turnkey	400	20190906119	22.27
10/25/2019	181	Serafini	87	20190906120	20.65
10/25/2019	182	Dig -IT	106	20190906121	21.14
10/25/2019	183	Dig -IT	104	20190906122	21.92
10/25/2019	184	Dig -IT	106	20190906123	20.61
10/25/2019	185	Serafini	87	20190906124	22.71
10/25/2019	186	Turnkey	400	20190906125	20.69
10/25/2019	187	Dig -IT	104	20190906126	21.46
10/25/2019	188	Dig -IT	102	20190906127	23.00
10/25/2019	189	Serafini	82	20190906131	23.39
10/25/2019	190	Serafini	87	20190906132	26.71
10/25/2019	191	Dig -IT	106	20190906133	22.29
10/25/2019	192	Dig -IT	101	20190906134	26.11

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Date	Load	Hauler	Truck	Ticket	TN
10/25/2019	193	Serafini	82	20190906135	25.18
10/25/2019	194	Dig -IT	104	20190906136	23.66
10/25/2019	195	Dig -IT	106	20190906137	26.37
10/25/2019	196	Dig -IT	104	20190906138	22.94
10/25/2019	197	Dig -IT	106	20190906139	21.29
10/25/2019	198	Dig -IT	112	20190906291	23.47
10/25/2019	199	Dig -IT	101	20190906292	25.62
10/25/2019	200	Dig -IT	106	20190906293	19.08
10/25/2019	201	Dig -IT	102	20190906294	21.91
10/25/2019	202	Serafini	82	20190906295	20.97
10/25/2019	203	Serafini	87	20190906296	26.50
10/25/2019	204	Dig -IT	101	20190906297	19.82
10/25/2019	205	Serafini	83	20190906298	21.78
10/25/2019	206	Turnkey	400	20190906299	18.96
10/25/2019	207	Dig -IT	104	20190906300	20.25
10/28/2019	208	Dig -IT	102	20190906128	20.61
10/28/2019	209	Dig -IT	106	20190906129	23.37
10/28/2019	210	Serafini	87	20190906130	22.82
10/28/2019	211	Serafini	89	20190906140	28.75
10/28/2019	212	Dig -IT	107	20190906141	22.39
10/28/2019	213	Serafini	87	20190906142	20.00
10/28/2019	214	Dig -IT	112	20190906143	23.57
10/28/2019	215	Dig -IT	88	20190906144	23.45
10/28/2019	216	Serafini	89	20190906145	26.77
10/28/2019	217	Dig -IT	107	20190906146	22.74
10/28/2019	218	Dig -IT	106	20190906147	24.56
10/28/2019	219	Dig -IT	102	20190906148	25.01
10/28/2019	220	Serafini	87	20190906149	30.00
10/28/2019	221	Dig -IT	88	20190906150	24.48
10/28/2019	222	Dig -IT	56	20190906151	23.52
10/28/2019	223	Dig -IT	112	20190906152	21.42
10/28/2019	224	Dig -IT	56	20190906153	21.04
10/28/2019	225	Dig -IT	102	20190906154	21.81
10/28/2019	226	Dig -IT	107	20190906155	21.69
10/28/2019	227	Serafini	82	20190906156	21.98
10/28/2019	228	Serafini	89	20190906157	25.89
10/28/2019	229	Dig -IT	56	20190906158	18.41
10/28/2019	230	Dig -IT	88	20190906159	20.29
10/28/2019	231	Dig -IT	106	20190906160	20.50
10/28/2019	232	Serafini	89	20190906161	22.31
10/28/2019	233	Dig -IT	107	20190906162	21.59
10/28/2019	234	Serafini	87	20190906163	22.57
10/28/2019	235	Serafini	82	20190906164	20.32
10/28/2019	236	Dig -IT	102	20190906165	21.78
10/28/2019	237	Dig -IT	106	20190906166	21.10
10/28/2019	238	Dig -IT	107	20190906167	21.68
10/28/2019	239	Dig -IT	56	20190906168	20.27
10/28/2019	240	Serafini	87	20190906169	23.15
10/28/2019	241	Dig -IT	88	20190906170	21.46
10/28/2019	242	Serafini	82	20190906171	22.29
10/28/2019	243	Dig -IT	106	20190906172	22.83
10/28/2019	244	Dig -IT	102	20190906173	23.69
10/28/2019	245	Serafini	87	20190906174	23.81
10/28/2019	246	Dig -IT	88	20190906175	22.35
10/28/2019	247	Dig -IT	107	20190906176	21.53
10/28/2019	248	Dig -IT	88	20190906177	20.93
10/28/2019	249	Dig -IT	107	20190906178	20.13
10/28/2019	250	Serafini	82	20190906179	23.22
10/28/2019	251	Dig -IT	56	20190906180	21.94
10/28/2019	252	Serafini	87	20190906181	21.85
10/28/2019	253	Dig -IT	102	20190906182	25.24
10/28/2019	254	Dig -IT	106	20190906183	24.74
10/28/2019	255	Dig -IT	106	20190906184	22.64
10/28/2019	256	Serafini	82	20190906185	23.40



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Date	Load	Hauler	Truck	Ticket	TN
10/28/2019	257	Dig -IT	102	20190906186	23.58
10/28/2019	258	Serafini	87	20190906187	22.46
10/28/2019	259	Dig -IT	56	20190906188	21.75
10/28/2019	260	Serafini	89	20190906189	24.04
10/28/2019	261	Dig -IT	88	20190906191	25.69
10/28/2019	262	Dig -IT	107	20190906192	21.91
10/28/2019	263	Serafini	82	20190906193	24.15
10/28/2019	264	Dig -IT	102	20190906194	24.60
10/28/2019	265	Serafini	89	20190906195	26.33
10/29/2019	266	Serafini	82	20190906190	21.11
10/29/2019	267	Dig -IT	106	20190906370	21.41
10/29/2019	268	Dig -IT	101	20190906371	20.40
10/29/2019	269	Dig -IT	102	20190906372	22.98
10/29/2019	270	Dig -IT	107	20190906373	20.11
10/29/2019	271	Dig -IT	56	20190906374	20.16
10/29/2019	272	Dig -IT	88	20190906375	18.97
10/29/2019	273	Dig -IT	101	20190906377	19.07
10/29/2019	274	Dig -IT	106	20190906378	17.47
10/29/2019	275	Dig -IT	102	20190906379	20.17
10/29/2019	276	Dig -IT	107	20190906380	23.52
10/29/2019	277	Dig -IT	101	20190906381	20.05
10/29/2019	278	Dig -IT	107	20190906382	18.12
10/29/2019	279	Serafini	82	20190906383	17.03
10/29/2019	280	Dig -IT	88	20190906384	16.83
10/29/2019	281	Dig -IT	106	20190906385	18.13
10/29/2019	282	Dig -IT	101	20190906386	21.13
10/29/2019	283	Dig -IT	102	20190906387	23.01
10/29/2019	284	Dig -IT	107	20190906388	20.78
10/29/2019	285	Dig -IT	56	20190906389	18.03
10/29/2019	286	Dig -IT	88	20190906390	17.78
10/29/2019	287	Serafini	82	20190906391	27.03
10/29/2019	288	Dig -IT	102	20190906392	23.05
10/29/2019	289	Dig -IT	56	20190906393	18.98
10/29/2019	290	Dig -IT	101	20190906394	19.88
10/29/2019	291	Dig -IT	107	20190906395	24.49
10/29/2019	292	Dig -IT	88	20190906396	22.26
10/29/2019	293	Dig -IT	106	20190906397	21.08
10/29/2019	294	Dig -IT	102	20190906398	26.71
10/29/2019	295	Dig -IT	101	20190906399	22.35
10/29/2019	296	Dig -IT	56	20190906400	26.40
10/29/2019	297	Dig -IT	106	20190906401	20.31
10/29/2019	298	Dig -IT	107	20190906402	21.22
10/29/2019	299	Dig -IT	102	20190906403	24.55
10/29/2019	300	Dig -IT	101	20190906404	21.97
10/29/2019	301	Dig -IT	88	20190906405	23.70
10/29/2019	302	Dig -IT	56	20190906406	22.61
10/29/2019	303	Dig -IT	106	20190906407	22.95
10/29/2019	304	Dig -IT	102	20190906408	22.01
10/29/2019	305	Dig -IT	102	20190906409	22.94
10/29/2019	306	Dig -IT	101	20190906410	21.81
10/29/2019	307	Dig -IT	56	20190906411	21.30
10/29/2019	308	Dig -IT	107	20190906417	19.61
10/29/2019	309	Dig -IT	106	20190906418	16.82
10/29/2019	310	Dig -IT	88	20190906419	25.51
10/30/2019	311	Serafini	83	20190906360	23.42
10/30/2019	312	Serafini	82	20190906361	26.05
10/30/2019	313	Dig -IT	102	20190906362	26.72
10/30/2019	314	Dig -IT	102	20190906363	24.45
10/30/2019	315	Serafini	82	20190906364	21.36
10/30/2019	316	Dig -IT	102	20190906365	23.70
10/30/2019	317	Serafini	82	20190906366	24.37
10/30/2019	318	Dig -IT	102	20190906367	27.30
10/30/2019	319	Serafini	82	20190906368	27.79
10/30/2019	320	Dig -IT	102	20190906369	26.97

**TTC SOIL TONNAGE SUMMARY****441 Elmwood
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Date	Load	Hauler	Truck	Ticket	TN
10/30/2019	321	Dig -IT	102	20190906412	22.76
10/30/2019	322	Serafini	82	20190906413	22.08
10/30/2019	323	Serafini	82	20190906414	22.02
10/30/2019	324	Dig -IT	102	20190906415	23.61
10/30/2019	325	Dig -IT	101	20190906416	24.09
10/30/2019	326	Serafini	83	20190906420	27.07
10/30/2019	327	Dig -IT	102	20190906421	22.75
10/30/2019	328	Serafini	82	20190906422	21.99
10/30/2019	329	Serafini	83	20190906423	22.53
10/30/2019	330	Serafini	82	20190906424	25.60
10/31/2019	331	Dig -IT	107	20190906340	20.05
10/31/2019	332	Dig -IT	107	20190906341	19.28
10/31/2019	333	Dig -IT	107	20190906342	20.36
10/31/2019	334	Dig -IT	106	20190906343	18.56
10/31/2019	335	Dig -IT	102	20190906344	20.35
10/31/2019	336	Serafini	82	20190906349	21.71
10/31/2019	337	Serafini	83	20190906350	20.66
10/31/2019	338	Dig -IT	107	20190906351	18.56
10/31/2019	339	Serafini	83	20190906352	22.54
10/31/2019	340	Dig -IT	107	20190906353	19.67
10/31/2019	341	Serafini	83	20190906355	20.87
10/31/2019	342	Dig -IT	107	20190906356	18.38
10/31/2019	343	Dig -IT	102	20190906357	22.61
10/31/2019	344	Serafini	87	20190906358	20.99
10/31/2019	345	Serafini	82	20190906359	21.18
11/1/2019	346	Dig -IT	102	20190906301	21.68
11/1/2019	347	Serafini	82	20190906302	19.05
11/1/2019	348	Dig -IT	102	20190906303	23.49
11/1/2019	349	Dig -IT	107	20190906304	21.65
11/1/2019	350	Dig -IT	101	20190906305	22.69
11/1/2019	351	Serafini	83	20190906306	21.26
11/1/2019	352	Serafini	83	20190906307	22.68
11/1/2019	353	Dig -IT	112	20190906308	25.96
11/1/2019	354	Dig -IT	101	20190906309	24.51
11/1/2019	355	Dig -IT	107	20190906310	22.29
11/1/2019	356	Serafini	89	20190906311	26.03
11/1/2019	357	Dig -IT	101	20190906312	27.10
11/1/2019	358	Serafini	83	20190906313	26.67
11/1/2019	359	Dig -IT	107	20190906314	22.25
11/1/2019	360	Dig -IT	102	20190906315	0.00
11/1/2019	361	Serafini	89	20190906318	25.76
11/1/2019	362	Dig -IT	101	20190906319	26.70
11/1/2019	363	Dig -IT	102	20190906318	20.75
11/1/2019	364	Dig -IT	107	20190906321	21.21
11/1/2019	365	Dig -IT	107	20190906322	20.48
11/1/2019	366	Dig -IT	102	20190906323	25.96
11/1/2019	367	Dig -IT	101	20190906324	25.53
11/1/2019	368	Serafini	89	20190906325	29.76
11/1/2019	369	Dig -IT	112	20190906326	25.03
11/1/2019	370	Dig -IT	112	20190906327	25.28
11/1/2019	371	Dig -IT	112	20190906328	22.41
11/1/2019	372	Serafini	83	20190906334	28.86
11/1/2019	373	Serafini	89	20190906335	24.09
11/1/2019	374	Serafini	83	20190906336	24.57
11/1/2019	375	Dig -IT	101	20190906337	21.16
11/1/2019	376	Dig -IT	107	20190906338	20.26
11/1/2019	377	Dig -IT	102	20190906339	20.46
11/1/2019	378	Dig -IT	102	20190906346	27.08
11/1/2019	379	Dig -IT	107	20190906347	23.12
11/1/2019	380	Dig -IT	101	20190906348	28.58
11/4/2019	381	Serafini	89	20190906329	19.48
11/4/2019	382	Dig -IT	101	20190906330	23.01
11/4/2019	383	Serafini	89	20190906331	26.57
11/4/2019	384	Dig -IT	106	20190906332	24.64



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Date	Load	Hauler	Truck	Ticket	TN
11/4/2019	385	Dig -IT	104	20190906333	15.79
11/4/2019	386	Dig -IT	106	20190906431	17.30
11/4/2019	387	Dig -IT	107	20190906432	19.39
11/4/2019	388	Dig -IT	101	20190906433	19.49
11/4/2019	389	Dig -IT	105	20190906434	16.63
11/4/2019	390	Dig -IT	104	20190906435	15.90
11/4/2019	391	Dig -IT	106	20190906436	16.60
11/4/2019	392	Dig -IT	107	20190906437	18.21
11/4/2019	393	Dig -IT	105	20190906438	21.00
11/4/2019	394	Dig -IT	104	20190906439	18.18
11/4/2019	395	Dig -IT	107	20190906440	19.47
11/4/2019	396	Dig -IT	106	20190906441	22.46
11/4/2019	397	Dig -IT	105	20190906442	23.43
11/4/2019	398	Dig -IT	104	20190906443	18.11
11/4/2019	399	Dig -IT	107	20190906444	19.14
11/4/2019	400	Dig -IT	105	20190906445	29.74
11/4/2019	401	Dig -IT	106	20190906446	24.67
11/4/2019	402	Serafini	89	20190906447	31.13
11/4/2019	403	Dig -IT	101	20190906448	25.32
11/4/2019	404	Dig -IT	107	20190906449	22.18
11/4/2019	405	Dig -IT	105	20190906450	19.49
11/4/2019	406	Dig -IT	106	20190906451	24.26
11/4/2019	407	Dig -IT	107	20190906452	21.82
11/5/2019	408	Dig -IT	106	20190906453	15.60
11/5/2019	409	Dig -IT	105	20190906454	17.65
11/5/2019	410	Serafini	87	20190906455	25.98
11/5/2019	411	Dig -IT	107	20190906456	20.23
11/5/2019	412	Dig -IT	105	20190906457	16.04
11/5/2019	413	Dig -IT	106	20190906458	18.77
11/5/2019	414	Serafini	87	20190906459	20.89
11/5/2019	415	Dig -IT	107	20190906460	19.94
11/5/2019	416	Dig -IT	106	20190906461	15.35
11/5/2019	417	Dig -IT	105	20190906462	20.56
11/5/2019	418	Serafini	87	20190906463	17.63
11/5/2019	419	Dig -IT	106	20190906464	18.96
11/5/2019	420	Serafini	87	20190906465	19.61
11/5/2019	421	Dig -IT	107	20190906466	19.34
11/5/2019	422	Dig -IT	105	20190906467	18.94
11/5/2019	423	Serafini	87	20190906468	19.78
11/5/2019	424	Dig -IT	107	20190906469	17.68
11/5/2019	425	Dig -IT	107	20190906470	22.35
11/5/2019	426	Dig -IT	107	20190906471	19.92
11/5/2019	427	Dig -IT	105	20190906472	19.81
11/5/2019	428	Dig -IT	106	20190906473	17.54
11/5/2019	429	Serafini	87	20190906474	20.14
11/5/2019	430	Dig -IT	107	20190906475	22.56
11/5/2019	431	Dig -IT	105	20190906476	21.16
11/5/2019	432	Dig -IT	106	20190906477	19.76
11/5/2019	433	Serafini	87	20190906478	20.87
11/5/2019	434	Dig -IT	106	20190906479	23.36
11/5/2019	435	Dig -IT	105	20190906480	22.48
11/5/2019	436	Dig -IT	107	20190906481	22.27
11/7/2019	437	Dig -IT	106	20190906482	20.45
11/7/2019	438	Serafini	82	20190906483	21.84
11/7/2019	439	Dig -IT	107	20190906485	19.26
11/7/2019	440	Serafini	87	20190906486	18.90
11/7/2019	441	Zoladz	243	20190906487	20.84
11/7/2019	442	Serafini	82	20190906488	21.49
11/7/2019	443	Serafini	87	20190906489	20.74
11/7/2019	444	Dig -IT	107	20190906490	19.60
11/7/2019	445	Zoladz	243	20190906491	17.27
11/7/2019	446	Dig -IT	106	20190906492	17.92
11/7/2019	447	Dig -IT	106	20190906493	22.18
11/7/2019	448	Zoladz	243	20190906494	19.00



TTC SOIL TONNAGE SUMMARY
441 Elmwood
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Date	Load	Hauler	Truck	Ticket	TN
11/7/2019	449	Dig -IT	56	20190906495	20.69
11/7/2019	450	Dig -IT	107	20190906496	19.42
11/7/2019	451	Serafini	87	20190906497	19.29
11/7/2019	452	Serafini	82	20190906498	21.64
11/7/2019	453	Serafini	87	20190906499	22.77
11/7/2019	454	Dig -IT	106	20190906500	17.82
11/7/2019	455	Serafini	82	20190906501	22.75
11/7/2019	456	Dig -IT	107	20190906502	20.09
11/7/2019	457	Serafini	87	20190906503	20.77
11/7/2019	458	Zoladz	243	20190906504	20.77
11/7/2019	459	Dig -IT	107	20190906505	22.64
11/7/2019	460	Serafini	82	20190906506	23.14
11/7/2019	461	Serafini	82	20190906507	19.19
11/7/2019	462	Zoladz	243	20190906508	19.83
11/7/2019	463	Serafini	87	20190906509	20.70
11/7/2019	464	Dig -IT	106	20190906510	19.94
11/7/2019	465	Zoladz	243	20190906511	22.85
11/7/2019	466	Serafini	82	20190906512	24.13
11/7/2019	467	Serafini	87	20190906513	22.51
11/7/2019	468	Dig -IT	106	20190906514	20.28
11/7/2019	469	Zoladz	243	20190906515	21.53
11/7/2019	470	Serafini	87	20190906516	23.42
11/7/2019	471	Serafini	82	20190906517	24.53
11/8/2019	472	Dig -IT	112	20190906518	27.28
11/8/2019	473	Dig -IT	101	20190906519	22.42
11/8/2019	474	Dig -IT	102	20190906520	19.01
11/8/2019	475	Dig -IT	106	20190906521	19.74
11/8/2019	476	Dig -IT	112	20190906522	30.35
11/8/2019	477	Dig -IT	101	20190906523	20.34
11/8/2019	478	Dig -IT	102	20190906524	20.73
11/8/2019	479	Dig -IT	106	20190906525	25.41
11/8/2019	480	Dig -IT	112	20190906526	26.52
11/8/2019	481	Dig -IT	102	20190906527	18.14
11/8/2019	482	Dig -IT	101	20190906528	21.83
11/8/2019	483	Dig -IT	106	20190906529	20.69
11/8/2019	484	Dig -IT	101	20190906530	18.59
11/8/2019	485	Dig -IT	112	20190906531	18.65
11/8/2019	486	Dig -IT	102	20190906532	15.69
11/8/2019	487	Dig -IT	106	20190906533	18.12
11/8/2019	488	Dig -IT	112	20190906534	17.70
11/8/2019	489	Dig -IT	102	20190906535	19.64
11/8/2019	490	Dig -IT	101	20190906536	18.69
11/8/2019	491	Dig -IT	106	20190906537	18.29
11/8/2019	492	Dig -IT	102	20190906538	19.08
11/8/2019	493	Dig -IT	102	20190906539	17.98
11/8/2019	494	Dig -IT	112	20190906540	18.14
11/8/2019	495	Dig -IT	112	20190906541	18.14
11/8/2019	496	Dig -IT	102	20190906542	21.43
11/8/2019	497	Dig -IT	101	20190906543	18.05
11/8/2019	498	Dig -IT	106	20190906544	16.78
11/8/2019	499	Dig -IT	106	20190906545	16.48
11/8/2019	500	Dig -IT	102	20190906546	18.21
11/8/2019	501	Dig -IT	101	20190906547	23.37
11/8/2019	502	Dig -IT	112	20190906548	17.14
11/11/2019	503	Dig -IT	112	20190906549	21.52
11/11/2019	504	Dig -IT	101	20190906550	25.32
11/11/2019	505	Serafini	82	20190906551	19.81
11/11/2019	506	Dig -IT	101	20190906552	17.24
11/11/2019	507	Zoladz	262	20190906553	0.00
11/11/2019	508	Serafini	83	20190906554	22.86
11/11/2019	509	Serafini	89	20190906555	24.01
11/11/2019	510	Zoladz	262	20190906556	22.68
11/11/2019	511	Serafini	82	20190906557	19.29
11/11/2019	512	Dig -IT	101	20190906558	21.17

**TTC SOIL TONNAGE SUMMARY****441 Elmwood
Buffalo, New York**

Date	Load	Hauler	Truck	Ticket	TN
11/11/2019	513	Zoladz	262	20190906559	19.46
11/11/2019	514	Serafini	87	20190906560	21.47
11/11/2019	515	Serafini	82	20190906561	22.51
11/11/2019	516	Serafini	83	20190906562	20.47
11/11/2019	517	Dig -IT	101	20190906563	18.04
11/11/2019	518	Dig -IT	112	20190906564	21.49
11/11/2019	519	Serafini	87	20190906565	17.88
11/11/2019	520	Dig -IT	112	20190906566	25.14
11/11/2019	521	Dig -IT	101	20190906567	26.48
11/11/2019	522	Serafini	89	20190906568	21.64
11/11/2019	523	Serafini	83	20190906569	19.46
11/11/2019	524	Zoladz	262	20190906570	29.45
11/11/2019	525	Serafini	82	20190906591	19.65
11/11/2019	526	Serafini	87	20190906592	25.09
11/11/2019	527	Serafini	83	20190906593	25.81
11/11/2019	528	Dig -IT	101	20190906594	22.27
11/11/2019	529	Dig -IT	112	20190906595	24.56
11/11/2019	530	Zoladz		20190906596	21.97
11/11/2019	531	Serafini	89	20190906597	23.97
11/11/2019	532	Serafini	83	20190906598	24.97
11/11/2019	533	Serafini	82	20190906599	25.39
11/11/2019	534	Serafini	87	20190906601	26.36
11/11/2019	535	Dig -IT	112	20190906602	25.14
11/11/2019	536	Dig -IT	101	20190906603	23.44
11/11/2019	537	Serafini	82	20190906604	26.80
11/11/2019	538	Serafini	83	20190906605	27.01
11/11/2019	539	Serafini	87	20190906606	19.89
11/11/2019	540	Serafini	89	20190906607	27.85
11/11/2019	541	Serafini	89	20190906608	26.28
11/11/2019	542	Dig -IT	112	20190906609	24.15
11/11/2019	543	Serafini	87	20190906610	25.25
11/11/2019	544	Dig -IT	112	20190906611	26.36
11/11/2019	545	Dig -IT	101	20190906612	19.23
11/11/2019	546	Zoladz	262	20190906613	24.30
11/11/2019	547	Serafini	89	20190906615	20.90
11/11/2019	548	Serafini	82	20190906616	29.54
11/11/2019	549	Dig -IT	101	20190906618	17.81
11/11/2019	550	Zoladz	262	20190906619	27.40
11/11/2019	551	Dig -IT	101	20190906620	21.26
11/11/2019	552	Serafini	83	20190906621	29.90
11/11/2019	553	Serafini	83	20190906622	22.35
11/11/2019	554	Zoladz	262	20190906623	23.25
11/11/2019	555	Dig -IT	112	20190906624	26.36
11/11/2019	556	Serafini	89	20190906625	29.92
11/11/2019	557	Serafini	87	20190906626	23.01
11/12/2019	558	Serafini	87	20191111629	21.90
11/12/2019	559	Serafini	83	20191111630	24.87
11/12/2019	560	Dig -IT	101	20191111631	22.53
11/12/2019	561	Serafini	82	20191111632	20.26
11/12/2019	562	Dig -IT	107	20191111633	19.39
11/12/2019	563	Serafini	87	20191111634	17.73
11/12/2019	564	Serafini	83	20191111635	22.47
11/12/2019	565	Dig -IT	101	20191111636	20.71
11/12/2019	566	Serafini	82	20191111637	27.51
11/12/2019	567	Serafini	87	20191111638	20.59
11/12/2019	568	Serafini	107	20191111639	22.78
11/12/2019	569	Serafini	83	20191111640	26.19
11/12/2019	570	Serafini	101	20191111641	24.64
11/12/2019	571	Serafini	82	20191111642	26.01
11/12/2019	572	Serafini	87	20191111643	29.07
11/12/2019	573	Dig -IT	107	20191111644	20.94
11/12/2019	574	Serafini	83	20191111645	26.47
11/12/2019	575	Dig -IT	101	20191111646	23.71
11/12/2019	576	Serafini	87	20191111647	27.83



TTC SOIL TONNAGE SUMMARY
441 Elmwood
Buffalo, New York

Date	Load	Hauler	Truck	Ticket	TN
11/12/2019	577	Serafini	82	20191111648	24.44
11/12/2019	578	Dig -IT	107	20191111649	20.68
11/12/2019	579	Serafini	83	20191111650	30.35
11/12/2019	580	Dig -IT	101	20191111651	27.19
11/12/2019	581	Dig -IT	102	20191111652	21.79
11/12/2019	582	Dig -IT	107	20191111653	23.75
11/12/2019	583	Serafini	82	20191111654	27.45
11/12/2019	584	Dig -IT	101	20191111655	29.22
11/12/2019	585	Serafini	83	20191111656	37.23
11/12/2019	586	Dig -IT	102	20191111657	21.01
11/13/2019	587	Dig -IT	112	20191111658	28.39
11/13/2019	588	Dig -IT	101	20191111659	27.73
11/13/2019	589	Serafini	87	20191111660	31.73
11/13/2019	590	Serafini	84	20191111661	28.59
11/13/2019	591	Serafini	83	20191111666	34.18
11/13/2019	592	Dig -IT	107	20191111667	20.72
11/13/2019	593	Dig -IT	101	20191111668	22.53
11/13/2019	594	Dig -IT	112	20191111669	28.40
11/13/2019	595	Serafini	87	20191111670	21.90
11/13/2019	596	Serafini	83	20191111671	26.49
11/13/2019	597	Serafini	84	20191111672	24.32
11/13/2019	598	Dig -IT	101	20191111673	20.03
11/13/2019	599	Dig -IT	112	20191111674	21.45
11/13/2019	600	Serafini	87	20191111675	22.19
11/13/2019	601	Dig -IT	106	20191111676	14.17
11/13/2019	602	Serafini	87	20191111678	25.06

Total Trucks	602

Total Tonnage	13520.44

APPENDIX F

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